

ZMIENIAMY SIĘ  
DLA WAS



**ZEPAK**  
Energia dla Ciebie

## ZE PAK SA CAPITAL GROUP

MANAGEMENT BOARD'S REPORT ON ZE PAK SA'S  
AND ZE PAK SA CAPITAL GROUP'S ACTIVITIES IN 2022



27 APRIL 2023

## TABLE OF CONTENTS:

1.	SELECTED CONSOLIDATED FINANCIAL DATA .....	4
2.	DESCRIPTION OF THE COMPANY AND OF THE CAPITAL GROUP .....	6
2.1.	Basic information on the Company and Capital Group .....	6
2.2.	Basic principles and changes related to the ZE PAK SA Capital Group and Company management rules .....	12
2.3.	Described structure of main capital deposits or main capital investments made within the Capital Group.....	14
2.4.	Characteristics of the main products, goods and services, and the main outlet markets and supply sources .....	14
3.	DESCRIPTION OF ACTIVITIES.....	16
3.1.	Significant events in the accounting year, as well as events after the balance sheet date affecting current and future activities .....	16
3.2.	Important agreements concluded in the financial year .....	24
3.3.	Execution of the investment programme .....	28
3.4.	Risk management .....	32
3.5.	Described use of emission proceeds .....	33
4.	MAIN BUSINESS RISK FACTORS .....	33
5.	DESCRIPTION OF THE FINANCIAL AND ASSET STANDING .....	41
5.1.	Principles of preparing a financial statement.....	41
5.2.	Characteristics of basic economic and financial quantities .....	42
5.3.	Significant off-balance sheet items.....	55
5.4.	Projected financial standing.....	55
5.5.	Specification of factors affecting current and future financial results .....	56
5.6.	Unusual factors and events affecting achieved financial results.....	59
6.	FINANCIAL ASSET MANAGEMENT .....	59
6.1.	Assessment of financial asset management.....	59
6.2.	Assessment of investment plan implementation.....	59
7.	SIGNIFICANT DEVELOPMENT FACTORS AND PROSPECTS.....	60
8.	SHAREHOLDING STRUCTURE SPECIFICATION.....	62
8.1.	Shareholding structure.....	62
8.2.	Acquisition of own shares .....	63
8.3.	Stocks and shares of entities of the ZE PAK SA Capital Group held by management and supervisory persons.....	63
8.4.	Employee shares programme control system .....	64
9.	DECLARATION OF COMPLIANCE WITH CORPORATE GOVERNANCE RULES .....	64
9.1.	Set of applied corporate governance rules.....	64
9.2.	Set of waived DPSN 2021 principles .....	64
9.3.	Incidental violation of DPSN 2021 principles .....	66
9.4.	Description of the main features of internal inspection and risk management systems applied in relation to the preparation of financial and consolidated financial statements .....	66
9.5.	Shareholders holding significant blocks of shares.....	68
9.6.	Holders of stocks providing special control rights .....	69
9.7.	Restrictions on exercising the voting right .....	69
9.8.	Restrictions on the transfer of the stock ownership right.....	69
9.9.	Rules of the appointment and dismissal of management and supervisory personnel .....	69
9.10.	Personal composition, its changes and a description of the activity of management and supervisory bodies.....	71
9.11.	Operation procedure of the General Meeting, its key powers and a description of shareholders' rights and how to exercise them .....	74
9.12.	Description of rules regarding amendments to the Company's Articles of Association .....	75

9.13. Information on the remuneration system and the remuneration amount for management and supervisory personnel.....	75
10. DECLARATION REGARDING THE DIVERSITY POLICY .....	77
11. COMPANY MANAGEMENT BOARD'S NON-FINANCIAL INFORMATION STATEMENT FOR 2022 FOR THE CAPITAL GROUP.....	78
11.1. Business model description .....	79
11.2. Social issues.....	87
11.3. Employee issues .....	95
11.4. Environmental issues.....	106
11.5. Issue of respecting human rights .....	132
11.6. Issues related to counteracting corruption .....	134
11.7. GRI content .....	136
11.8. Taxonomy.....	139
12. OTHER INFORMATION .....	181
12.1. Significant legal proceedings.....	181
12.2. Major achievements in the field of research and development.....	181
12.3. Information on selecting an auditing company to examine the annual consolidated financial statement....	182
12.4. Information on financial statement audit.....	182
12.5. Financial projections.....	183

## 1. SELECTED CONSOLIDATED FINANCIAL DATA

<i>Selected consolidated financial data</i>	<i>PLN thousand 12 months of 2022 period from 1/1/2022 until 31/12/2022</i>	<i>PLN thousand 12 months of 2021 period from 1/1/2021 until 31/12/2021</i>	<i>EUR thousand 12 months of 2022 period from 1/1/2022 until 31/12/2022</i>	<i>EUR thousand 12 months of 2021 period from 1/1/2021 until 31/12/2021</i>
Sales revenues	4 200 235	2 451 209	895 897	535 491
Profit (Loss) on operating activities	351 278	(512 622)	74 927	(111 987)
Gross profit (Loss)	318 068	(518 523)	67 843	(113 276)
Net profit (Loss) for the financial year	215 380	(317 404)	45 940	(69 340)
Net profit (Loss) allocated to parent company shareholders	203 307	(316 999)	43 365	(69 252)
Comprehensive income	215 989	(314 473)	46 070	(68 700)
Net cash from operating activities	503 256	6 555	107 343	1 432
Net cash from investment activities	(651 176)	(391 229)	(138 894)	(85 468)
Net cash from financial activities	1 104 000	393 482	235 480	85 960
Net change in cash and cash equivalents	956 080	8 808	203 929	1 924
Net profit (Loss) per share (in PLN/EUR per share)	4.00	(6.24)	0.85	(1.36)
Weighted average number of shares	50 823 547	50 823 547	50 823 547	50 823 547
	<i>as at 31 December 2022</i>	<i>as at 31 December 2021</i>	<i>as at 31 December 2022</i>	<i>as at 31 December 2021</i>
Total assets	4 539 455	3 311 762	967 921	720 042
Fixed assets	1 978 515	1 273 696	421 867	276 927
Current assets	2 560 940	2 038 066	546 054	443 116
Total equity	1 214 499	524 232	258 961	113 978
Basic capital	101 647	101 647	21 674	22 100
Equity allocated to parent company shareholders	723 696	524 627	154 309	114 064
Total liabilities	3 324 956	2 787 530	708 961	606 064
Long-term liabilities	1 199 141	794 587	255 686	172 759
Short-term liabilities	2 125 815	1 992 943	453 275	433 305
Book value per share (in PLN/EUR per share)	23.90	10.31	5.10	2.24
Weighted average number of shares	50 823 547	50 823 547	50 823 547	50 823 547

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

<i>Selected financial data of ZE PAK SA</i>	<i>PLN thousand 12 months of 2022 period from 1/1/2022 until 31/12/2022</i>	<i>PLN thousand 12 months of 2021 period from 1/1/2021 until 31/12/2021</i>	<i>EUR thousand 12 months of 2022 period from 1/1/2022 until 31/12/2022</i>	<i>EUR thousand 12 months of 2021 period from 1/1/2021 until 31/12/2021</i>
Net revenues from the sale of products, goods and materials	2 789 738	2 246 878	595 043	490 853
Profit/loss on operating activities	618 882	(522 023)	132 006	(114 041)
Gross profit/loss	632 260	(527 243)	134 859	(115 181)
Net profit/loss	543 584	(301 935)	115 945	(65 961)
Net cash from operating activities	636 265	(18 902)	135 713	(4 129)
Net cash from investment activities	142 885	(138 698)	30 477	(30 300)
Net cash from financial activities	30 119	119 369	6 424	26 077
Total net cash flows	809 269	(38 231)	172 615	(8 352)
Net profit per share (in PLN/EUR per share)	10.70	(5.94)	2.28	(1.30)
Weighted average number of shares	50 823 547	50 823 547	50 823 547	50 823 547
	<i>as at</i>	<i>as at</i>	<i>as at</i>	<i>as at</i>
	<i>31 December 2022</i>	<i>31 December 2021</i>	<i>31 December 2022</i>	<i>31 December 2021</i>
Total assets	2 784 643	2 701 772	593 753	587 418
Fixed assets	779 112	842 868	166 126	183 256
Current assets	2 005 531	1 858 904	427 628	404 162
Equity	1 408 421	864 837	300 309	188 033
Basic capital	101 647	101 647	21 674	22 100
Liabilities and provisions for liabilities	1 376 222	1 836 935	293 444	399 386
Long-term liabilities	129	107 378	28	23 346
Short-term liabilities	106 282	356 335	22 662	77 474
Book value per share (in PLN/EUR per share)	27.71	17.02	5.91	3.70
Weighted average number of shares	50 823 547	50 823 547	50 823 547	50 823 547

Selected consolidated financial data has been converted using the following exchange rates:

- data concerning the comprehensive income statement (income statement) and the cash flow report (cash flow statement) according to an exchange rate, which is the arithmetic mean of the average NBP exchange rates on each last working day of the month within the financial period, from 1 January 2022 to 31 December 2022, i.e., 4.6883 EUR/PLN, and from 1 January 2021 to 31 December 2021, i.e., 4.5775 EUR/PLN.
- data on individual items of the financial standing statement (balance sheet) according to the average EUR/PLN exchange rate set by the National Bank of Poland (NBP) as at 30 December 2022, i.e., 4.6899 EUR/PLN, and as at 31 December 2021, i.e., 4.5994 EUR/PLN.

## 2. DESCRIPTION OF THE COMPANY AND OF THE CAPITAL GROUP

### 2.1. Basic information on the Company and Capital Group

#### Basic information on the Company

ZE PAK Spółka Akcyjna (formerly Zespół Elektrowni Pątnów - Adamów - Konin Spółka Akcyjna, hereinafter also referred to as "ZE PAK SA" or the "Company") operates as a joint-stock company under the provisions of the Code of Commercial Companies and other generally applicable provisions of Polish law. The Company was established as result of transforming Zespół Elektrowni Pątnów-Adamów-Konin state-owned company with its registered office in Konin into a company wholly owned by the State Treasury under the business name of Zespół Elektrowni „Pątnów-Adamów-Konin” Spółka Akcyjna. The deed of transformation was signed on 29 December 1994 in the presence of a notary public Elżbieta Brudnicka from a Notarial Office in Warsaw. On 31 December 1994, the Company was entered into the commercial register section “B” by the District Court in Konin under number RHB 847. Based on the decision of the District Court in Poznań, 22nd Commercial Department of KRS dated 21 June 2011, the Company was entered into the Register of Entrepreneurs. Currently the Company is entered into the Register of Entrepreneurs kept by the District Court Poznań Nowe Miasto and Wilda in Poznań, IX Commercial Department, under the KRS number 0000021374. The Company was established for an unlimited period of time.

Name:	ZE PAK Spółka Akcyjna
Legal status:	joint-stock company
Short name:	ZE PAK SA
Registered office and address:	ul. Kazimierska 45, 62-510 Konin, Poland
Phone number:	+48 63 247 30 00
Fax number:	+48 63 247 30 30
Website:	<a href="http://www.zepak.com.pl">www.zepak.com.pl</a>
E-mail address:	<a href="mailto:zepak@zepak.com.pl">zepak@zepak.com.pl</a>
KRS:	0000021374
REGON:	310186795
NIP:	665-000-16-45

According to the Company's Articles of Association, the Company's core business is the generation and sale of electricity and the generation and sale of heat. The Company generates energy from sources. The Company decided to gradually shut down its lignite power generation activities and to get involved in a number of projects focusing its future activities on low-carbon and carbon-neutral energy sources, as well as the production and use of green hydrogen. The Company may operate in the Republic of Poland and abroad. It should be taken into account that both the Company and the Group are currently in the process of significant changes regarding the nature of future activities. A number of current investment projects are being implemented through special purpose vehicles, often in cooperation with external partners. This method of the Group's activities will result in transforming the Company into a holding entity, accumulating shares in companies responsible for the implementation of separate projects.

Company's shares are listed on the regulated market operated by the Giełda Papierów Wartościowych SA in Warsaw (Warsaw Stock Exchange). Company's shares are dematerialised and marked by the Krajowy Depozyt Papierów Wartościowych SA (National Depository for Securities) with the securities code ISIN PLZEPAK00012.

In 2022, the share capital of ZE PAK S.A. remained unchanged. As at 31 December 2022, the Company's share capital amounted to PLN 101 647 094.00, broken down into 50 823 547 class A bearer shares with a face value of PLN 2.00 each, representing 50 823 547 votes at the Company's General Meeting, comprising 100% of the total votes at the Company's General Meeting.

The Company has no branches (establishments).

#### Basic information on the Capital Group

As at 31 December 2022, the ZE PAK SA Capital Group (also referred to in the remainder of the statement as "Group", "Capital Group", "ZE PAK SA Group") consists of the parent company ZE PAK SA and 35 subsidiaries and 8 jointly controlled companies, i.e., PAK Kopalnia Węgla Brunatnego Konin SA (also referred to in the remainder of the report as "PAK KWB Konin SA"), PAK – Polska Czysta Energia sp. z o.o. (also referred to further in the report as “PAK – PCE sp. z o.o.”), PAK – PCE Fotowoltaika sp. z o.o., PAK – PCE Wiatr sp. z o.o., PAK – PCE Biopaliwa i Wodór sp. z o.o. (also referred to further in the report as BiW sp. z o.o.), PAK – PCE Polski Autobus Wodorowy sp. z o.o., PAK – PCE

Stacje H2 sp. z o.o. (formerly PAK – PCE Biogaz sp. z o.o.), PG Hydrogen sp. z o.o., Exion Hydrogen Polskie Elektrolizery sp. z o.o., PAK CCGT sp. z o.o., Farma Wiatrowa Kazimierz Biskupi sp. z o.o., PCE – OZE 1 sp. z o.o., PCE – OZE 2 sp. z o.o., PCE – OZE 3 sp. z o.o., PCE – OZE 4 sp. z o.o., PCE – OZE 5 sp. z o.o., PCE – OZE 6 sp. z o.o., MESE sp. z o.o., Park Wiatrowy Pałczyn 1 sp. z o.o., Przedsiębiorstwo Remontowe PAK Serwis sp. z o.o. (also indicated in the further part of the statement as “PAK Serwis” sp. z o.o.), PAK – Volt SA, PAK Górnictwo sp. z o.o., Exion Hydrogen Belgium BV, PAK Pałtnów sp. z o.o., Ørsted Polska OF SPV 1 sp. z o.o., Ørsted Polska OF SPV 2 sp. z o.o., Ørsted Polska OF SPV 3 sp. z o.o., Ørsted Polska OF SPV 4 sp. z o.o., Ørsted Polska OF SPV 5 sp. z o.o., Ørsted Polska OF SPV 6 sp. z o.o., Ørsted Polska OF SPV 7 sp. z o.o., Ørsted Polska OF SPV 8 sp. z o.o., Ørsted Polska OF SPV 9 sp. z o.o. (formerly Mawzorino Investments sp. s o.o.), Ørsted Polska OF SPV 10 sp. z o.o., PAK ATOM SA, PAK – PCE FW Okonek sp. z o.o., PAK – PCE FW Jastrowie sp. z o.o., Farma Wiatrowa Przyrów sp. z o.o., Great Wind sp. z o.o., Eviva Lębork sp. z o.o., Elektrownie Wiatrowe Dobra sp. z o.o., PAK Kopalnia Węgla Brunatnego Adamów SA under liquidation (also referred to in further report sections as “PAK KWB Adamów SA under liquidation”) and Aquakon sp. z o.o. under liquidation. A detailed list is shown in Table 1.

The companies of greatest importance to the Group due to their scale of operations are ZE PAK SA, which is involved in the generation of electricity and heat, and PAK KWB Konin SA, which is involved in lignite mining. Assets focused around PAK - PCE sp. z o.o., which concentrates activities related to the generation of electricity from renewable sources and the production and use of green hydrogen, are becoming increasingly important. In addition to the companies from the main areas of the Group's activities, the Group also includes other companies, which are engaged, among others, in: carrying out construction and assembly works, maintenance works, services, production and trading activities for the purpose of satisfying their own needs as well as providing comprehensive services to the industry.

The Group's generation-related assets include two power plants located in the Wielkopolskie Province, in central Poland. The Pałtnów power station produces energy using lignite in 4 power units with a total capacity of 1,118 MW. Konin Power Plant, a former coal-fired power plant, today operates 2 biomass units with a total generating capacity of 105 MW (50 MW and 55 MW) and produces electricity and heat from biomass. The Group also operates a photovoltaic farm with an installed capacity of 70 MWp, located in the Brudzew municipality.

The Group's mining assets are concentrated in PAK KWB Konin SA, which operates the Józwin and Tomisławice open pits.

The Group intends to operate its lignite mining and generation operations no longer than until the end of 2024.

The vast majority of the sales revenue generated by the Group comes from the sale of electricity. The Group also generates revenues related to the Power Market mechanism, as a result of winning power market auctions (primary market) and by taking over power obligations from other entities (secondary market). This is supplemented by revenues from the sale of heat, construction and renovation contracts and property rights from certificates of energy origin. Revenues from the termination of long-term contracts for the sale of electricity are an additional source of sales revenues, depending on the level of generation costs and energy prices in the market and production volumes. The Group, by having lignite mines within its structure, provides the Pałtnów power plant with access to continuous supplies of lignite for its house-load generation systems located in the direct vicinity of the mines. The vertically integrated Group allows for optimisation of lignite inventories and supplies while coordinating lignite extraction with its demand for this fuel. Coal supplies are supplemented by contracts with external suppliers. Biomass demand is covered by contracts with external suppliers.

For many years, the Group has operated with a business profile focused on the production of electricity from lignite mined in nearby open pits. However, this business model has limited prospects for future growth with the pressure on carbon-intensive energy producers. The increasing costs of CO<sub>2</sub> emissions, requirements related to the emissions of other substances (NO<sub>x</sub>, SO<sub>2</sub>, dust, mercury, etc.) made the Group decide to concentrate its future activities in the area of low-emission and carbon-neutral energy sources, as well as the production and use of green hydrogen.

A structure of special purposes vehicles (SPV) that are to be responsible for the activities within individual renewable energy technologies is being gradually constructed around PAK – PCE sp. z o.o. Owing to the planned sales of the majority stake in PAK – PCE sp. z o.o., to the Cyfrowy Polsat Group, it is planned to obtain a financially strong partner that will be able to ensure the implementation of a wide range of prospective investment projects in the field of renewable energy sources, as well as generation and utilization of “green” hydrogen.

The PAK CCGT sp. z o.o. special-purpose vehicle is to be responsible for preparing and implementing a project covering the construction of a gas unit within the former coal-fired Adamów power plant. The project won a capacity market auction and thus obtained support in the form of a 17-year capacity contract.

Within its transition-related operations, the Group is also active in the field of construction projects covering wind farms in the Baltic Sea (offshore). It is also planned to use the assets of the Pałtnów Power Plant for the needs of a potential nuclear power plant construction. Both aforementioned projects are developed in cooperation with third-parties.

Outside of the Capital Group, the Company has shares in Zakłady Pomiarowo-Badawcze Energetyki Energopomiar Sp. z o.o. with its registered office in Gliwice, which provide measurement, research and consulting services related to, among others, the energy sector. ZE PAK S.A. has 1 share with a face value of PLN 159,500.07 in the aforementioned company, which comprises 2.96% of the total capital.

In addition, the Company also holds shares in Huta Łaziska SA under arrangement bankruptcy, with its seat in Łaziska Górne. The plant specializes in the production of ferroalloys. These are 3 277 025 series B shares with a face value of PLN 1.00 each and 4 307 822 series C shares with a face value of PLN 1.00 each, which in total constitutes 11.19% of the share capital.

Through the person of the main shareholder, the Group is linked to other entities in which Zygmunt Solorz holds a significant interest, directly or indirectly.



Figure 1: Structure of the Group as at 31 December 2022

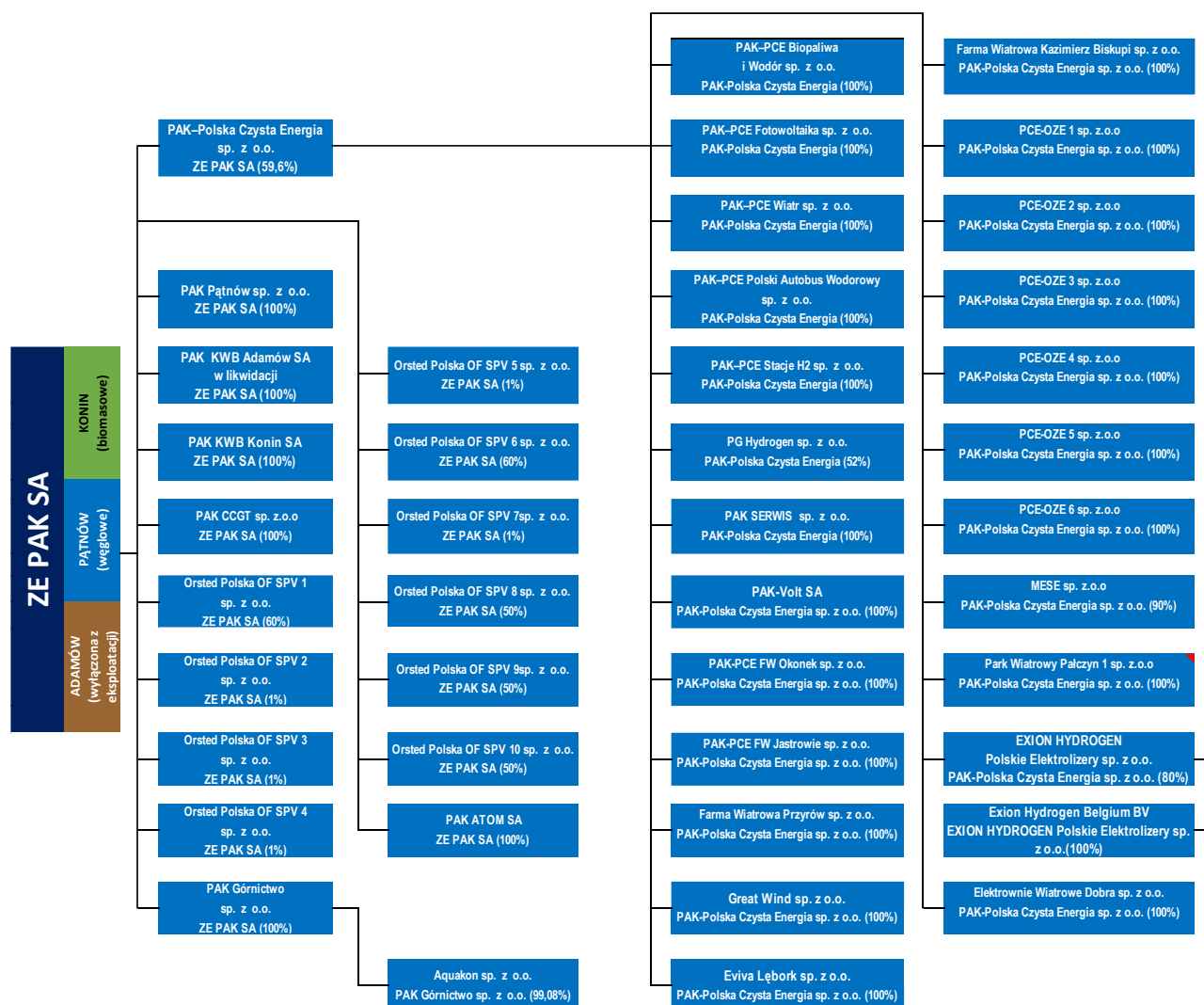


Table 1: List of Group's companies (w/o ZE PAK SA)

Entity	Registered office	Scope of activity	Group's share in capital, %	
			As at 31 December 2022	As at 31 December 2021
<b>Subsidiaries</b>				
"PAK-Polska Czysta Energia" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Activities of central companies, excluding financial holdings	59.59%	100.00%
"PAK Kopalnia Węgla Brunatnego Konin" SA	62-540 Kleczew ul. 600-lecia 9	Lignite extraction	100.00%	100.00%
"PAK Górnictwo" sp. z o.o.	62-510 Konin ul. Przemysłowa 158	Repair and maintenance of machinery	100.00%	100.00%

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Przedsiębiorstwo Remontowe "PAK SERWIS" sp. z o.o.	62-510 Konin ul. Przemysłowa 158	Renovation and construction services	59.59%*	100.00%*
"PAK – Volt" SA	04-028 Warsaw Al. Stanów Zjednoczonych 61	Electricity sales	59.59%*	100.00%
"PAK–PCE Polski Autobus Wodorowy" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Bus manufacturing	59.59%*	100.00%*
"PAK – PCE Fotowoltaika" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%
"PAK–PCE Stacje H2" sp. z o.o. (formerly "PAK–PCE Biogaz" sp. z o.o.)	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PAK–PCE Biopaliwa i Wodór" sp. z o.o.	62-510 Konin ul. Przemysłowa 158	Electricity generation	59.59%*	100.00%*
"PAK–PCE Wiatr" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PG Hydrogen" sp. z o.o.	02-673 Warsaw ul. Konstruktorska 4	Manufacturing of engines and turbines, excluding aviation and automotive engines	52.00%*	52.00%*
"Exion Hydrogen Polskie Elektrolizery" sp. z o.o.	80-701 Gdańsk ul. Ku Ujściu 19	Design and manufacturing of electrolysers	47.67%*	80.00%
"Exion Hydrogen Belgium" BV	Slachthuisstraat 120 Bus 12 2300 Turnhout	Design and manufacturing of electrolysers	47.67%*	80.00%*
"Farma Wiatrowa Kazimierz Biskupi" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Design and construction of wind farms	59.59%*	100.00%*
"PCE–OZE 1" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PCE–OZE 2" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PCE–OZE 3" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PCE–OZE 4" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PCE–OZE 5" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PCE–OZE 6" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	59.59%*	100.00%*
"PAK CCGT" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	100.00%	100.00%
"MESE" sp. z o.o.	04-028 Warsaw Al. Stanów Zjednoczonych 61A	Electricity generation	53.63%*	90.00%*
"Park Wiatrowy Pałczyn 1" sp. z o.o.	70-479 Szczecin Al. Wojska Polskiego 68	Electricity generation – wind energy	59.59%*	100.00%*
"Park Wiatrowy Pałczyn 2" sp. z o.o.**	70-479 Szczecin Al. Wojska Polskiego 68	Electricity generation – wind energy	-	100.00%**
"PAK Pątnów" sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation	100.00%	-
"Ørsted Polska OF SPV 1" sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	60.00%	-
"Ørsted Polska OF SPV 6" sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	60.00%	-
"PAK ATOM" SA	62-510 Konin ul. Kazimierska 45	Electricity generation	100.00%	-

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

“PAK–PCE FW Okonek” sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation – wind energy	59.59%*	-
“PAK–PCE FW Jastrowie” sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation – wind energy	59.59%*	-
“Farma Wiatrowa Przyrów” sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation – wind energy	59.59%*	-
“Great Wind” sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation – wind energy	59.59%*	-
“Eviva Lębork” sp. z o.o.	62-510 Konin ul. Kazimierska 45	Electricity generation – wind energy	59.59%*	-
“Elektrownie Wiatrowe Dobra” sp. z o.o.	91-862 Łódź ul. Warszawska 70A	Electricity generation – wind energy	59.59%*	-
“PAK Kopalnia Węgla Brunatnego Adamów”	62-700 Turek Warenka 23	Lignite extraction	100.00%	100.00%
“Aquakon” sp. z o.o. under liquidation	62-610 Sompolno Police	Company under liquidation	99.08%*	99.08%*

**Jointly controlled companies**

“Ørsted Polska OF SPV 2” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	1.00%	-
“Ørsted Polska OF SPV 3” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	1.00%	-
“Ørsted Polska OF SPV 4” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	1.00%	-
“Ørsted Polska OF SPV 5” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	1.00%	-
“Ørsted Polska OF SPV 7” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	1.00%	-
“Ørsted Polska OF SPV 8” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	50.00%	-
“Ørsted Polska OF SPV 9” sp. z o.o. (formerly “Mawzorino Investments” sp. z o.o.)	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	50.00%	-
“Ørsted Polska OF SPV 10” sp. z o.o.	00-801 Warsaw ul. Chmielna 73	Electricity generation - offshore wind energy	50.00%	-

\* Entities with partially or completely indirect share of ZE PAK SA via other ZE PAK SA Group companies

\*\* On 28 November 2022, a merger between “Park Wiatrowy Palczyn 1” sp. z o.o. (acquiring company) and “Park Wiatrowy Palczyn 2” sp. z o.o. (acquired company) was enacted.

On 28 February 2022, ZE PAK SA acquired 100% of shares in PAK Pątnów sp. z o.o., PAK – PCE sp. z o.o. acquired 100% of shares in: Farma Wiatrowa Okonek sp. z o.o. and Farma Wiatrowa Jastrowie sp. z o.o., the shares held by ZE PAK SA in PAK-Volt SA, PAK – PCE Fotowoltaika sp. z o.o. and Exion Hydrogen Polskie Elektrolizery sp. z o.o. have been contributed in kind to PAK – PCE sp. z o.o.;

On 3 March 2022, PAK – PCE sp. z o.o. acquired 100% of shares in Farma Wiatrowa Przyrów sp. z o.o.;

On 8 March 2022, ZE PAK SA acquired shares in 5 companies - 50% shares in each (companies named Ørsted Polska OF SPV 1 sp. z o.o., Ørsted Polska OF SPV 2 sp. z o.o., Ørsted Polska OF SPV 3 sp. z o.o., Ørsted Polska OF SPV 4 sp. z o.o. and Ørsted Polska OF SPV 5 sp. z o.o.).

On 13 April 2022, ZE PAK SA and Ørsted Wind Power A/S (ORS) concluded an additional sales agreement regarding shares in another 5 project companies, resulting in the ZE PAK SA acquiring from ORS 50% of the shares in the share capital of the following companies: Ørsted Polska OF SPV 6 sp. z o.o., Ørsted Polska OF SPV 7 sp. z o.o., Ørsted Polska OF SPV 8 sp. z o.o., Mawzorino Investments sp. z o.o. (company name changed to Ørsted Polska OF SPV 9 sp. z o.o. on 24 May 2022) and Ørsted Polska OF SPV 10 sp. z o.o.;

On 10 June 2022, PAK – PCE sp. z o.o. acquired 100% of the shares in Great Wind sp. z o.o., the task of which is to develop a construction and operation project of a wind farm located near Człuchów.

On 27 July 2022, the contribution of all PP BiW share capital shares held by the Company and Cyfrowy Polsat SA as a contribution to cover the increased share capital of PAK – PCE sp. z o.o. Currently, the Company holds 59.59% of shares in PAK – PCE sp. z o.o. and Cyfrowy Polsat SA holds the remaining 40.40% of shares in PAK – PCE sp. z o.o.,

On 5 August 2022, the National Court Register registered a company named PAK – ATOM SA, which is a 100% subsidiary of ZE PAK SA. PAK ATOM SA does not conduct any activity. Its establishment was associated to one of the nuclear project development variants.

On 29 August 2022, PAK – PCE sp. z o.o. transferred all the shares of Park Wiatrowy Pałczyn 2 sp. z o.o. to Park Wiatrowy Pałczyn 1 sp. z o.o. – change registered in the National Court Register on 7 September 2022. On 28 November 2022, a merger between “Park Wiatrowy Pałczyn 1 sp. z o.o.” (acquiring company) and “Park Wiatrowy Pałczyn 2” sp. z o.o. (acquired company) was enacted.

On 29 August 2022, PAK – PCE sp. z o.o. acquired 100% of the shares in Eviva Lębork sp. z o.o. wind company, the task of which involves the construction and operation of a wind farm – the change was registered by the National Court Register on 18 October 2022.

On 26 September 2002, as a result of a share capital increase in: Ørsted Polska OF SPV 1 sp. z o.o and Ørsted Polska OF SPV 6 sp. z o.o., the Company, as at the statement publication date, holds 60% of the shares in these companies. Simultaneously, following an increase in the share capital of Ørsted Polska OF SPV 2 sp. z o.o., Ørsted Polska OF SPV 3 sp. z o.o., Ørsted Polska OF SPV 4 sp. z o.o., Ørsted Polska OF SPV 5 sp. z o.o. and Ørsted Polska OF SPV 7 sp. z o.o., 99% of the shares in the companies were held at the date of publishing this statement by Ørsted Wind Power A/S with its seat in Fredericia, Denmark, with the other 1% held by ZE PAK SA.

On 19 October 2022, the plan to combine Group's companies – PAK KWB Konin SA (acquiring company) and PAK KWB Adamów SA (acquired company) was announced. The merger took place on 28 February 2023, i.e., on the date the merger was entered into the Register of Entrepreneurs, competent for the acquiring company's seat.

On 2 December 2022 PAK – Polska Czysta Energia sp. z o.o. acquired 100% of shares in Elektrownie Wiatrowe Dobra sp. z o.o.

Already after the end of the reporting period, i.e., on 25 January 2023, the Company acquired 100% of share in Horset sp. z o.o., a Ukrainian-law company with its seat in Kiev – the change has not yet been registered by the National Court Register.

On 13 April 2023, PGE and ZE PAK signed the articles of association of PGE PAK Energia Jądrowa SA. The company's objective and task will be to participate in the construction of a nuclear plant in Konin/Pątnów in Wielkopolska.

On 14 April 2023, PAK – PCE Czysta Energia sp. z o.o. acquired 100% of the shares in the share capital of Eviva Drzeżewo sp. z o.o., the task of which involves the construction and operation of a wind farm – the change has not yet been registered by the National Court Register (KRS).

As of 31 December 2022, share in the general number of votes held by the Group in subsidiaries is equal to the Group's share in capitals of these subsidiaries.

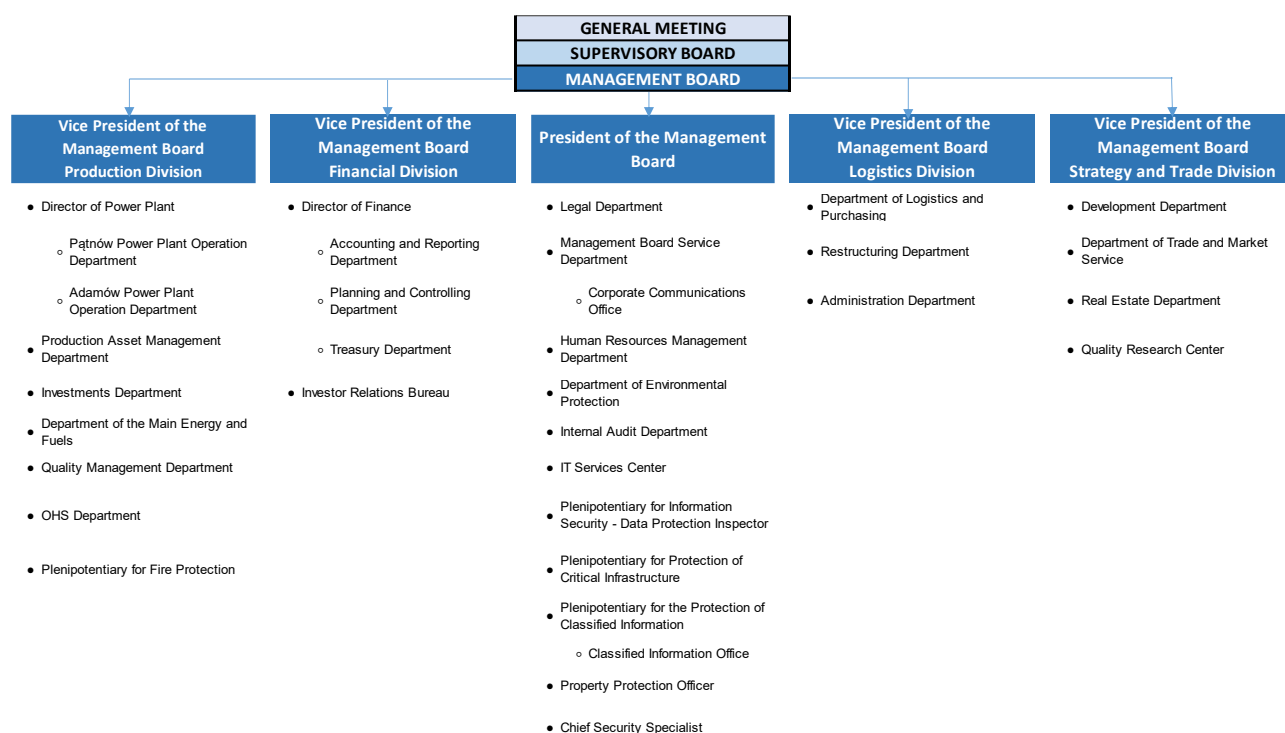
## **2.2. Basic principles and changes related to the ZE PAK SA Capital Group and Company management rules**

Aiming at ordering key issues related to management of the Capital Group in which ZE PAK S.A. is the parent company and, at the same time, the owner of capital seeking a satisfactory return on the funds engaged, a separate Corporate Governance and Restructuring Department operates within the organisational structure of the Company. The responsibilities of the Head Office include, among others, issues associated with corporate governance. The basic tasks of the Head Office as part of corporate governance include supervision over the activities of the ZE PAK SA Capital Group and other companies wherein ZE PAK SA holds shares or stocks. This unit coordinates the coherence of the activities by all Group entities and monitors their compliance with the applicable legislation, as well as the interests of the Capital Group as a whole.

In accordance with the policy implemented within the Group, its key subsidiaries, members of the ZE PAK SA Management Board may act as members of the management boards at these companies, while acting as the members of supervisory boards in other Group companies. In addition, to ensure the correct functioning of the corporate governance body, the Management Board of ZE PAK SA recommends to the Supervisory Board of ZE PAK SA, the candidatures of other management and supervisory board members of the Group companies.

The Company's organisational structure includes created organisational divisions that bring together the Company's organisational units (departments, offices, branches, etc.). Individual organisational divisions are managed by ZE PAK SA's Management Board members in accordance with the internal division of competences made by the Company's Supervisory Board. The members of the Management Board at ZE PAK SA cooperate and coordinate activities related to the Company's affairs and ensure the proper cooperation of the divisions and organisational units managed by them. The areas of the Company's activities managed by individual Management Board members are defined by the Company's organisational by-laws, which determine the organisation of the Company's as an enterprise.

Figure 2. Company's organizational structure with an internal division of competences



The ZE PAK SA Capital Group operates shared service centres in the following fields:

- legal, services for the Groups' companies,
- investments,
- accounting, finances and controlling,
- HR and payroll,
- environmental protection,
- logistics and procurement,
- administration.

Shared services centres provide services in the field defined above under contracts concluded by ZE PAK SA with Group companies. The concentration of competences in particular areas is aimed at improving the quality of services provided and optimising the operating costs of the ZE PAK SA Capital Group.

As of 2020, significant changes have been taking place within the Group's structure. A number of companies have been registered that are already developing competences in the areas of energy generation based on low-carbon and emission-neutral technologies. The nature of the new projects means that a number currently undertaken investment project initiatives will be implemented by special purpose vehicles, often in cooperation with third-party partners. This method of the Group's activities will result in transforming the Company into a holding entity, accumulating shares in companies responsible for the implementation of separate projects.

## 2.3. Described structure of main capital deposits or main capital investments made within the Capital Group

Information on the structure of the ZE PAK SA Capital Group can be found above in point 2.1 of this report. In 2022, there were no deposits or capital investments made within the Capital Group that were material to the Group's operations.

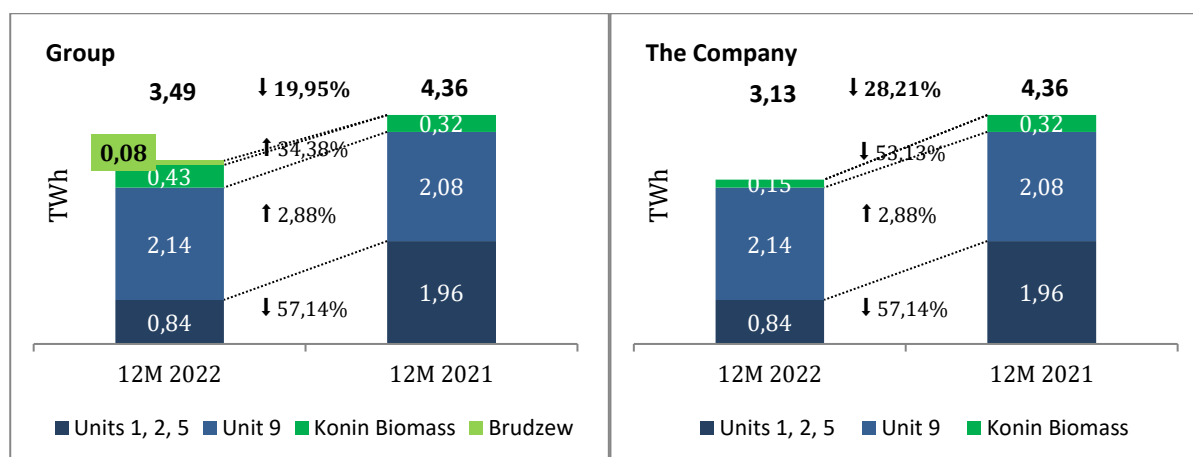
## 2.4. Characteristics of the main products, goods and services, and the main outlet markets and supply sources

The ZE PAK SA Capital Group focuses its current activities on several fields. The main area is undoubtedly the generation of electricity using conventional and renewable energy sources, lignite extraction and wholesale trading in electricity, which is supplemented by sales of energy certificates of origin, activities undertaken to ensure an adequate amount of CO<sub>2</sub> allowances, as well as generation and sales of heat. Furthermore, the companies functioning within the Group deal with, among others, execution of construction and installation work, maintenance work, services, manufacturing and trade activities, aimed at fulfilling the needs and providing comprehensive services to the industry. In 2022, the Company conducted its activities mainly in the Polish market. The exception is the activity related to certain transactions on CO<sub>2</sub> emission allowances, which were concluded with foreign counterparties. In addition, also one of the companies in the renovation segment, i.e., PAK Serwis sp. z o.o., provides services to foreign entities, mainly German companies related to the energy sector.

The Group is an electricity producer and has so far based its production mainly on lignite; however, being aware of the challenges facing the conventional generation sector in the near future, it has decided to gradually reduce its coal-fired electricity generation and develop projects in the area of energy generation using low-emission and emission-neutral sources, as well as the production and use of 'green' hydrogen.

Total net electricity generation at the Group's power plants in 2022 amounted to 3.49 TWh, i.e., 19.95% lower than in the previous year. Units 1, 2 and 5 (Pałnów I) produced 0.84 TWh, unit 9 (Pałnów II) produced 2.14 TWh, while the Konin power plant produced 0.43 TWh. The start-up and commissioning of a biomass unit in the first half of the year contributed to the increase in production at the Konin power plant. The photovoltaic farm in Brudzew also started generating solar electricity at the end of 2021. In 2022, the farm generated 0.08 TWh.

Chart 1: Net electricity production

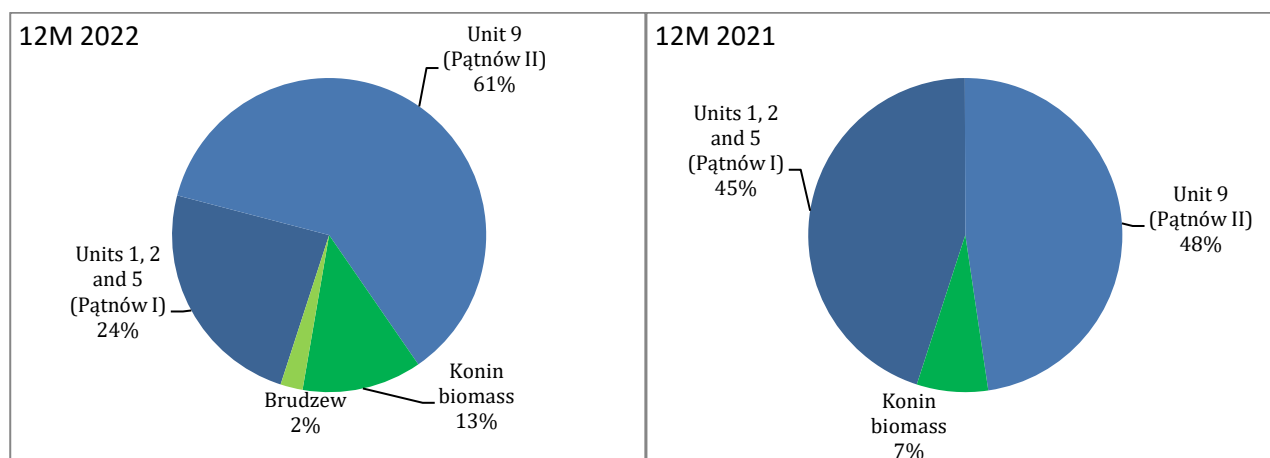


Source: internal data

The decrease in generation recorded last year was primarily related to older, less efficient units 1, 2 and 5 at the Pałnów power plant. Less coal available for extraction in the mines supplying the Company also contributed to the decrease in generation. The recorded decrease in the Company's generation volume of biomass-powered electricity arises from the transfer of the organised part of the Konin Power Plant enterprise to BiW sp. z o.o. in July 2022. In the implementation of the plan to gradually move away from coal-fired power generation, the Group's mine does not undertake significant investments in the extraction segment and thus relies on open pits currently in operation, whose resources are decreasing. This, in turn, has affected power generation capacities in the previous year and will also increasingly reduce coal power generation volumes in future years. It should also be noted that while the Group's net coal-fired generation fell by 26.18%, there was a 59.19% increase in net RES generation, mainly due to the commissioning of new units, including the biomass

unit at the Konin power plant and the photovoltaic farm in Brudzew. At the same time, the share of RES energy in the structure of own energy increased to 14.30% in 2022 from 7.27% in 2021.

*Chart 2: Production structure broken down by individual power plants*



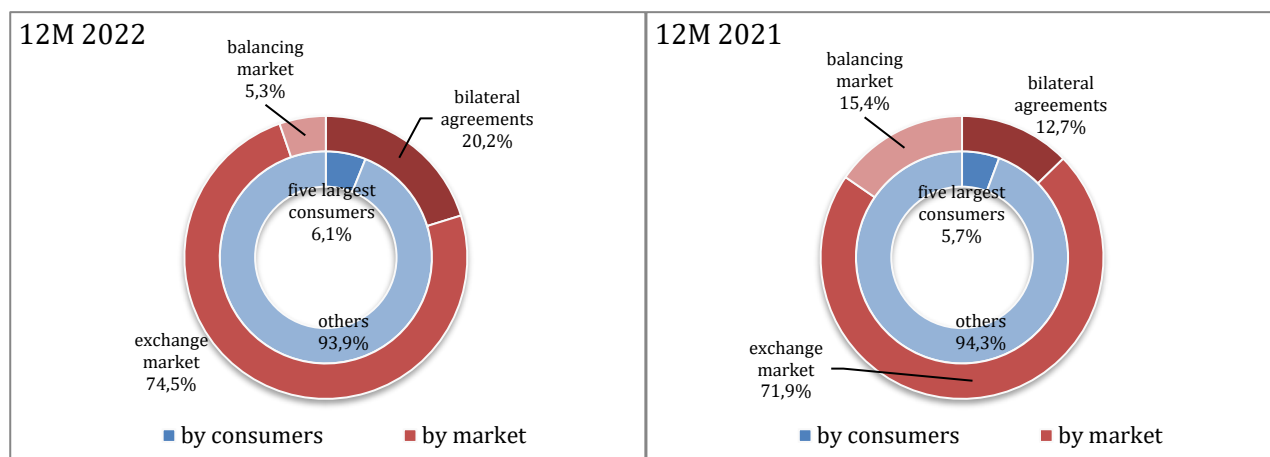
Source: internal data

In addition to power generation, the Group is also a wholesale power trader. In 2022, the Group sold a total of 6.03 TWh of internally generated and market-acquired electricity, 4.87% more than in 2021. Despite the increase in total sales, the Group recorded a decrease of 19.04% y/y on own electricity sales, which was primarily due to lower coal supplies from its own open pits.

Total electricity sales at the ZE PAK SA parent company amounted to 4.00 TWh in 2022, down 23.37% y/y.

The main direction of electricity sales in 2022 were sales on the exchange market, which accounted for 74.4% of the total volume of energy sold. Under bilateral contracts concluded mainly with electricity trading companies operating on the Polish market, Group companies sold 20.2% of the total annual volume of energy sales realised in 2022. Transactions with end consumers accounted for 14.1% of the total electricity sales volume. The electricity balancing market complements the sales structure. Therein the Group companies sold 5.4% of the total electricity sales volume for last year.

*Chart 3: Energy sales structure by consumers (inner ring) and market (outer ring)*



Source: internal data

Electricity sales revenues (total - generated and traded, less excise duty) accounted for 86.36% of the Group's total sales revenues in 2022, while revenues received from the termination of long-term contracts (LTCs) accounted for 3.04% of the Group's sales revenues.

Heat generated in the Group's power plants is sold to local consumers. The main recipient is the Municipal District Heating Company in Konin, and local industrial manufacturers. The Group sold 1 193 TJ of heat in the previous year. Heat sales comprised 1.79% of the Group's total sales revenues.

In 2022, revenues from the sale of rights of origin were lower compared to 2021. The decrease was determined both by the slightly lower generation volume and the slightly lower price obtained from the sales of green certificates. The share of revenues from the sales of energy certificate of origin property rights in 2022 accounted for 1.39% of the Group's total revenues.

It is worth mentioning the activities related to construction and assembly work when considering significant sources complementing the revenue structure. PAK Serwis sp. z o. o., one of the Group's companies, implements such tasks for the Group and for third-party entities. The main external consumers are entities from the industrial construction sector, and the electricity generation and distribution sector. The revenues on services provided for such third-party entities accounted in 2022 for 1.17% of the total sales revenues of the Group. Remaining activities generated 2.53% of the total revenues in the previous year.

The main raw material used by the Group for energy generation is lignite. Extracted lignite is delivered directly from open cast mines to nearby power plants. Therefore, lignite extraction within the ZE PAK Group is strictly related to the volume of electricity produced by the power plants located in the vicinity of the mines. Purchases from third-party suppliers supplement supplies from own open pits.

The Group's power generation process also utilizes biomass, which is combusted in a specially dedicated boiler, located at the Konin Power Plant. Biomass supply contracts are concluded with third-party vendors. All of the biomass used by ZE PAK SA in 2022 was domestic and certified.

### **3. DESCRIPTION OF ACTIVITIES**

#### **3.1. Significant events in the accounting year, as well as events after the balance sheet date affecting current and future activities**

##### **Significant events in the accounting year**

There were no changes in the composition of the Company's Management Board during the reported period. However, the Supervisory Board composition changed. The description of these changes can be found below and in clause 9.10. "Personal composition, its changes and a description of the activities of management and supervisory bodies" in this statement.

##### ***Acquisition of the "Przyrów" wind project by PAK – Polska Czysta Energia sp. z o.o.***

On 4 March 2022, PAK – Polska Czysta Energia sp. z o.o. acquired from KI Foundation, a foundation established and operating under the laws of the Republic of Malta, 200 shares, with a face value of PLN 50.00 each, constituting in total 100% of the shares in the share capital of Farma Wiatrowa Przyrów sp. z o.o., with its seat in Warsaw.

PAK - PCE sp. z o.o. acquired the shares from the seller as part of an investment venture involving PAK – PCE sp. z o.o.'s implementation of a RES system being a set of 14 wind power plants within the Przyrów commune, Częstochowa district, Silesia province.

The investment project involves the construction of a wind farm comprising 14 wind turbines with a total capacity of 42 MW in the village of Przyrów. Wind conditions in this region enable estimating annual farm output at just under 105.2 GWh. The project has already been granted a set of administrative permits that enable commencing construction work on the wind turbines. Transaction documentation provides for obtaining a complete set of administrative permits allowing to complete the construction work and connect the farm to the grid. The planned farm commissioning date is Q3 2024 at the latest.

##### ***Acquisition of project companies and concluding a shareholders' agreement with Ørsted Wind Power A/S by ZE PAK SA***

On 8 March 2022, the ZE PAK SA and Ørsted Wind Power A/S with its registered office in Fredericia, Denmark (ORS) concluded an additional share purchase agreement regarding another 5 project companies, resulting in the Company acquiring from ORS 50% of the shares in the share capital of the following companies: Ørsted Polska OF SPV 1 sp. z o.o., Ørsted Polska OF SPV 2 sp. z o.o., Ørsted Polska OF SPV 3 sp. z o.o., Ørsted Polska OF SPV 4 sp. z o.o. and Ørsted Polska OF SPV 5 sp. z o.o. On 13 April 2022, the Company and ORS concluded an additional share purchase agreement regarding shares in another 5 project companies, resulting in the Company acquiring from ORS 50% of the shares in the share capital of the following companies: Ørsted Polska OF SPV 6 sp. z o.o., Ørsted Polska OF SPV 7 sp. z o.o., Ørsted



Polska OF SPV 8 sp. z o.o., Mawzorino Investments sp. z o.o. and Ørsted Polska OF SPV 10 sp. z o.o. ("Joint Venture companies"). The Parties obtained the consent of the President of the Office of Competition and Consumer Protection to conduct a consolidation involving ORS and the Company establishing five joint entrepreneurs.

The Parties also signed a shareholders' agreement that determines "corporate governance" rules in Joint Venture Companies and future cooperation terms.

The Parties planned to jointly submit application for the issuance of permits to erect and utilize artificial islands, structures and equipment in maritime areas of the Republic of Poland for the purposes of offshore wind farm projects under the next resolving procedure, conducted pursuant to Art. 27d et seq. of the Act of 21 March 1991 on the maritime areas of the Republic of Poland and the maritime administration.

On 8 August 2022, the parties concluded a Framework Agreement and a change order to the shareholders' agreement. Pursuant to the said documents, the Company and ORS decided, in particular, to make a series of share capital increases in seven project companies, leading to a change in the number of shares, which the parties in these companies are entitled to, while still maintaining joint control of the parties over these project companies and their joint financing.

The change in share capitals covered: Ørsted Polska OF SPV 1 sp. z o.o. ("SPV 1"), Ørsted Polska OF SPV 2 sp. z o.o. ("SPV 2"), Ørsted Polska OF SPV 3 sp. z o.o. ("SPV 3"), Ørsted Polska OF SPV 4 sp. z o.o. ("SPV 4"), Ørsted Polska OF SPV 5 sp. z o.o. ("SPV 5"), Ørsted Polska OF SPV 6 sp. z o.o. ("SPV 6") and Ørsted Polska OF SPV 7 sp. z o.o. ("SPV 7"), where the parties previously held 50% shares each. Pursuant to the Framework Agreement, due to the increased share capital of these entities, as at the date of publishing this statement, the Company holds 60% of the shares in SPV 1 and SPV 6 ("ZE PAK Companies"), while ORS holds 99% of the shares in SPV 2, SPV 3, SPV 4, SPV 5 and SPV 7 (jointly as "ORS Companies").

Pursuant to the framework agreement, in the case of any of ORS companies obtaining a permit to erect and utilize artificial islands, structures and equipment in offshore areas of the Republic of Poland for wind farm projects during the next settlement procedure conducted pursuant to Art. 27d et seq. the Act of 21 March 1991 on the maritime areas of the Republic of Poland, the Company shall be entitled to demand another increase in the share capital of a given ORS company, under which all new shares will be acquired by the Company. Due to the increase in the share capital of a given ORS company, the Company and ORS will each hold 50% shares in a given ORS company. In the event of a failure of the Company submitting a request to increase the share capital after a permit is obtained by a given ORS company, ORS shall be entitled to purchase all shares in a given ORS company held by the Company. Such a right to demand a further increase in the share capital has not been provided for in relation to ZE PAK Companies.

### ***Changes in the composition of ZE PAK SA Supervisory Board***

On 10 March 2022, the Extraordinary General Meeting of the Company's Shareholders appointed three new members of the Supervisory Board: Mr Jarosław Grzesiak, Mr Tobiasz Solorz and Mr Piotr Żak. Resolutions on the appointment became effective upon their adoption.

On 30 March 2022, Mr Leszek Wysłocki resigned from the Company's Supervisory Board.

On 13 April 2022, the Company's Supervisory Board adopted a resolution to entrust Mr Piotr Żak with the function of Deputy Chairman. On 22 April 2022, the Extraordinary General Meeting of Shareholders of the Company determined the new number of the Company's Supervisory Board members and dismissed Mr Grzegorz Krystek from the function of a Supervisory Board member.

### ***Increasing the limit of available funding under the loan agreement by PAK – Polska Czysta Energia sp. z o.o.***

On 23 May 2022, PAK – Polska Czysta Energia sp. z o.o. increased the amount of available funding in the agreement of 23 June 2021, concluded with EFG Bank Ltd. with its registered office in Zurich. The amount of available credit was increased by PLN 125 MM, i.e., to PLN 300 MM. The obtained funds will be used to finance projects in the field of renewable energy sources, as well as the generation and utilization of green hydrogen, implemented by the subsidiaries of the Borrower. The financial terms and other terms of the Loan Agreement do not deviate from market terms.

### ***Acquisition of a wind project by PAK – Polska Czysta Energia sp. z o.o., a ZE PAK SA subsidiary***

On 10 June 2022, PAK – Polska Czysta Energia sp. z o.o. with its seat in Konin decided to acquire 100% shares in the share capital of Eviva Lębork sp. z o.o. with its seat in Warsaw, from Polish Wind Holdings B.V., a company established and operating under the laws of the Kingdom of the Netherlands.

PAK – PCE sp. z o.o. acquired the shares from the seller as part of an investment project involving the implementation of an RES system that includes constructing a wind farm comprising 33 wind turbines with a total capacity of 72.6 MW in Człuchów, Pomorskie province.

Wind conditions in this region enable estimating annual farm output at 230 GWh. The project has already been granted a set of administrative permits that enable commencing construction work on the wind turbines. Transaction documentation provides for obtaining a complete set of administrative permits allowing to complete the construction work and connect the farm to the grid. The planned farm commissioning date is Q3 2024 at the latest. Due to the secured connection capacity, the design has the potential to develop an additional PV farm, with a maximum capacity exceeding 50 MWp.

In order to finance the investment project of PAK – PCE sp. z o.o., a loan agreement was concluded by PAK – PCE sp. z o.o., as the borrower, and Cyfrowy Polsat SA with its registered office in Warsaw, as the lender, for the amount of PLN 236 400 000 (two hundred and thirty-six million four hundred thousand PLN).

The loan agreement provides for PAK – PCE sp. z o.o. taking the loan in PLN or EUR, on terms and conditions stipulated in the agreement, taking into account the needs arising from the investment project implementation schedule. However, simultaneously, the loan agreement provides for the possibility of the borrower to obtain alternative forms of financing for the investment project and potential early repayment of the loan granted under the loan agreement.

### ***Registration of amendments to the Articles of Association of ZE PAK SA***

On 14 June 2022, the District Court Poznań - Nowe Miasto and Wilda in Poznań, 9th Economic Division of the National Court Register registered the amendments to the Articles of Association of the Company adopted by the Extraordinary General Meeting of Shareholders of ZE PAK SA on 10 March 2022, comprising the repeal of the existing Articles of Association of the Company in its entirety, followed by the passing of the new content and adoption of the new consolidated text of the Articles of Association of ZE PAK SA.

### ***Conclusion of a contract by PAK – PCE Polski Autobus Wodorowy sp. z o.o. for the construction of a hydrogen-powered bus production plant***

On 15 June 2022, PAK – PCE Polski Autobus Wodorowy sp. z o.o. concluded a contract with Mostostal Puławy SA based in Puławy for the implementation of the task entitled “Construction of a production plant for buses powered by hydrogen cells together with an office building and associated infrastructure”. The subject matter of the contract is the implementation of the task in question under the "Design-Build" formula, at a site covered by the construction permit, in Świdnik, Lubelskie province.

According to the provisions of the contract, the lump-sum remuneration for the performance of the contract subject matter was set at PLN 72.7 million net.

### ***Judgement by the Provincial Administrative Court in Warsaw – concession for lignite extraction***

On 25 July 2022, PAK KWB Konin SA received the judgement of the Provincial Administrative Court (“WSA”) in Warsaw dated 26 May 2022, which was passed in a closed session. The judgement of the WSA in Warsaw repeals the decision of the Minister of Climate and Environment dated 27 July 2020 amending the lignite extraction concession for one of the three deposits currently exploited by KWB Konin SA, i.e., Pątnów IV (“Józwin” open pit). The decision of the Minister of Climate and Environment which extends the concession validity date from 31 August 2020 to 31 August 2026 has been repealed in a non-binding manner.

The repealing judgement is not final. PAK KWB Konin SA has already filed a cassation appeal to the Supreme Administrative Court. The Decision repealed by way of the WSA judgement remains in legal circulation and PAK KWB Konin SA continues to extract lignite from the Pątnów IV deposit within the Józwin Open pit. The Pątnów IV deposit is in the final phase of exploitation, and in none of the scenario does PAK KWB Konin SA assume its exploitation until 2026.

### ***Acquisition of a wind project and conclusion of a loan agreement by PAK – Polska Czysta Energia sp. z o.o.***

On 8 September 2022, PAK-Polska Czysta Energia sp. z o.o. with its seat in Konin purchased from Polish Wind Holdings B.V., a company established and operating under the laws of the Kingdom of the Netherlands, 100% shares in the share capital of Eviva Lębork sp. z o.o. with its seat in Warsaw.

The investment project involves the construction of a wind farm consisting of 23 wind turbines with a combined capacity of 50.6 MW, located within the Potęgowo commune, Słupski district, Pomorskie province. Wind conditions in this region enable estimating annual farm output at 170 GWh. The project has already been granted a set of administrative permits that enable commencing construction work on the wind turbines. The planned farm commissioning date is Q3 2024 at the latest. Due to the secured connection capacity, the design provides for the potential development of an additional PV or wind farm, with a maximum capacity of approx. 50 MW. The total estimated investment expenditure associated with purchasing and executing the farm amount to approx. PLN 600 MM.

In order to finance wind farm construction, on 6 September 2022, PAK – Polska Czysta Energia sp. z o.o. concluded a loan agreement with Cyfrowy Polsat S.A. with its seat in Warsaw, under was granted a loan of up to PLN 160 million that can be paid in PLN or EUR. Pursuant to the provisions of the agreement, the loan repayment date has been set at 31 December 2025. The financial terms and other terms of the Agreement do not deviate from market terms.

***Conclusion of further change orders to the preliminary sales contract involving shares in PAK – Polska Czysta Energia sp. z o.o. and the transfer of ownership of the Konin Power Plant organized part of the enterprise to PAK – PCE Biopaliwa i Wodór sp. z o.o.***

On 20 December 2021, the Company and Cyfrowy Polsat SA concluded a preliminary contract for the sale of 67% of shares in PAK – Polska Czysta Energia sp. z o.o. On 30 March 2022, Change Order No. 1 to the aforementioned contract was concluded – it amended the end date (so-called long stop date) until which the parties assumed meeting all precedent conditions.

A number of legal actions took place in the period from April until May 2022, which resulted in Cyfrowy Polsat SA becoming the holder of 49% of the shares in the share capital of PAK – PCE Biopaliwa i Wodór sp. z o.o. (“PP BiW”), and the Company became the holder of 51% shares in the share capital of PP BiW. The change in the ownership structure of PP BiW entailed increasing its capital. The funds from increased capital were intended to acquire all energy activities from the Company implemented at the Konin Power Plant, involving in particular the generation of electricity from biomass, and constituting the organized part of the enterprise (“Konin Power Plant OPE”).

On 16 May 2022, the Company and PP BiW concluded a contract, under which the ownership of the Konin Power Plant OPE was transferred to PP BiW. The value of the Konin Power Plant OPE was determined based on the measurement developed by Deloitte Advisory sp. z o.o. and the working capital, i.e., under the same conditions and at a same level as provided for in the contract dated 20 December 2021.

On 29 June 2022, the Company and Cyfrowy Polsat SA concluded another Change Order (“Change Order 2”), which shifts the long stop date and the date for completing one of the milestones the said contract, i.e., the transfer of the Konin Power Plant OPE. Change Order 2 was also concluded in relation to the failure to meet one of the conditions precedent associated with the transfer to PAK – PCE sp. z o.o. of the receivables of PAK – PCE sp. z o.o. subsidiaries, i.e., PCE – OZE 1-6, and a change in the manner and sequence of legal actions conducted under the contract.

The transfer of Konin Power Plant OPE ownership to PP BiW was completed on 1 July 2022.

On 27 July 2022, the contribution of all PP BiW share capital shares held by the Company and Cyfrowy Polsat SA as a contribution to cover the increased share capital of PAK – PCE sp. z o.o.

On 26 September 2022, the Company and Cyfrowy Polsat SA concluded another change order (“Change Order 3”), which amends the end date for obtaining the assumed share structure in PAK – PCE Sp. z o.o. The concluded Change Order 3 meant that the final objective planned by the Company and Cyfrowy Polsat SA in the contract for 20 December 2021, regarding Cyfrowy Polsat SA acquiring 67% of the shares in PAK – PCE Sp. z o.o. remains unchanged and is to be achieved by 5 January 2023. Currently, Cyfrowy Polsat SA currently holds 40.4% of shares in PAK – PCE sp. z o.o., and the Company holds the remaining 59.6% of shares in PAK – PCE sp. z o.o.

On 19 December 2022, the parties concluded a change order that covered the change of the end date (*so-called long-stop date*), by which all conditions precedent of the Contract should be met, which was moved from 5 January 2023 to 3 July 2023.

The total proceeds of the ZE PAK Capital Group in relation to the disposal of 67% of the PAK – PCE sp. z o.o. share capital and the transfer of ownership of the Konin Power Plant OPE to the PAK – PCE sp. z o.o. capital group (in the absence of prohibited outflows) will amount to PLN 807 624 246.00, including the adjustment arising from the working capital of Konin Power Plant OPE.

***Conclusions of a loan agreement with the Bank Gospodarstwa Krajowego by Farma Wiatrowa Kazimierz Biskupi sp. z o.o.***

On 20 September 2022, Farma Wiatrowa Kazimierz Biskupi sp. z o.o. concluded a loan agreement with Bank Gospodarstwa Krajowego, under which the bank granted the Kazimierz Farm an investment loan up to PLN 135 million, and a VAT loan up to PLN 30 million. The loans are intended to finance and refinance the construction costs of a wind farm with a combined installed capacity of 17.5 MW in the Kazimierz Biskupi commune, Wielkopolskie province.

Pursuant to the agreement, the Kazimierz Farm, as the Debtor, undertook to make an own fund contribution in the amount of at least PLN 35.3 MM. The final repayment date for the investment loan is 20 December 2038, while the final repayment date for the VAT loan is 20 March 2024. The interest rate applicable to each loan use is equal to the annual

interest rate, which is the total of the margin set out in the agreement and an appropriate WIBOR rate. The bank shall be entitled to commissions on behalf of granting the loans, the amount of which has been set at a level not different than market rates.

Other obligations of the debtor under the agreement do not differ from these commonly applied within similar loan transactions, in terms of maintaining selected financial indices at a level specified by the contract in particular.

In connection with the agreement, on 4 October 2022, Farma Kazimierz (Kazimierz Farm) signed collateral documents with Bank Gospodarstwa Krajowego.

PAK – Polska Czysta Energia sp. z o.o. established in favour of the bank (i) a financial and registered pledge (subject to registration) on all shares in the share capital of Farma Kazimierz together with a power of attorney to exercise corporate rights based on such shares.

In addition, Farma Kazimierz established (ii) a financial and registered pledge (subject to registration) on receivables under agreements to keep bank account of Farma Kazimierz, (iii) a registered pledge (subject to registration) on a set of property and property rights belonging to Farma Kazimierz. Farma Kazimierz transferred as collateral to the bank its rights and receivables under, among others, the power purchase agreement, the construction work contract and the loan agreements. Farma Kazimierz and PAK – PCE sp. z o.o. also concluded a receivables subordination agreement with the bank, under which the receivables of PAK – PCE sp. z o.o. against Farma Kazimierz were subordinated to the bank's receivables under the loan agreement.

In addition, Farma Kazimierz granted the bank a power of attorney to dispose of its bank accounts. Farma Kazimierz and PAK – PCE sp. z o.o. also submitted declarations on submission to the writ of execution pursuant to Art. 777 of the Code of Civil Procedure.

Within the scope of collaterals, an agreement on guaranteeing the overrun costs of the project implemented by Farma Kazimierz was also concluded, under which, among others, the Company undertook to provide financing to cover the overrun of the project up to the amount of PLN 13.5 million.

Farma Kazimierz also entered into a direct agreement with Polkomtel sp. z o.o. and a power purchase agreement - the PPA. The PPA concerns the sales of electricity and the certificates of origin of the energy generated by Farma Kazimierz.

The PPA was concluded for a period of 15 years. The total planned volume of electricity sales under the PPA concerns the entire volume generated by Farma Kazimierz throughout this period. The generation volume at Farma Kazimierz over the entire period of operation will depend mainly on wind conditions and the degree of productivity of the installed equipment. The energy generated will be sold at a fixed price, indexed against the annual inflation rate. The total estimated sales revenues under the PPA over a 15-year period will be approximately PLN 360 million.

Both parties to the PPA have been adequately secured, including in the event of failure to generate energy by Farma Kazimierz, as well as failure to pay for the energy supplied by Farma Kazimierz. The provisions of the PPA also comprehensively regulate issues relating to, among others, energy generation planning and responsibility for commercial balancing of Farma Kazimierz.

#### ***Termination of the cooperation agreement with MS Innovation Impulse GMBH***

On 31 October 2022, the Management Board of ZE PAK SA decided to terminate the cooperation agreement concluded on 31 August 2021 with MS Innovation Impulse GMBH, based in Vienna, Austria, in the presence and participation of Argumenol Investment Company Limited, based in Limassol, Cyprus and Synthos Green Energy Spółka Akcyjna, based in Warsaw.

The decision to terminate the agreement is based on the Company's intention to conduct further analyses concerning a possible, different and more diversified use of the Pałnów Power Plant sites by the Company.

#### ***Signing of a letter of intent regarding cooperation within the nuclear power plant project***

On 31 October 2022, the Company signed a letter of intent with Korea Hydro & Nuclear Power Co., Ltd, a state-owned Korean company with its registered office in Gyeongju, Republic of Korea, and PGE Polska Grupa Energetyczna SA with its registered office in Lublin.

The intention of the Parties is cooperation within a strategic Polish-Korean project involving the construction of a nuclear power plant in Pałnów. The Parties decided to cooperate in order to develop a plan for the development of a nuclear power plant based on the Korean APR1400 technology, including in particular, the analysis of geotechnical, seismic and environmental conditions, the development of an estimated budget for preparatory work, the construction phase and the

production phase, together with a proposed project financing model, and the development of an expected project schedule with the definition of key milestone dates.

The Pątnów power plant has been identified in the “Polish Energy Policy until 2040” and the “Polish Nuclear Power Programme” adopted by the Polish Council of Ministers on 2 February 2021 and 2 October 2020, respectively, as one of four possible sites for a Polish nuclear power plant.

The Letter of Intent will expire after three years and may be extended for another year by way of an agreement between all parties.

### ***Impact of new regulations on the financial standing of ZE PAK SA***

On 18 November 2022, the Company announced the result of preliminary analyses conducted in connection with the rules set out in the Decree of the Council of Ministers on the method of calculating the price cap published on 9 November 2022. The Regulation sets out the manner of calculating the price cap for electricity generators, divided into electricity generation technology, as defined in Article 21(1) of the Act of 27 October 2022 on emergency measures aimed at limiting electricity prices and supporting certain consumers in 2023.

The Company conducted analyses of the regulations contained in the Regulation and the effects of the Regulation's entry into force from the date of its publication, in particular, relative to the costs incurred by the Company and the impact of the maximum energy sales price caps established in the Regulation on the profitability of the Company's generation business in 2023.

The preliminary analysis indicated that during the period of the Regulation's validity, the rules set out therein would not allow the Company to generate revenues from the sales of the energy generated, to fully cover the costs of generating this energy.

Following the amendment to the Regulation, on 30 December 2022 the Company published an update to the aforementioned information, which shows that the amendment to the Regulation covered, among others, the cost components for calculating the energy sales price cap for generators using lignite as fuel. The original version of the Regulation allowed the cost of fuel used, including transport and storage costs, to be applied to calculate the energy sales price cap at a maximum amount of PLN 7.8/GJ. The amendment to the Regulation in this respect allows a lignite-fuelled electricity generator, who purchases fuel from another entity, to include the full cost resulting from the electricity generator's accounts as a consumed fuel unit cost.

The amendment to the Regulation enables the Company to include the actual lignite purchase cost in the calculation of the electricity sales price cap.

### ***Acquisition of a wind project by PAK – Polska Czysta Energia sp. z o.o.***

On 2 December 2022, PAK – Polska Czysta Energia sp. z o.o. acquired from an individual 100 shares with a face value of PLN 50.00 (fifty zlotys) each, constituting in total 100% of the shares in the share capital of Elektrownie Wiatrowe Dobra sp. z o.o. with its registered office in Łódź.

PAK – PCE sp. z o.o. acquired the shares from the seller within an investment project involving the implementation of RES systems within the Dobra commune, Turek district, Wielkopolskie province.

The investment project involves the construction of a wind farm consisting of 2 wind turbines with a total capacity of 7.8 MW. Wind conditions in this region enable estimating annual farm output at approx. 24 GWh. The project has already been granted a set of administrative permits that enable commencing construction work on the wind turbines. The total estimated investment expenditure associated with purchasing and executing the farm amount to just under EUR 17 MM.

### ***Conclusion by PAK – PCE Polski Autobus Wodorowy sp. z o.o. of a preferential loan agreement with the National Fund for Environmental Protection***

On 22 December 2022, PAK – PCE Polski Autobus Wodorowy sp. z o.o., concluded a loan agreement with the National Fund for Environmental Protection and Water Management ("NFOŚ"), under which the NFOŚ granted a preferential loan of up to PLN 50 million to Polski Autobus Wodorowy. The loan is intended to finance the construction of a plant for the production of innovative hydrogen-powered buses in Świdnik.

According to the agreement, the loan will be disbursed in tranches. The final repayment date of the loan is 20 December 2037. The preferential interest rate applicable to each use of the loan is equal to WIBOR 3M (but not less than 1%). The agreement provides for the possibility of the borrower to obtain an innovation bonus (reduction of the amount of debt to be repaid by 20%, not more than PLN 10 million) accordingly after achieving the so-called “material effect” in the form of manufacturing plant commissioning. The agreement also provides for the cancellation of 25% of the debt upon the

achievement of the so-called “ecological effect” in the form of the introduction of an appropriate number of innovative, ecological hydrogen buses produced by Polski Autobus Wodorowy onto the market.

The main collaterals for the repayment of the loan are a blank promissory note with a promissory note declaration, a promissory note surety of ZE PAK SA with a promissory note declaration, a mortgage on the project implementation site property, a declaration of submission to the writ of execution on the subject of the mortgage and a pledge on a set of property and rights - once the investment has been implemented.

The borrower's other obligations under the agreement do not deviate from those commonly applicable in similar transactions.

The manufacturing facility is currently conducted by Polski Autobus Wodorowy in Świdnik.

## **Significant events after the balance sheet date**

### ***Signing of a letter of intent regarding cooperation in the field of investment aimed at improving water retention and the development of renewable and nuclear energy***

On 26 January 2023, ZE PAK SA, the Poznań University of Life Sciences and Polish Waters concluded in Poznań a letter of intent related to establishing cooperation with regards to conducting environmental research and analyses, as well as technical solutions aimed at improving the environmental condition in the region of the Konin-Turek energy basin, with particular focus of new investments by ZE PAK S.A. in renewable and nuclear energy.

The agreement concluded in Poznań is aimed at establishing cooperation with relation to the ongoing energy transition at ZE PAK S.A., using the substantive and technical potential of the letter’s signatories in relation to environmental and technical studies covering planned investment projects. In particular, the joint actions are to be undertaken in the field of assessing the nuclear power plant site, reconstructing water resources in Eastern Wielkopolska, and the ongoing revitalization of mining and industrial areas. The area of cooperation will involve, among others, joint actions towards:

- shaping new ecosystems within degraded and devastated areas;
- reconstructing water resources in Eastern Wielkopolska and incorporating ZE PAK S.A.’s post-mining sites to the existing hydrographic network, which will contribute to improve water relations in the region and provide a new function (retention and anti-flood) for created post-mining reservoirs;
- assessing the potential nuclear power plant site in Pańków;
- using post-mining areas for producing energy from renewable sources.

The implementation of the presented objectives is to bring benefits for the widest possible group of stakeholders, with particular focus on water and energy security of Poland. The actions taken fall in line with the objectives and recommendations in terms of limiting the adverse environmental impact, development of alternative fuels and energy efficiency improvement, set out in documents at national and EU levels.

### ***Conclusion of a contract by PAK – PCE Polski Autobus Wodorowy sp. z o.o. for the manufacture and delivery of hydrogen-powered electric buses***

On 3 February 2023, PAK – PCE Polski Autobus Wodorowy sp. z o.o. received information from the Rybnik City Hall regarding the results of the public procurement procedure for the “Purchase of 20 hydrogen-powered electric buses”, in which the ordering party announced the selection of the bid by PAK – PCE Polski Autobus Wodorowy sp. z o.o. as the most advantageous contractor for the above-mentioned task.

The contract for the construction and delivery of hydrogen buses was concluded with the City of Rybnik on 28 March 2023.

According to the provisions of the contract, the remuneration for the performance of the contract subject was set at PLN 66.1 million gross and will be settled for each bus separately, after signing the final acceptance protocol - delivery of the bus.

The order completion date is set at 240 days from concluding the contract. The warranty of good performance pursuant to the contract will be granted for 73 months.

Reliable and timely performance of the contract subject is secured by liquidated damages.

Other contractual provisions do not significantly deviate from these traditionally used in such contracts.

***PAK-PCE Stacje H2 sp. z o.o. concluding a co-financing contract for a subsidy with the National Fund for Environmental Protection and Water Management***

On 21 February 2023, PAK – PCE Stacje H2 sp. z o.o. concluded a contract for co-financing in the form of a subsidy with the National Fund for Environmental Protection and Water Management ("NFOŚiGW"), under which the company will receive a subsidy of PLN 20 million, to be allocated to build a network of publicly accessible hydrogen refuelling stations in five Polish cities. The subsidy was provided under the NFOŚiGW priority programme "Support for electric vehicle charging and hydrogen refuelling infrastructure", which aims to develop infrastructure reducing the number of polluting vehicles and thus improving air quality.

The stations are to be built by 30 June 2024. Their construction is to enable refuelling hydrogen-fuelled vehicles. Thus, hydrogen is becoming an alternative to traditional, emission-intensive fossil fuels used in transport. The planned total project implementation costs are PLN 57.4 MM.

***Conclusion of an agreement and the establishment of a new joint company PGE PAK Energia Jądrowa - construction of a nuclear power plant in Konin/Pątnów in Wielkopolska***

On 7 March 2023, the Company and PGE Polska Grupa Energetyczna S.A. with its seat in Lublin concluded a preliminary agreement on the establishment of a joint special-purpose company in the form of a joint-stock company with its seat in Konin, to commence direct cooperation with regards to the construction of a nuclear power plant based on the Korean APR1400 technology.

Following the concluded agreement, PGE and ZE PAK signed the Articles of Association of PGE PAK Energia Jądrowa SA on 13 April 2023. PGE and ZE PAK will each hold 50% of the shares in PGE PAK Energia Jądrowa, thus preserving and safeguarding the State Treasury's interest in the project. The objective and task of the company will be to participate in the planned construction of the nuclear power plant in Konin/Pątnów in Wielkopolska. The power plant is treated as a joint venture between PGE PAK Energia Jądrowa SA and the Korean KHNP. The investment project will be implemented based on a safe and proven technology of ARP 1400 reactors.

The task of PGE PAK Energia Jądrowa is to develop three investment project elements, namely, the feasibility study, site and land survey, and an environmental impact assessment for the purposes of the planned nuclear power plant construction.

According to the assumptions, PGE PAK Energia Jądrowa S.A. will represent Poland at all project stages, including the implementation of site and environmental studies, funding acquisition and the development, jointly with the Korean side, of a detailed project schedule, as well as at subsequent stages of obtaining permits and administrative decisions.

***Acquisition of a wind project and conclusion of a loan agreement by PAK – Polska Czysta Energia sp. z o.o.***

On 14 April 2023, PAK – Polska Czysta Energia sp. z o.o. purchased from Polish Wind Holdings B.V., a company established and operating under the laws of the Kingdom of the Netherlands, 100% shares in the share capital of the Eviva Lębork sp. z o.o. project company with its seat in Słupsk.

PAK – PCE sp. z o.o. acquired project company shares from the seller as part of an investment project that involves executing an RES system within the Głównyzyce, Damnica and Potęgowo communes, Słupsk district, Pomorskie province.

The investment projects involve the construction of a wind farm complex with an effective capacity of 88 MW. Wind conditions in this region enable estimating annual farm output at approx. 240 GWh. The project has already been granted a set of administrative permits that enable commencing construction work on the wind turbines. The planned investment project commissioning date is Q4 2025. The total estimated investment expenditure associated with the acquisition and implementation of the investment project will amount to PLN 920 MM.

In the light of acquiring the project company, PAK – PCE sp. z o.o. concluded a loan agreement with Cyfrowy Polsat S.A., with its seat in Warsaw. Under the agreement, PAK – PCE sp. z o.o. was granted a loan of up to PLN 99 MM, to be paid in Polish zloty or Euros, on terms specified therein. Pursuant to the provisions of the agreement, the loan repayment date has been set at 31 December 2025. The financial terms and other terms of the Agreement do not deviate from market terms.

***Park Wiatrowy Pałczyn 1 sp. z o.o. concluding a loan agreement with BANK POLSKA KASA OPIEKI SA***

On 20 April 2023, Park Wiatrowy Pałczyn 1 sp. z o.o. (Pałczyn 1) concluded a loan agreement with BANK POLSKA KASA OPIEKI, pursuant to which the bank granted Pałczyn 1 an investment loan of up to PLN 95.5 MM and a VAT loan of up to PLN 5 MM. Loans are intended to finance and refinance the construction costs of a wind farm with a combined installed capacity of 9.6 MW, located in Miłosław commune in the Wielkopolskie province.

Pursuant to the agreement, Park Wiatrowy Pałczyn 1, as the borrower, undertook to make an own fund contribution in the amount of at least PLN 23.9 MM. The final repayment date for the investment loan is 20 December 2038, while the final repayment date for the VAT loan is 31 December 2023. The interest rate applicable to each loan use is equal to the annual interest rate, which is the total of the margin set out in the agreement and an appropriate WIBOR rate. The bank shall be entitled to commissions on behalf of granting the loans, the amount of which has been set at a level not different than market rates.

Other obligations of the debtor under the agreement do not differ from these commonly applied within similar loan transactions, in terms of maintaining selected financial indices at a level specified by the contract in particular.

The contract entails establishing securities in the form of a financial and registered pledge on shares in Park Wiatrowy Pałczyn 1 sp. z o.o., a financial and registered pledge on bank accounts and a power of attorney to each of the said bank accounts, a registered pledge on company's assets, assignment under contracts constituting material project documentation, assignments under insurance policies and declarations by Park Wiatrowy Pałczyn 1 sp. z o.o. on submission to the writ of execution pursuant to Art. 777 (1) cl. 5 and 6 of the Code of Civil Procedure.

## **3.2. Important agreements concluded in the financial year**

### **Significant agreements for the Group's activity**

Due to the characteristics of the business and markets in which the ZE PAK SA Capital Group operates, the basic contracts concluded with the main suppliers and consumers in the ordinary course of business are of a standard nature. Contracts for the supply of the main raw material in the form of lignite are of a long-term nature and the main suppliers are subsidiaries of ZE PAK SA. Contracts supplementing coal supplies and biomass supply contracts are concluded with third-party suppliers. In terms of energy sales, the company is obliged to sell the entire volume of energy generated through the exchange market, with the exception being generation from renewable energy sources (in the case of the ZE PAK SA Group, this is the volume generated from biomass (BiW sp. z o.o.) and the photovoltaic farm in Brudzew, i.e., approximately 15.5% of the entire volume of energy generation). Most of the biomass generation volume is sold under bilateral agreements through a subsidiary of PAK – Volt SA, while the entire volume generated by the farm is sold to Polkomtel sp. z o.o. In the area of purchasing CO<sub>2</sub> emission allowances, Group companies sign framework agreements with individual contractors specifying the basic terms of cooperation. On the other hand, the purchase itself is made within separate transactions for specific quantities and at current market prices. The majority of CO<sub>2</sub> emission allowances are purchased in forward transactions. Energy certificates of origin (green certificates play a dominant role within the Group) are sold on the exchange market.

### **Contracts related to credits, loans and guarantee facilities received**

In 2022, the Group's companies concluded the following agreements regarding loans, borrowings and guarantee facilities:

1. ZE PAK SA concluded an amending agreement to the investment loan agreement with one of the banks for the amount of PLN 160 000 thousand and the maturity date until 31 December 2030, transferring the investment loan agreement for the amount of PLN 160 000 thousand to PAK - PCE Biopaliwa i Wodór sp. z o.o.
2. ZE PAK SA concluded Annex No. 3 and Annex No. 4 to the guarantee facility agreement with one of the banks. Under the concluded annexes, the validity period of the guarantee facility agreement was extended until 31 March 2023. The available limit for guarantees remained unchanged and amounts to PLN 80 000 thousand.
3. ZE PAK SA concluded Annex No. 1 to the guarantee facility agreement with one of the banks, increasing the available limit to PLN 100 000 thousand and extending the term of the agreement until 30 June 2023.
4. ZE PAK SA concluded Annex No. 6 to the multi-purpose credit limit agreement with one of the banks. According to the signed Annex, the term of the agreement was extended until 31 March 2023. The available multi-purpose credit limit is PLN 50 000 thousand. Overdraft facility interest rate according to WIBOR 1M rates plus bank margin.
5. PAK – PCE Biopaliwa i Wodór sp. z o.o. and one of the banks (that at the same time is the financing arranger, agent and security agent) concluded an investment loan agreement for PLN 160 000 thousand, with a maturity date of 31 December 2030. Loan interest rate according to WIBOR 3M rates plus bank margin.
6. PAK – PCE Biopaliwa i Wodór sp. z o.o. and one of the banks concluded a multi-purpose credit limit agreement for PLN 25 000 and a validity term until 30 November 2023. Interest rate according to WIBOR 1M rates plus bank margin.



7. PR PAK SERWIS sp. z o.o. and one of the banks concluded Annex No. 15 to the multi-purpose credit limit agreement, extending the agreement term until 31 March 2023. The available revolving multi-purpose credit limit is PLN 20 000 thousand. Interest rate according to WIBOR 1M rates plus bank margin.
8. PR PAK SERWIS sp. z o.o. and one of the insurance companies concluded Annex No. 3 to the framework agreement for the provision of contractual warranties under the revolving limit extending the term of the agreement until 26 October 2023. The available revolving limit is PLN 5 000 thousand.
9. PR PAK SERWIS sp. z o.o. and one of the insurance companies concluded Annex No. 2 to the contract of mandate for periodic contractual insurance warranties, extending the agreement term until 10 October 2023. The available renewable limit is PLN 3 000 thousand.
10. PAK – Polska Czysta Energia sp. z o.o. and one of the banks concluded an Annex to the loan agreement. It increases the available limit to PLN 300 000 thousand with repayment on demand. Loan interest rate according to WIBOR rate applicable to the financing period plus bank margin.
11. Farma Wiatrowa Kazimierz Biskupi sp. z o.o. and one of the banks concluded an agreement for a term loan (PLN 135 000 thousand) and a VAT loan (PLN 30 000 thousand) for the total amount of PLN 165 000 thousand, with the term loan maturity date until 20 December 2038 and the VAT loan maturity date until 20 September 2024. The loan bears interest during the term of the loan at WIBOR 3M plus the bank's margin.
12. PAK PCE Polski Autobus Wodorowy sp. z o.o. and the National Fund for Environmental Protection and Water Management concluded an agreement for co-financing in the form of a loan of PLN 50 000 thousand with a maturity date until 20 December 2037. Interest rate pursuant to WIBOR 1M, not less than 1.00 pp.

### **Agreements regarding the granted loans**

On 20 January 2022, Cyfrowy Polsat SA granted a loan to PAK – Volt SA for PLN 86 000 thousand, with a maturity deadline by the end of June 2023. The loan is allocated to financing the current operating activities.

On 21 February 2022, ZE PAK SA granted a surety to KWB SIENIAWA sp. z o.o. for PLN 30 000 thousand, covering the liabilities of a Capital Group's subsidiary, i.e., PAK KWB Konin SA. The surety was granted by ZE PAK SA as a collateral for a lignite purchase and sale agreement concluded between PAK KWB Konin SA and KWB SIENIAWA sp. z o.o.

On 28 February 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan in the amount of PLN 69 600 thousand or its equivalent in EUR, with a maturity deadline at the end of December 2025. The loan is allocated to the construction of 4 "Miłosław" wind farms.

On 4 March 2022, ZE PAK SA granted a surety to KI Foundation sp. z o.o. for EUR 2 703 thousand, covering the liabilities of a Capital Group's subsidiary, i.e., Farma Wiatrowa Przyrów sp. z o.o. The surety was granted by ZE PAK SA as a collateral for the purchase agreement of shares in Farma Wiatrowa Przyrów sp. z o.o., concluded by PAK – Polska Czysta Energia sp. z o.o., ZE PAK SA and KI Foundation.

On 4 March 2022, ZE PAK SA granted a surety to KI Foundation for EUR 1 350 thousand, covering the liabilities of a Capital Group's subsidiary, i.e., Farma Wiatrowa Przyrów sp. z o.o. The surety was granted by ZE PAK SA as a collateral for the purchase agreement of shares in Farma Wiatrowa Przyrów sp. z o.o., concluded by PAK – Polska Czysta Energia sp. z o.o., ZE PAK SA and KI Foundation.

On 11 March 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 34 000 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the development and manufacturing of a series of 15 hydrogen buses.

On 11 March 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 11 500 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the development and manufacturing of hydrogen buses (covering operating costs).

On 15 March 2022, ZE PAK SA granted a loan to PAKCCGT sp. z o.o. for PLN 150 thousand, with a maturity deadline by the end of June 2026. The loan is allocated to financing the current operating activities.

On 29 March 2022, ZE PAK SA granted a loan to PAK – PCE Fotowoltaika sp. z o.o. for PLN 3 500 thousand, with a maturity deadline by the end of December 2035. The loan is allocated to financing the current operating activities.

On 19 April 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 6 750 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to contributions for covering an increase in the share capital of PAK – PCE Biopaliwa i Wodór sp. z o.o. up to PLN 10 000 000.00.

On 10 June 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 236 400 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the construction of the “Człuchów” complex of 33 wind farms.

On 28 June 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 63 200 thousand or its equivalent in EUR, with a maturity deadline until 28 June 2023. The loan is allocated to repay RES 1-6 loans to Adamów.

On 29 June 2022, ZE PAK SA granted a loan to PAKCCGT sp. z o.o. for PLN 950 thousand, with a maturity deadline by the end of June 2024. The loan is allocated to financing the current operating activities.

On 26 August 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of EUR 10 300 thousand or its equivalent in PLN, with a maturity date at the end of December 2025. The loan is allocated to the construction, development and manufacturing of hydrogen buses.

On 26 August 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 83 000 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the construction, development and manufacturing of hydrogen buses.

On 26 August 2022, a Company of the Group, PAK – Polska Czysta Energia sp. z o.o. granted PAK – PCE Polski Autobus Wodorowy sp. z o.o. a loan of PLN 10 300 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the implementation of an investment project involving development and manufacturing of hydrogen buses.

On 6 September 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 160 000 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to the construction of the “Drzeżewo IV” complex of 23 wind power plants.

On 3 October 2022, Cyfrowy Polsat SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 77 900 thousand or its equivalent in EUR, with a maturity date at the end of December 2025. The loan is allocated to purchase and install mobile and stationary hydrogen filling stations.

On 4 October 2022, ZE PAK granted a surety for the liabilities of Farma Wiatrowa Kazimierz Biskupi sp. z o.o. towards Bank Gospodarstwa Krajowego in the amount of PLN 13.5 MM in relation to the Overrun Cost Repayment Guarantee dated 4 October 2022. On 21 October 2022 ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 51 500 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of 4 “Miłosław” wind power plants.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 724 700 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of the “Przyrów” complex of 14 wind power plants.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 30 100 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of the “Cambria” photovoltaic farm.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 86 100 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of the “Człuchów” complex of 33 wind power plants.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 71 200 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the acquisition and installation of mobile and stationary hydrogen filling stations.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 167 200 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of the “Drzeżewo IV” complex of 23 wind power plants.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 68 500 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the development and manufacturing of hydrogen buses (production floor and machinery).

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 41 000 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the development and manufacturing of a series of 35 hydrogen buses.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 18 400 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the development and manufacturing of a series of 15 hydrogen buses.

On 21 October 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 84 500 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of a hydrogen plant.

On 24 November 2022, ZE PAK SA granted PAK – Volt sp. z o.o. a loan of PLN 120 000 thousand or its equivalent in EUR of with a maturity date at the end of December 2025.

On 29 November 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 132 371 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the repayment of loans from CP.

On 1 December 2022, ZE PAK SA granted PAK – Polska Czysta Energia sp. z o.o. a loan of PLN 20 300 thousand or its equivalent in EUR, with a maturity date of 15 March 2023. The loan is allocated to the construction of the “DOBRA” complex of 2 wind power plants.

On 13 December 2022, a Company of the Group, PAK – Polska Czysta Energia sp. z o.o. granted MESE sp. z o.o. a loan of PLN 10 thousand, with a maturity date by the end of December 2025. On 15 December 2022, ZE PAK SA issued a guarantee under its guarantee facility for the liabilities of PAK KWB Konin towards the Minister of Climate and Environment.

On 29 December 2022, ZE PAK SA granted a bill of exchange surety for the liabilities of PAK – PCE Polski Autobus Wodorowy sp. z o.o. towards “NFOŚiGW” in the amount of PLN 50.0 MM, in relation to the loan agreement of 22 December 2022, No. 3387/2022/Wn03/OA-it-fn/P.

A Group’s Company, ZE PAK SA and PAK KWB Konin SA concluded a change order to the loan agreement for PLN 25 000 thousand dated 20 December 2019, which extends the loan maturity date until 15 December 2023. The loan was fully repaid on 16 February 2023.

A Group’s Company, ZE PAK SA and PAK – Volt SA concluded a change order to the loan agreement for PLN 13 000 thousand dated 15 December 2020, which extends the loan maturity date until 15 December 2023.

A Group’s Company, ZE PAK SA and PG HYDROGEN sp. z o.o. concluded a change order to the loan agreement for PLN 62.4 thousand dated 1 April 2021, which extends the loan maturity date until 6 September 2023.

GALEON sp. z o.o. and a Groups company PG HYDROGEN sp. z o.o., concluded change orders to the loan agreement for the amount of PLN 57.6 thousand of 6 April 2021, which extends the loan maturity date until 6 September 2023.

## Granted and obtained guarantees and sureties

Table 2: List of granted guarantees and sureties as at 31 December 2022

	2022		2022	
	ZE PAK Group		ZE PAK	
	PLN thousand	EUR thousand	PLN thousand	EUR thousand
<b>Granted guarantees</b>	<b>185 378</b>	<b>162 550</b>	<b>169 950</b>	<b>3 783</b>
- including for Group companies	-	-	-	-
<b>Sureties granted</b>	<b>111 762</b>	<b>4 809</b>	<b>111 762</b>	<b>4 809</b>
- including for Group companies	-	-	-	-

Table 3: List of guarantees and sureties received in 2022, as at 31 December 2022

	2022		2022	
	ZE PAK Group		ZE PAK	
	PLN thousand	EUR thousand	PLN thousand	EUR thousand
<b>Received guarantees</b>	<b>11 091</b>	<b>88 521</b>	<b>4 856</b>	<b>3 783</b>
- including from Group companies	-	-	-	-

<b>Sureties received</b>	<b>14 978</b>	-	-	-
<b>- including from Group companies</b>	-	-	-	-

### **The agreements concluded with affiliates on terms different than market terms**

In 2022, there were no agreements concluded on terms different than market terms between the affiliates of the ZE PAK Capital Group.

### **3.3. Execution of the investment programme**

In 2022, the ZE PAK SA Group completed a major project to adapt the K-7 coal-fired boiler at the Konin power plant for exclusive biomass combustion, together with the required technical infrastructure, and commenced the construction of several wind farms, including in the Kazimierz Biskupi, Miłosław, Człuchów and Przyrów communes. The 70 MWp photovoltaic farm in the Brudzew commune was commissioned as the end of 2021, and work began in 2022 to expand this farm by a further 12 MW. May 2022 also saw the official launch of a hydrogen bus and the commencement of work on the construction of a hydrogen bus factory. Moreover, investment activities focused on the launch of hydrogen generation and distribution projects, as well as preparations for the implementation of further renewable energy sources and task necessary to ensure the maintenance of ongoing efficiency and a more effective utilization of the extraction and generation assets.

#### **Key investments during execution**

##### ***Adaptation of the K-7 coal-fired boiler at the Konin Power Plant to biomass combustions (construction of biomass unit no. 2)***

The aim of the task was to adapt the infrastructure previously used to generate energy and heat from lignite to burn biomass. Therefore, a second biomass unit was created at the Konin Power Plant. In addition to generating energy for the National Power System, it is also an emergency source for heat generation if the biomass heating unit currently operating at the Konin Power Plant is shut down.

The contractor for the reconstruction of the coal-fired boiler to a fluidised-bed boiler operating under the BFB technology and adapting it to biomass combustion was Valmet Technologies Oy, based in Espoo, Finland. The task also involved the construction of so-called technology islands (TG5 turbine, G5 generator, biomass feeding system and electrostatic precipitator ash removal system, electrostatic precipitator, unit digital control system).

The boiler was fired at the end of 2021, obtaining rated turbine speed, followed by the synchronization of the biomass unit with the National Power System. The tests of the unit required by PSE were carried out with positive results. The final stage of acceptance work covering the modernised unit was a trial run, which also ended with a positive result. The trial run also involved taking measurements to verify that the guaranteed technical parameters had been achieved by the modernisation contractors. The unit was commissioned in April 2022.

As a result of the modernisation, the Konin Power Plant is able to generate 105 MWe (a 55 MWe unit and a second 50 MWe unit) using biomass as the primary fuel.

##### ***Construction of a hydrogen plant with associated infrastructure at the Konin power plant***

A final permit for the construction of a hydrogen plant with a capacity of 2 tonnes of hydrogen per day was obtained on 26 July 2022.

Hydrogen will be produced through water electrolysis, using energy from a renewable source.

The first step towards constructing the hydrogen plant within the Konin Power Plant premises was taken on 9 April 2020 through concluding a contract with Hydrogenics Europe N.V. from Belgium to purchase an electrolyser that initially enables producing 1 tonne of H<sub>2</sub>/day. At a later stage, owing to the modular construction of the hydrogen plant and the preparation of infrastructure, it will be possible to increase production capacity, depending on the hydrogen demand. The original electrolyser delivery date stipulated in the contract was mid-2021; however, this was extended due to force majeure reasons attributable to the vendor. A contract change order was concluded, which changes the type of electrolyser to HyLYZER 500-30 and the delivery date. The electrolyser with a power supply system and the compressor station with hydrogen truck refuelling system were delivered between the end of September and mid-October 2022.

Hydrogen plant construction involved:

- completing the foundation work for the process and feeder containers and a compressor plant with trailer filling station,
- completing the installation of power supplies and piping between containers, installation of cooling systems at the compressor and electrolysis plant and the so-called low and high hydrogen systems,
- completing the installation of the prefabricated electrical building and its equipment,
- constructing trailer filling stations,
- conducting the so-called "cold commissioning" of the electrolyser - the next step is to involve the suppliers to conducting "hot commissioning" of the compressor plant and electrolyser.

The commissioning of the electrolyser and compressor plant by the representatives of the manufacturer, i.e., Hydrogenics (Cummins) and Idro Meccanica, is planned by mid-2023. Starting commercial hydrogen production will require integrating the primary equipment into the master control system and conducting UDT, TDT, PSP, Sanepid and PINB acceptance inspections.

In order to enable the hydrogen supply to the hydrogen filling station, a mobile hydrogen storage unit capable of storing 371 kg at the first stage in 2021, under a contract with Wystrach GmbH Weeze. In December 2021, a contract was concluded, also with Wystrach, for the delivery of two further hydrogen trucks capable of storing 1 024 kg of hydrogen each – delivery completed. Next, contracts for the supply of a further seven hydrogen trucks with a delivery date in 2023 were concluded in May 2022 and September 2022.

### ***Construction of a wind farm in the Kazimierz Biskupi commune***

The shares in Farma Wiatrowa Kazimierz Biskupi (Kazimierz Biskupi Wind Farm) were purchased together with a wind farm project consisting of 7 turbines with a total capacity of 17.5 MW. The general contractor of the contract to build and commission the wind farm is PAK Serwis sp. z o.o. and the supplier of the seven wind turbines is Siemens Gamesa Renewables Energy. The construction site was handed over to the contractor on 22 February 2022. The construction of the Farma Wiatrowa Kazimierz Biskupi involved:

- Completing work associated with the construction of service yards, foundations, access roads and temporary infrastructure required for the delivery and installation of the wind turbines;
- Completing the construction of MV cable lines and the GPO (Main Take-off Point) substation;
- Obtaining a GPO substation permit to use;
- Completing the installation of all 7 wind turbines;
- Obtaining an EON permit enabling the energization of the wind park;

Initial commissioning of the wind turbines and testing of the wind farm is currently being conducted out by Siemens Gamesa. Simultaneously, decommissioning of the temporary infrastructure is also ongoing and work is being implemented to obtain a wind turbine permit to use and a licence to generate electricity from the Kazimierz Biskupi project.

### ***Construction of a wind farm in the Miłosław commune***

The shares in Park Wiatrowy Pałczyn 1 and Park Wiatrowy Pałczyn 2 (Pałczyn Wind Park) were purchased together with the Miłosław wind farm project consisting of 4 turbines with a total capacity of 9.6 MW. The general contractor under the contract to build and commission the wind farm is Vortex Energy Polska sp. z o.o. and the supplier of the four wind turbines is Nordex.

Work associated with the construction of service yards, foundations, access roads and temporary infrastructure required for the delivery and installation of the wind turbines was completed. MV cable lines were laid. Nordex completed the installation of all 4 wind turbines.

Advanced work is currently ongoing to energise the wind park and commission the wind turbines. The next step is to obtain a permit to use and a licence to generate electricity from the Miłosław project.

### ***Construction of a wind farm in the Przyrów commune***

Shares in Farma Wiatrowa Przyrów were purchased in Q1 2022. The project involves the construction of 14 Nordex N117 wind turbines with a target capacity of 50.4 MW.

The contract for the supply of the turbines was signed in June 2022, and the BoP (Balance of Plant) contractor was selected in December 2022. At the same time, the development of technical documentation related to obtaining the construction permit for the GPO FW Przyrów - GPZ Julianka HV line was commissioned. The process of securing missing legal titles to the land on which the temporary and permanent road elements will be located is currently ongoing.

Construction work commenced in February 2023, with access roads, manoeuvring areas, foundations and MV cable lines currently under construction. Work on the GPO is scheduled to start in May 2023.

### ***Construction of a wind farm in the Człuchów commune***

Shares in Great Wind were purchased in June 2022 along with a wind farm project consisting of 33 turbines with a total capacity of 72.6 MW - PAK – PCE's largest investment project to date. The General Contractor of the wind farm is Onde, one of the leaders in RES industry projects in Poland, and the Danish company Vestas is the turbine supplier, while the entity responsible for acting as Contract Engineer is Neo Energy Group.

Construction work under the Głędowo (Człuchów) wind farm project started in August 2022. All foundations for the wind turbines have been completed. The final construction work related to access roads, wind turbine yards and MV cable lines are currently ongoing, while the construction of the GPO substation and MV lines is implemented simultaneously. The schedule assumes that the Głędowo (Człuchów) WF will be commissioned in mid-2024.

### ***Prototype of a bus powered by hydrogen fuel cells***

The Polish Hydrogen Bus project was launched in September 2020. The aim is to develop the design of a new eco-friendly hydrogen fuel cell-powered bus from scratch.

The project involved conceptual work and technical analyses related to selecting the main bus components (hydrogen cells, cylinders, batteries and propulsion). Calculations were made to ensure the highest overall energy efficiency of the designed bus. In order to achieve maximum range, a modular installation of hydrogen cylinders pressured at 350 and 700 bar was developed.

The construction work involved designing a new bus arrangement, taking into account trends in ergonomics and a modern appearance, dedicated to hydrogen-powered buses. This constituted a base to develop prototype structural documentation of the bus.

Work on the construction of the bus prototype started at the end of April 2021. The first skeleton elements were developed. Cooperation was established with suppliers who are leaders in the bus industry, and orders were placed for key sub-assemblies and components.

In October 2021, construction of the prototype was completed and bus testing commenced. This was followed by obtaining an EU approval on 20 April 2022, which covered the manufactured bus. This means that the bus can be operated within the EU. An official premiere and presentation of the bus named NesoBus took place on 30 May 2022. In the following months, the NesoBus was tested with the participation of several passengers on bus routes in numerous cities by municipal transport companies.

In 2023, the company has already participated in the first bus supply tenders. So far, the bid has been declared the most favourable in two cases (Rybnik and Konin). When it comes to Rybnik, a contract for the supply of 20 buses has already been signed.

### ***Construction of a hydrogen bus factory***

Already in August 2021, PAK – PCE Polski Autobus Wodorowy sp. z o.o. received a positive decision from the Agencja Rozwoju Przemysłu SA (Industrial Development Agency) regarding support for the implementation of a new investment project within the Special Economic Zone EURO-PARK MIELEC. The project will involve the construction of a manufacturing plant for buses powered by hydrogen cells, together with an office building and associated infrastructure.

On 29 September 2021, the company purchased land for the construction of a future hydrogen bus factory in the Economic Activity Zone in Świdnik. Mostostal Puławy SA was selected as the contractor for the task. A contract with this company was concluded by PAK - PCE Polski Autobus Wodorowy sp. z o.o. on 15 June 2022.

On 23 August 2022, PAK – PCE Polski Autobus Wodorowy sp. z o.o. obtained a construction permit for the plant.

On 22 December 2022, PAK – PCE Polski Autobus Wodorowy sp. z o.o., concluded a loan agreement with the National Fund for Environmental Protection and Water Management ("NFOŚiGW"), under which the NFOŚiGW granted a preferential loan of up to PLN 50 million to Polski Autobus Wodorowy. The loan is intended to finance the construction of a plant for the production of innovative hydrogen-powered buses in Świdnik.

The planned construction work completion date was set for Q3 2023.

### ***Stand-alone energy supply for a single-family house***

The project involves developing a concept and technical selection of equipment for a self-sufficient stand-alone system supplying electricity, heat, domestic hot water to single-family houses with low energy consumption and passive houses.

A contract with the Energy Centre at the Stanisław Staszic AGH University of Science and Technology in Kraków was concluded in June 2020. The contract covers a project entitled “Stand-alone single-family supply with electricity and heat, based on own renewable energy sources, using hydrogen as an energy carrier and storage”.

The equipment required to create a stand-alone model for the supply of energy and heat to a single-family house was purchased – a complete electrolyser assembly, hydrogen storage tanks, fuel cells, and a household PV power plant. The initial operation phase of the assembled stand-alone power system designed for a single-family house is currently in progress. In June 2022, Energoprojekt-Katowice was commissioned with developing a demonstrator design for the project “Stand-alone single-family supply with electricity and heat, based on own renewable energy sources, using hydrogen as an energy carrier and storage”. This project will constitute ground for the construction of a single-family dwelling model in the form of a container building, which can be moved to different locations to demonstrate the stand-alone supply system for a single-family house. A demonstrator concept and multi-discipline technical designs have been developed. The next step will involve selecting a vendor for a demonstrator container and trailer, together with the designed demonstrator.

### ***Construction of a photovoltaic farm in the Przykona commune***

Design work associated with the construction of another photovoltaic farm with a rated capacity of approximately 200 MWp, located within the former Adamów opencast site in the Przykona commune is ongoing. A resolution of the Przykona Commune Council entered into force on 23 August 2021. It concerns the local spatial development plan. The adopted plan establishes the designation of the land for the construction of a photovoltaic power plant together with accompanying infrastructure. An environmental decision was obtained on 5 January 2022 and became legally binding on February 3. The connection conditions including the 600 MWe class gas-steam unit were obtained on 31 March 2022. The next administrative approval to be obtained will be the construction permit.

### ***Construction of a photovoltaic farm in the Brudzew commune (expansion of an existing farm)***

The project was acquired by the group in July 2022. A 12.4 MWp power plant was designed on the land acquired from the developer, owing to the Land Development Conditions and the Environmental Decisions obtained by the developer. Final construction permits were obtained and in January 2023 the construction site was handed over to a consortium of ESOLEO sp. z o.o. (Warsaw) and PAK Serwis sp. z o.o. (Konin).

The farm under construction will be connected to the GPO substation used for the Brudzew 70 MWp wind farm, as the second part of this investment project. On 30 December 2022, an annex to the connection agreement was concluded with ENERGA-Operator Gdańsk, adjusting the Connection Conditions to enable energy consumption from the farm.

Photovoltaic modules and inverters have been delivered, supporting structure and table assembly work has been complete and the installation of photovoltaic modules and inverters is ongoing. Internal roads have been graded and the sand bed and first layer of substructure have been completed. The foundation of two transformer stations is ready. Another four are prepared for setting, and MV cables have been laid. The project should be commissioned in the Q3 2023.

### ***Construction of the Adamów CCGT gas and steam unit***

A decision was made in 2022 to build the Adamów CCGT unit with a capacity of up to 600 MWe. Thanks to gas fuel, the new power plant will be characterised by the lowest emissions among conventional energy sources, and its high operational availability and flexibility will enable effective stabilisation of electricity production from renewable sources and the Polish power system. The operation of the power plant unit will be adapted to cooperate with the Przykona photovoltaic farm. The cooperation of both units will be planned so that the total output capacity never exceeds 600 MWe.

The investment project is implemented at the site of the former Adamów coal-fired power plant, which has been cleared and prepared for the construction of the new gas-steam unit by the end of November 2022. Preliminary bids for construction and maintenance contracts were received in November 2022 and are expected to be concluded in Q3 2023. Administrative approvals needed to commence construction are currently being obtained. In 2022, the unit won a capacity market auction, offering 493 MW of availability for a period of 17 years as of 2026.

### 3.4. Risk management

In conducting its activities, the Group is exposed to a series of risks, occurring actually, potentially or theoretically, present in the industry as well as on the markets wherein the Capital Group's companies operate. These are factors which originate both from the inside of the Group as well as from its environment. Given the formalization of the realm related to the risk encountered within in the Group's activities, a comprehensive document titled "Principles of Risk Management for the ZE PAK S.A. Capital Group" ("Management Principles") was developed. The Management Rules have been developed and implemented to identify and determine the boundaries of risk, which occur or can occur in the ZE PAK S.A. Capital Group, as well as to specify the mechanisms used to mitigate risk exposure in the course of conducting activities in the energy and extraction sectors, and to minimise the effects of the risk, which due to the specificity of the ZE PAK S.A. Capital Group's primary production operations cannot be eliminated in its entirety.

The Capital Group's business model and strategy were established pursuant to the aforementioned principles. The fundamental principle of the business model executed by the Group in the realm of its economic activities, namely, extraction, generation and commercial, is to maximise the production and profit while simultaneously complying with the risk mitigation principle. In order to achieve its business goals, the Group accepts incurring the risk, but only to the extent and pursuant to principles specified in the Management Rules. All types of business risks and situations resulting in exposure to risk are constantly minimised, provided that the Management Principles or the Board's decisions do not authorise specific deviations. The specific roles and the scope of liability for decisions and actions related to the executed market policy and strategy were distinguished in relation to the Group's capital structure and the organisational chart of particular companies. A particular role related to the compliance and correct application of the Management Principles is played by the task team named the "Risk Management Committee", which acts as an advisory body to the ZE PAK SA Management Board. The body was appointed by the Order of the President of the Company's Management Board. The main task of the Risk Management Committee is to recognize and identify, as well as substantively assess all economic risk with a value exceeding PLN 10 million, related to the economic activities conducted by the Group.

The scope of the Group's risk management featured identification of specific areas of risks related to the execution of the established business goals:

- raw material risks;
- production risks;
- market risks and related financial risks;
- operational risks related to the operation of IT systems;
- risk in the area of information security,
- unstable economic situation,
- unknown level of the dynamics related to the change in the economic model from the current one based primarily on fossil fuels to the future one based on low- and zero-emission sources and energy storage,
- need to convince the local community to the proposed model for the future operation of a company of regional significance

Each area of risk identified above included the identification of specific types of risks related a specific area. The type of a given risk has been comprehensively described, with theoretical examples of its occurrence within the Group's operations. Each type of risk also features specific forms of action aiming at its minimisation or elimination, a specific benchmark was also assigned and the so called "key performance indicator", i.e., the minimum performance level, was specified wherever possible.

Directors and employees of organisational units allocated to a given area of risk are subject to inspection in the scope of compliance with the Management Principles, appropriately to their scope of activities. The management of the organisational units is responsible for the proper and compliant with the Management Principles execution of tasks by subordinate organisational units and individual positions. The Management Principles also include an in-depth description of the correct reporting process regarding identified risk, as well as the procedure in the event of identified violations of the principles set out therein.

According to the Management Principles, the compliance with the procedures and methods described in the document can be neglected only in case of obtaining the approval of the ZE PAK SA's Management Board expressed in writing. In such case, a special procedure also described in the Management Principles is applied.

Information on financial instruments with respect to risks related to price changes, credit risk, material cash flow disruptions and liquidity loss is included in Note 39 to the consolidated financial statement, which also contains information on the financial risk management objectives and methods. For information on transactions for which hedge accounting is applied, see Note 39.3 to the consolidated financial statement.



### 3.5. Described use of emission proceeds

In 2022, the Companies from the ZE PAK SA Group did issue neither debt nor equity securities, hence, did not record proceeds on issue.

## 4. MAIN BUSINESS RISK FACTORS

The process of predicting the future performance of the ZE PAK SA Capital Group requires to take into account a number of factors, whether actual, potential or theoretical, occurring within the industry and the markets wherein the Group operates. These are factors which originate both from within the Group, as well as from its environment. The Management Board believes these can be divided into continuous in each period and incidental in the period to which the interim report relates.

The most important factors with constant impact on the Group's results include the following:

- macro-economic trends in the Polish economy and the demand for electricity;
- regulatory environment;
- electricity prices;
- prices and supply of certificates of origin;
- costs of extraction and transport of coal and other fuels;
- CO<sub>2</sub> allowance costs;
- compensation for stranded costs related to the termination of the LTC for unit No. 9 at the Pątnów Power Plant;
- seasonality and meteorological conditions;
- investment expenses;
- EUR/PLN exchange rate and interest rates.

#### **Macro-economic trends in Polish economy and the demand for electricity**

When conducting activities within the territory of Poland and obtaining most revenues from the sale of electricity, it is necessary to take into consideration the macro-economic trends in the Polish economy. An increase in real GDP and industrial production in Poland, the development of the services sector and an increase or decline in individual consumption are factors of particular importance. All of the aforementioned factors significantly affect the demand for electricity and its consumption.

Each of the subsequent quarters of 2022 recorded a positive GDP growth dynamic. However, it should be noted that its rate amount was lower in each of the consecutive quarters compared to the previous one. The baseline effect from the previous year is important in this case, such factors as the outbreak of the armed conflict between Russia and Ukraine, the energy crisis related to the restriction/lack of supply of raw materials from the East, rising inflation, rising interest rates and other factors worsening the macroeconomic environment and limiting the willingness and ability to increase consumption were certainly decisive for the readings in subsequent quarters.

*Chart 4: GDP dynamics (%) in relation to the analogous quarter of the previous year*

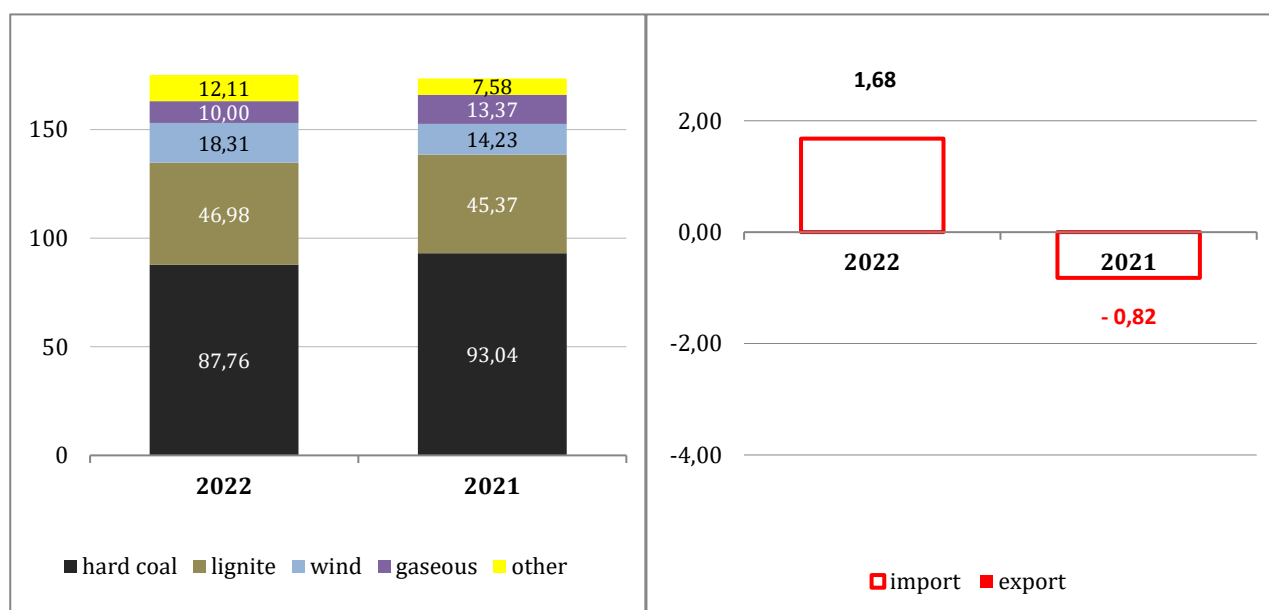


\* So-called preliminary gross domestic product estimate for Q4 2022, not adjusted seasonally, in foxed average annual prices for the previous year.

Source: Central Statistical Office data

Data on the operation of the National Power System and the Balancing Market, presented by Polskie Sieci Elektroenergetyczne SA, indicate that domestic electricity<sup>1</sup> consumption in 2022 amounted to 173.48 TWh, down by 0.53.% compared to the previous year. However, please bear in mind that a certain proportion of consumption was covered by emerging photovoltaic sources generating energy directly consumed at the point of delivery (prosumers), which is not recorded by existing metering systems. In 2022, there was an increase of 0.91% in electricity generation compared to the previous year. Coal-fired power plants accounted for the largest share of the generation structure. Given the entire annual balance; however, there was a 5.67% decrease in hard coal-based generation and a 3.55% increase in lignite-based generation. When comparing the year-over-year generation data, it should be noted that from the beginning of 2021, the output of industrial power plants, hitherto shown separately, has been included in the individual categories of utility power plants, and therefore the data is also included in the volumes generated by coal-fired power plants. The decrease in the utility power plant output was offset by an increase in the generation of renewable sources, including primarily wind and photovoltaic sources. A decrease in the output of gas-fired power plants was recorded in 2022. It amounted to 25.17% over the course of the year, reflecting the difficult situation in the gas market caused by Russia's war with Ukraine. In 2022, there was an increase in the output of wind power plants, which generated 18.31 TWh (representing a 28.6% increase y/y). Electricity generated from hard coal accounted for 50.1% of total electricity generation, lignite energy accounted for 26.82%, wind turbines generated 10.45% and gas sources generated 5.71% of total energy. It is worth mentioning that again, following 2021, 2022 saw a significant increase, i.e., 95.75% of the energy generated from renewable sources other than wind power, mainly by photovoltaic sources. From the beginning of 2022, the net balance of cross-border electricity trade was on the export side, and only in Q3 2022, as in previous years, Poland became an importer of electricity, in November and December this direction changed again towards export. Therefore, throughout the entire year Poland was an exporter of electricity (the balance of international exchange of 1.68 TWh on the export side).

Chart 5: Electricity generation structure and balance of foreign electricity exchange (gross values) – TWh



Source: own study based on PSE data

### Regulatory environment

Electricity market players operate in a regulatory environment subject to continuous change, mainly through the impact of EU law on national law. The most important legal regulations applicable to all electricity generators are the Energy Law, including the provisions on the obligation to sell energy on exchange markets, the Act on Renewable Energy

<sup>1</sup> According to Table No 3. The structure of electricity generation in domestic power plants, the volumes of electricity exports and domestic electricity consumption – monthly and cumulatively from the beginning of the year – gross amounts available on the PSE S.A. website.

Sources, which defines the principles of support for specific energy generation technologies, and the Environmental Protection Law, which defines the principles of sustainable use of the environment. The above-mentioned Acts transpose into the Polish legal order the directives and regulations of the European Commission and international conventions concerning, among others, the principles of a uniform wholesale electricity market, environmental protection and climate change (including CO<sub>2</sub> emissions). It is also necessary to take into consideration the tax law provisions, as well as interpretations and recommendations issued by the Energy Regulatory Office, in particular. Any changes in the aforementioned areas could have a major impact on the Group's operations. Regulatory risk is one of the most significant in the electricity generating industry.

Issues associated with the capacity market operation are important factors that could affect financial results.

The main auction for the 2026 supply year was held on 16 December 2021 and conducted pursuant to the parameters set out in the *Regulation of the Minister of Climate of 6 August 2022 on the parameters of the main auction for the 2025 supply year and the parameters of additional auctions for the 2022 supply year*. PAK CCGT sp. z o.o. concluded a capacity contract for 17 years of supply, contracting 493 MW of capacity obligation at the base price of PLN 400.39/kW/year. The value of the concluded capacity contract for the first year of supply (2026) is PLN 197 392 270.00. The supplementing regulations to the Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to deem economic activity as environmentally sustainable through applying the transitional activity clause to electricity generation using fossil gaseous fuels and nuclear energy. Work on this document was ongoing last year and the draft was approved by the EC for further consultation on 2 February 2022. Poland has sought recognition for both fuels since they will play a role in stabilising system operation during the coal phase-out period. The new rules add nuclear and gas-fired power plants to the set of 'taxonomy' rules from 2023. Attempts to discard these rules were blocked in July 2022 by the European Parliament, which recognized gas and nuclear energy as environmentally sustainable.

Bearing in mind the capacity contract concluded by PAK CCGT sp. z o.o. and also the validity of the capacity contracts concluded by the ZE PAK SA Group in previous years, the performance period of which has not yet ended, any changes in the area of operational functioning of the capacity market may be relevant from the perspective of the Group's future financial results.

An important event in the regulatory environment for the Company's financial results is the reform of the balancing market, which has been proceeded since 2019, when intensive work commenced to adapt the balancing market to the requirements of European law. In May 2020, the Polish Balancing Market Reform Implementation Plan document was adopted. It was a milestone in the work on the balancing market reform. As a result of adopting the provisions of the plan, the balancing market reform will be implemented in two stages, with the ultimate aim of introducing, among others, the scarcity pricing mechanism, as well as major changes in system services and balancing market settlements. Due to the need to mitigate the outcomes of the global energy crisis, initially triggered by the Covid-19 pandemic and exacerbated by the Russian aggression against Ukraine, emergency legislation aimed at mitigating the effects of price increases in the electricity segment was being proceeded at national level in the Q4 of the reporting year.

The legislative measures aimed at broadly understood handling of the energy crisis include amendments to the so-called "anti-crisis shield" law, which amended the rules applicable to the system securing the settlement of transactions concluded on the transaction exchange, expanding the range of possibilities to contribute non-monetary collaterals to the settlement guarantee system, opening up the possibility for the Company as an entity that performs the obligation referred to in Art. 49a(1) of the Act of 10 April 1997. - Energy Law, the possibility to issue a declaration, submitted in the form of a notarial deed, of submission to the writ of execution in accordance with Art. 777(1) cl. 5 of the Code of Civil Procedure, which gives ZE PAK SA greater flexibility in financial management.

Q3 2022, was a period during which electricity prices both on the domestic market and in the entire Europe, recorded successive increases, reaching historic highs (such a state remained unchanged until the end of the second decade of September). Due to market uncertainty, following the disruptions associated with Covid-19, as well as the Russian invasion of Ukraine and the related gas market disturbances, it could be expected that high gas prices, which were one of the factors forcing energy prices up, would result lead to electricity prices still maintaining high levels on the markets. In order to mitigate the effects of an energy market emergency, the European Commission has commenced intensive work to develop legislative solutions reducing the demand for electricity across the EU and solutions to define the rules for redistributing part of the revenues earned by companies in different energy sectors, and solutions to mitigate the difficulties associated with high prices for energy consumers and the general public. On 14 September 2022, the Commission published a document containing legislative change proposals that indicated the implementation of the above-mentioned objectives, assuming that the suggested measures were extraordinary and intended to be temporary, in order to mitigate the effects of the current situation. In the published document, the Commission also included proposals to set a temporary revenue ceiling for "infra-marginal" electricity producers, which according to the definition set out in the EC document points to, among others, RES, including biomass, nuclear energy, crude oil and petroleum products, at

a price of 180 euro/MWh. EC's proposals were adopted by way of the Council Regulation (EU) 2022/1854 of 6 October 2022 on an emergency intervention to address high energy prices.

In line with the proposals developed by the EC, parallel legislative work at Member State level was ongoing in the third quarter. The first step of the Polish legislator's activities aimed at affecting the reduction of energy prices was the adoption on 27 September 2022 of the Regulation of the Minister of Climate and Environment amending the Regulation on detailed conditions for the operation of the power system, which, as of 1 October, introduced amendments to the rules for offering electricity on the Balancing Market operated by PSE SA, by establishing rules for offering on the Balancing Market with regard to the maximum price resulting from the variable costs of generation. The regulation also abolished the so-called arbitrage blocking mechanism introduced at the beginning of the year, i.e., settlement of deviations on the Balancing Market at the exchange price or the balancing market price, which depended on the contracting status of the NPS. The rationale behind the amendment to the so-called "system regulation" shows that the changes in the area of offering on the Balancing Market will consequently generate a price signal to lower prices, also on the short- and medium-term electricity markets. As a result of the introduced regulation, prices on the balancing market and, consequently, prices on the Polish Power Exchange SA were adjusted downwards. The next step was the adoption of the Act of 27 October 2022 on emergency measures aimed at limiting electricity prices and supporting certain consumers in 2023. The Act introduced a number of regulations aimed, as stated in the statement of reasons, at mitigating the negative socio-economic effects associated with a significant increase in electricity prices in 2023. The provisions of the Act are intended to reduce the revenues of producers and trading companies while redistributing the proceeds to end consumers. Under its assumptions, the Act is to indirectly influence the reduction of electricity prices or counteract their increase. On 9 November 2022, the Council of Ministers adopted the implementing regulation to this Act, i.e., the Regulation on the method of calculating the price cap. The results of the ZE PAK SA Group are particularly impacted by the provisions concerning the Price Difference Fund, which obliged the group's companies generating and/or trading in energy, from 1 December 2022 until the end of 2023, to recognize write-offs to the Price Difference Fund, the amount of which is represented by all revenues on contracts concluded for the sale of electricity above the price cap, determined according to the principles indicated in the aforementioned regulation. The package of regulations is the result of extraordinary legislative work aimed at restricting the "excessive", as the legislator described it, revenues of companies in the electricity sector. Due to the fact that electricity prices at which the Group sells its output are the most important among the factors indicated by the Company as having an impact on its financial results, the extraordinary legislative solutions adopted by the Polish legislator, which are and, as practice shows, will be subject to further revisions by the legislator, will undoubtedly have an impact on the financial results of the ZE PAK SA Group.

The Act of 29 September 2022 amending the Act - Energy Law and the Acts on Renewable Energy Sources, which, on 6 December 2022, abolished the "exchange obligation" by repealing Art.49a of the Energy Law Act should also be mentioned in the context of legislative measures to curb high energy prices. The annulment of the obligation affected the volume of exchange trading, which decreased in both the spot and futures markets.

Among the significant issues in the regulatory environment, the work on ETS reform is also significant. The changes discussed during 2022 included scenarios for changes to the operation of the Market Stability Reserve (MSR) and the possible exclusion of financial institutions from the ETS. In December 2022, EU bodies reached a preliminary political agreement on draft legislation to reform the EU ETS. One of the main decisions was an increase in the emission reduction target to 62% in 2030 (the initial target was 43%), as well as an increase in the linear emission reduction factor to 4.3% between 2024 and 2027 and 4.4.% between 2028 and 2030. Another arrangement was the determination of the rules for the CBAM border emissions tax, i.e., EU authorities agreed that free allowances are to be gradually phased out between 2026 and 2034 for those entities that import goods into the EU. This mechanism is intended to prevent carbon leakage outside the EU and support the operation of the EU ETS. The EU arrangements in December also included a tightening of MSR operation rules, i.e., a 24% factor for allowance transfer from the auction to the MSR reserve, which is to function until 2030 and will not be reduced until then. It should be mentioned that financial institutions were not excluded from carbon market trading, but increased ESMA supervision was announced instead. A preliminary agreement was also reached in terms of financing the European Commission's REPowerEU plan (designed to wean Europe off its dependence on Russian fossil fuels as soon as possible, involving energy savings, generation of green energy and supply diversification) by agreeing that it would be financed by the EU ETS, including the MSR (Market Stability Reserve). Undoubtedly, any potential changes to the ETS may affect the quotation level of EUAs in the future.

### ***Electricity prices***

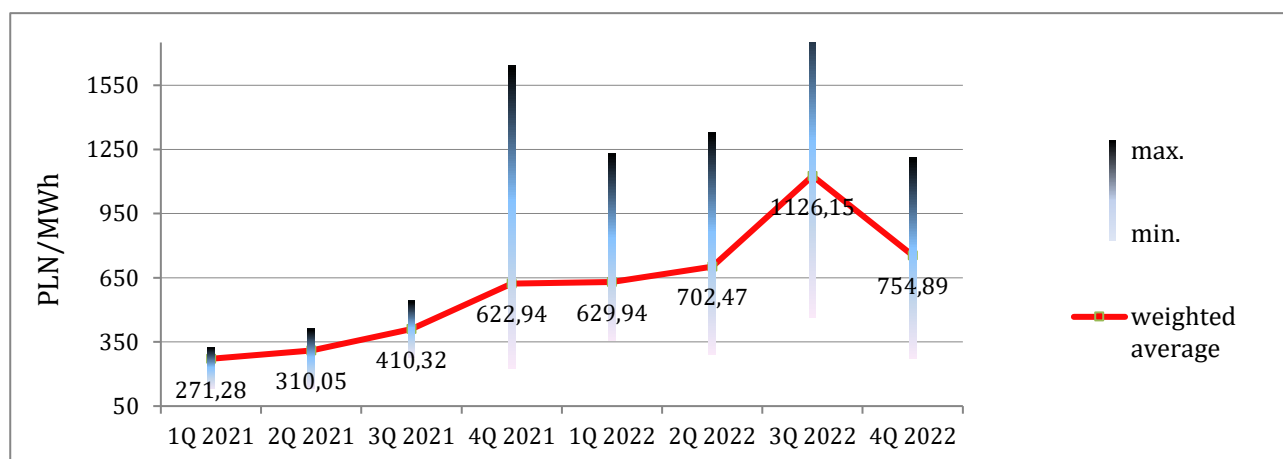
The Company generates the vast majority of its revenues from the generation and sales of electricity, so the risk of a change in the electricity sales price is critical to the level of revenues generated by the Group.

After a long-term upward trend on the TGE SA day-ahead market since Q2 2020, there was a clear correction in the TGeBase price in Q4 2022 compared to Q3 2022. The average price in Q4 2022 was lower compared to the average for

Q3 2022 by 371.27 PLN/MWh (price maximum of 1213.19 PLN/MWh on 25 November 2022), and the turnover in Q4 2022 on the day-ahead market on the POLPX, compared to the previous quarter of 2022, was significantly higher, comparable to Q2 2022. The price declines in Q4 2022 were dictated by the (EU) Council's intervention regarding high energy prices in EU energy markets in the form of introducing a regulation of the Minister of Economy<sup>2</sup>, which sets out, among others, the mechanism for energy generators to apply maximum prices (MaxCO) in their balancing bids and a regulation<sup>3</sup> that resulted in the intervention of the Polish government in the form adopting a number of legislative documents, including: Act of 27 October 2022 on emergency measures aimed at limiting electricity prices and supporting certain consumers in 2023.

In the context of the entire 2022, the average TGeBase index price on the TGE SA day-ahead market for 2022 was 803.36 PLN/MWh, an increase of 399.72 PLN/MWh, i.e., by approximately 99.03%, compared to 2021.

Chart 6: TGeBASE energy prices<sup>4</sup>



Source: own study based on TGE data

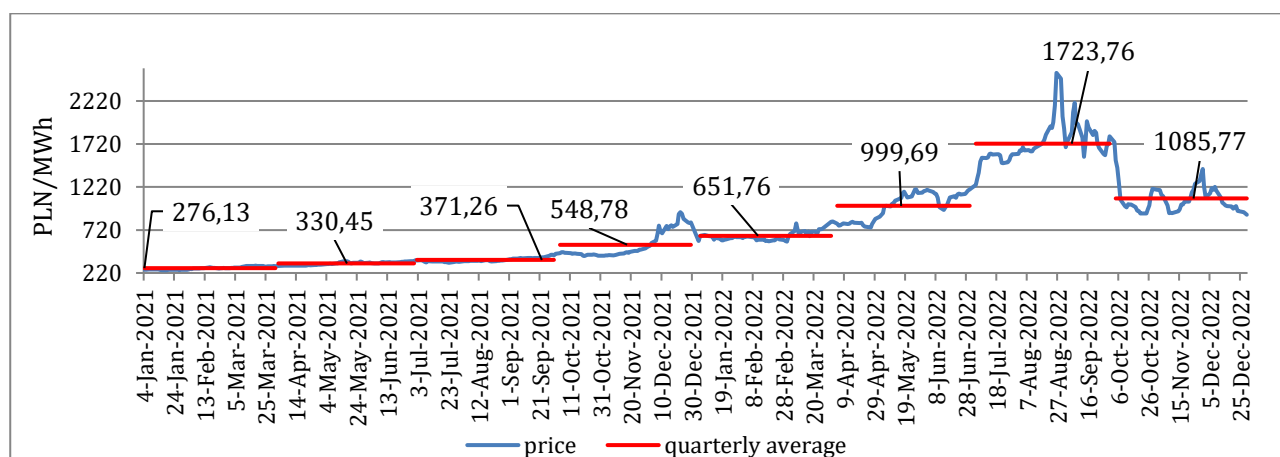
The arithmetic average of daily settlement prices (DSP) for the reference futures contract BASE\_Y-23 on TGE SA's OTF platform in Q4 2022 was at a level of 1 085.77 PLN/MWh, which represents a decrease in relation to the futures contract BASE\_Y-23 quoted in Q3 2022 by as much as 637.99 PLN/MWh, i.e., by approximately 63% - a similar trend to that on the spot market (DAM&IDM). Declines in DSP prices were accompanied by declines in trading volumes on futures products in TGE SA. The first three quarters of 2022 in BASE\_Y-23 quotations presented similar levels of concluded trading volumes. The fourth quarter, as shown in Figure 7, demonstrated a significant decrease compared to the previous quarter. The reasons for the decrease in the volume of concluded transactions can be attributed to the amendment of the Energy Law regarding the so-called exchange obligation, i.e., the obligation to sell electricity to the public, which abolished the exchange obligation altogether.

<sup>2</sup> Regulation of the Minister of Economy of 4 May 2007 on the detailed functioning conditions of the electromagnetic system - pursuant to Art. 9(3) and (4) of the Act of 10 April 1997. - Energy Law (Dz. U. of 2006, No. 89, item 625, as amended)

<sup>3</sup> Council Regulation (EU) 2022/1854 of 6 October 2022 on an emergency intervention to address high energy prices (OJ L UE LI 261 of 7/10/2022, p. 1)

<sup>4</sup> In June 2019, TGE SA discarded the IRDN index, and the current reference index is the TGeBase

Chart 7: The price of the futures contract for the supply of electricity (band) for 2022



Source: own study based on TGE data

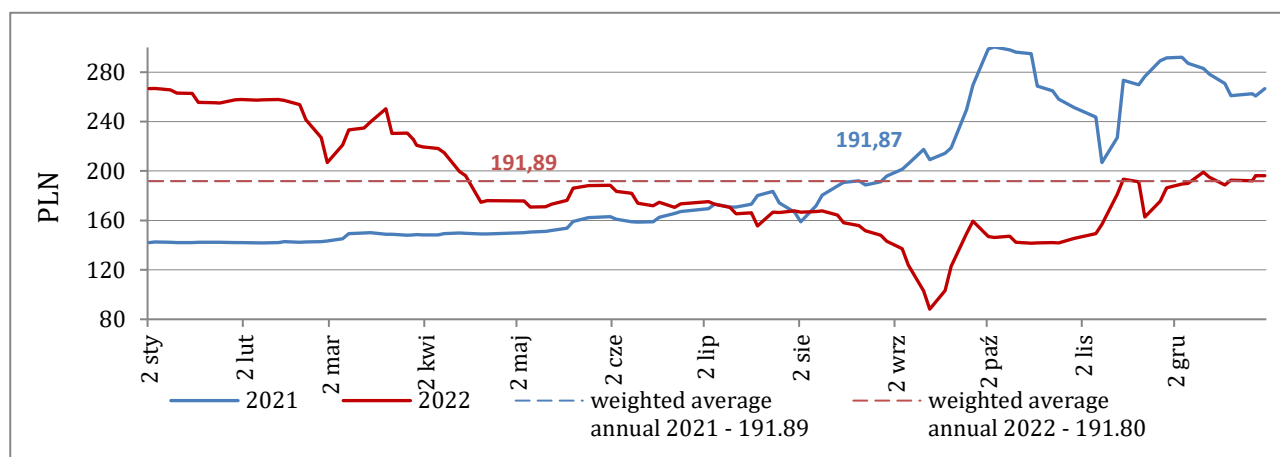
Information emerging at the end of Q3 2022 from the European Commission about possible amendments to the law on price caps, as well as the extraordinary legislative solutions adopted in the following months contributed to declines in energy prices on both the Day-Ahead and Intraday Market (DAM&IDM) and the Commodity Futures Market (CFM).

### Certificates of origin

One of the ZE PAK SA Group's power units dedicated to biomass combustion is entitled to green certificates. The number of certificates of origin obtained depends on the level of generation and is sold to other market participants. However, the generation, especially associated with the biomass unit, is largely dependent on the level of green certificate market prices. In periods when the total price of energy generated from biomass and green certificate prices do not ensure achieving the expected financial effect, output may be reduced or suspended, which automatically also reduces the number of green certificates generated. Due to the fact that the level of revenues generated from the sales of certificates of origin is lower than the level of revenues generated from the sales of electricity, the risk of changes in the price of certificates of origin also has less impact on the results than, for example, the risk of changes in the price of energy, but the green certificate price level is important from the perspective of BiW sp. z o.o.

The beginning of 2022 saw a decline in the price of green certificates and the downward trend continued until the end of the year. The weighted average price at the property rights market sessions amounted in 2022 to PLN 191.80/MWh for the PMOZE\_A instrument, i.e., 0.09 PLN/MWh less compared to 2021, which means a ~ 0.05 % decrease. The Regulation of the Minister of Climate and Environment of 13 July 2022 on the change of the total electricity volume share resulting from redeemed certificates of origin confirming the generation of electricity from renewable sources in 2023 was proceeded in mid-2022, reducing the volume share relating to Art. 59(1) of the RES Act to 12%. This information contributed to a significant price decrease starting from August 2022. In December 2022, the price fell by more than PLN 85.88/MWh relative to the same period in 2021. The level of the obligation to redeem green certificates is of key importance for the development of demand for green certificates, which constitute one of the two sources of revenues - besides electricity sales - affecting the profitability of RES investments made under the certificate of origin system.

Chart 8: Average price of certificate of origin for RES produced energy



Source: own study based on TGE data

### Fuel costs and supplies, coal extraction costs

The most important element of the costs related to electricity and heat generation in ZE PAK SA companies is the fuel cost. The prices of fuel largely determine the competitiveness of particular electricity production processes. The power plants of ZE PAK SA generate most of their electricity from lignite, but they also use forest and agricultural biomass. Furthermore, heavy and light fuel oil is used in minimum quantities for ignition purposes within the process of electricity generation.

Currently, the main supplier of coal for ZE PAK SA is PAK KWB Konin SA. This is supplemented by supplies from third-party entities, outside the Group. There is also exposure to fluctuations in the prices of the other fuels used by the ZE PAK SA Group, primarily biomass, the price and availability of which will become increasingly important due to the commissioning of the second biomass unit at the Konin Power Plant. Also important for the financial result is the level of costs associated with lignite extraction, which largely depends on factors that are beyond the direct control of the Company, such as, e.g., the geological conditions of the deposits at the final stage of their exploitation.

The deposits exploited by the mines have a certain abundance. The possibility of achieving the assumed level of electricity generation depends on the mining capacity and quality of the coal mined from currently exploited deposits. In the coming years, one should rather expect a decrease in mined coal volumes, due to the decommissioning of two of the three currently exploited lignite open pits - Józwin open pit coal will be mined no longer than until mid-2023, while the Drzewce open pit completely ceased mining activities on 11 August 2022. The company intends to gradually move away from coal-fired power generation and focus increasingly on low-carbon and carbon-neutral power generation projects. The implementation of the gas-steam unit project at the Adamów Power Plant, which is the subject of the capacity market auction won in December 2021, will mean an increase in the importance of gaseous fuel in the future balance of energy raw material supplies for the Group. In addition, in April 2022, a second 50 MWe biomass unit was commissioned at the Konin Power Plant, which already generates electricity and serves as an additional heat source for the biomass unit already in operation. A second biomass unit means an increase in demand for biomass and an increase in the significance of the price of this fuel, as well as its quality on the results achieved by BiW sp. z o.o. and the results of the Group.

### CO<sub>2</sub> emission allowance costs

The activities in the scope of production of electricity and heat from conventional sources are associated with the need to bear the CO<sub>2</sub> emission costs. Due to the fact that these costs represent an important item in the structure of costs incurred by the producers of lignite-based energy, the impact of emitted CO<sub>2</sub> quantities and the allowance CO<sub>2</sub> emission price risk are of great importance to the operating results.

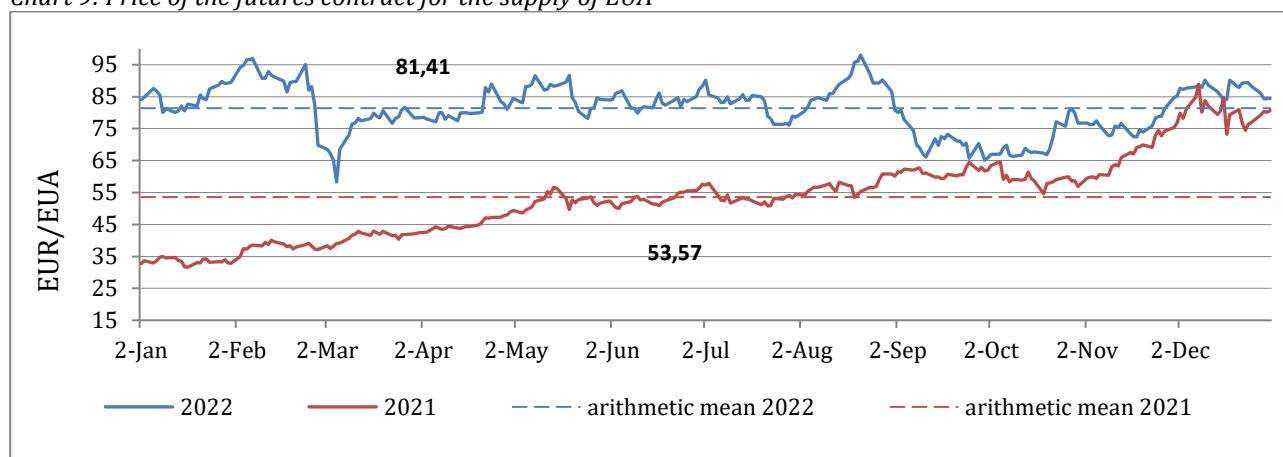
In 2022, the Group received a negligible amount of free CO<sub>2</sub> emission allowances, i.e., 13 841 EUAs, resulting from allocation to heat generation. Therefore, virtually the entire amount of emission allowances required by the ZE PAK SA Group had to be purchased on the secondary market.

In 2022, the price of CO<sub>2</sub> emission allowances was characterised by a linear trend around EUR 80.00/EUA. The spread between the minimum price of EUR 58.30 and the maximum price of EUR 95.80 was EUR 37.50. On 24 February 2022, Russia's invasion of Ukraine caused a temporary drop in CO<sub>2</sub> prices to the 2022 minimum price of EUR 58.30. The price drop resulted with a systematic sale of allowances. Carbon market entities qualified EUA allowances as high-risk assets. In March 2022, the price of EUAs recovered and rose to a level of EUR 90.00. Following the ENVI committee's proposal

to raise the 2030 emissions reduction target above 60% (from 43%) and the plan to withdraw free allowances from CBAM (Carbon Border Adjustment Mechanism) sectors - i.e., the sectors with the highest CO<sub>2</sub> emissions importing goods from outside the European Union, the CO<sub>2</sub> prices rose to EUR 91.00. In the Q3 and Q4 of 2022, intensive legislative work related to the EU ETS reform under the "Fit for 55" package, i.e., the EU ETS reform, plans to finance the REPowerUE plan, namely, to become independent from Russian fuels, with EU ETS revenues, and plans to create a new trading scheme for buildings and transport (RTD/ETS2) pushed prices up to EUR 95.00/EUA. Ultimately, 2022 ended with a price of EUR 86.00.

The arithmetic average of EUA quotations in 2022 was EUR 81.41, while the corresponding figure for 2021 was EUR 53.57.

*Chart 9: Price of the futures contract for the supply of EUA*



Source: own study based on ICE data

**Compensation for stranded costs associated with the termination of a "Long-term Contract" ("LTC") for unit No. 9 at the Pątnów Power Plant (formerly Elektrownia Pątnów II sp. z o.o.)**

The long-term power purchase contract (LTC) was concluded between Elektrownia Pątnów II sp. z o.o. and Polskie Sieci Elektroenergetyczne SA. The contract was a long-term agreement in the scope of electricity supply according to an established price formula.

Due to the premature termination (on 1 April 2008) of the Pątnów II Power Plant's LTC, pursuant to the Act on LTC, the Company is entitled to receive appropriate compensation. The amount of compensation is calculated according to an applicable formula specified in the Act. Elektrownia Pątnów II sp. z o.o. is subject to the aforementioned Act until the end of 2025. The mechanism determining the level of revenues related to compensation for stranded costs is largely based on the offset principle, therefore, the risk related to the level of revenues from this source is somewhat dependent on other risks affecting the level of costs and revenues, e.g., energy prices or emission allowance prices.

On 30 December 2020, Elektrownia Pątnów II sp. z o.o., by way of general succession, was incorporated into ZE PAK SA. The merger of the companies does not affect ZE PAK SA's right to claim compensation for stranded costs.

**Seasonality and meteorological conditions (primarily wind conditions, in particular)**

The demand for electricity and heat, among consumers in particular, is subject to seasonal fluctuations. The practice so far has shown that electricity consumption was higher in the winter (mainly due to low temperatures and shorter days) and lower in the summer (due to the holiday period, higher ambient temperatures, and a longer day). A systematic increase in the demand for electricity in the summer has been recorded over the last decade, which is mainly due to the rising number of operated air conditioners and cooling devices.

Regardless of the aforementioned factors, meteorological conditions are becoming increasingly important for the ZE PAK SA's production volume. In previous years, the Group's activity was not subject to significant demand seasonality, and was continuous (basically) all-year-round, owing to low unit operating costs. Currently, given the increasing share of RES in the segment of energy producers, mainly wind sources, but also the increasing generation based on photovoltaic sources, when estimating the output volume by ZE PAK SA's conventional sources, weather conditions, with particular regard to wind and insolation conditions, become increasingly important, making our units sub-peak sources. Please bear in mind that in periods when weather conditions favour production from RES sources, the demand for the power from



the Group's conventional power plants may be periodically reduced. And similarly, it may increase during periods of lower RES production.

Please note that as the installed wind and photovoltaic capacity in the Group's assets increases, meteorological conditions will become increasingly important. The generation of energy from wind and photovoltaic farms is directly dependent on wind intensity and the insolation at any given time. This makes the performance of wind and photovoltaic companies heavily dependent on meteorological factors.

Risks related to seasonality and meteorological conditions in 2022 were not crucial to the Group's operations.

### **Capital expenditure**

The activities in the coal extraction and energy production sector requires substantial investment expenses. The Group's generation assets require periodical renovations and ongoing modernisation, both due to the increasing strictness of requirements in terms of environmental protection, as well as the need for improvement of electricity generation effectiveness. The expected increased level of capital expenditure associated with the Group's plans to implement projects in the field of low-carbon and carbon-neutral energy generation and the production and use of "green" hydrogen should be taken into account. The level of capital expenditure had a major impact, and according to expectations will still have a major impact on the results of operating activities, debt level and cash flows. Execution delays, investment programme changes and exceeding budget thresholds can have a severe impact on future capital expenditure, as well as on the results, financial standing and development perspectives.

### **EUR/PLN exchange rate, interest rate level**

Despite the fact that the Group conducts its activities in Poland, where it incurs costs and gains revenues in PLN, there are a couple of significant factors which make financial results dependent on the EUR/PLN exchange rate and the level of WIBOR and EURIBOR interest rates. The most important factors include:

- transactions related to EUA purchase settled in EUR,
- one of the companies from the renovation segment, PAK Serwis sp. z o.o. is handling its orders outside of Poland, settling them in EUR,
- Group's companies utilize debt financing based on a floating interest rate.

The Group has financial liabilities, primarily floating-rate loans and borrowings. The Group's exposure to risk caused by interest rate changes primarily applies to long-term financial liabilities related to the financing of investment projects in PAK PCE BiW sp. z o.o., Farma Wiatrowa Kazimierz Biskupi and PAK - PCE Fotowoltaika sp. z o.o. In order to minimise the interest rate risk, the Group concluded contracts for interest rate change (interest rate swaps), under which it agrees to exchange, within specified time intervals, the difference between the amount of interest calculated according to fixed and floating interest rates against an agreed principal amount. These transactions are aimed at securing the financial liabilities incurred and relate to 50% of the syndicated loan to PAK – PCE Fotowoltaika sp. z o.o. for the construction of the Brudzew photovoltaic farm and 50% of the investment loan to PAK – PCE BiW sp. z o.o. for the modernisation of K7 boiler at the Konin Power Plant, based on a floating WIBOR rate. IRS instruments were used as security.

The Group's companies apply instruments aimed at limiting the risk related to exchange rate changes, e.g., for a part of the flows associated with the purchase of CO<sub>2</sub> emission allowances. Forward transactions are used to secure the exchange rate. Management Boards are constantly monitoring the financial position and market situation and can make the decision to use financial instruments limiting the exchange rate risk, if needed. According to the principles applicable at ZE PAK SA Group, potential transactions will have the form of security and will be adapted to the secured item in terms of volume and maturity date. The decision on selecting the security instrument will also include the following: price, market liquidity, product simplicity, measurement and accounting easiness, as well as flexibility.

## **5. DESCRIPTION OF THE FINANCIAL AND ASSET STANDING**

### **5.1. Principles of preparing a financial statement**

The Group develops consolidated financial statements based on the International Financial Reporting Standards approved by the European Union. These standards, collectively referred to as International Financial Reporting Standards (IFRS), also include International Accounting Standards (IAS) and Interpretations issued by the Standing Interpretations Committee and the International Financial Reporting Interpretations Committee.

Significant accounting principles applied in relation to the Group's Consolidated Financial Statement have been discussed in Note 12 of the Group's Consolidated Financial Statement for 2022.

ZE PAK SA develops its financial statements based on the act on accounting of 29 September 1994.

The accounting principles (policy) used in the development of the financial statement are presented in clause 7 of the Introduction to ZE PAK Sa's Financial Statement for the year concluded on 31 December 2022.

## 5.2. Characteristics of basic economic and financial quantities

### Consolidated profit and loss statement and the consolidated comprehensive income statement

Total sales revenues in 2022 amounted to PLN 4 200 235 thousand and increased relative to 2021 by PLN 1 749 026, i.e., 71.35%.

The increase in total sales revenues was mainly driven by an increase in revenues from electricity sales, mainly due to price higher by 85.53%, as well as the total volume of electricity sales higher by 4.87%. However, a 19.95% decrease in the volume of internally generated electricity sales was recorded, while purchased energy sales increased by 83.73% compared to the same period of the previous year. Less coal available for extraction in the mines supplying the Company contributed to the decrease in generation. It should be noted that while the net coal-fired generation declined by 26.24%, there was a 59.38% increase in net RES-based energy generation, mainly owing to the commissioning of new units, including the biomass unit at the Konin power plant and the photovoltaic farm in Brudzew. At the same time, the share of RES energy in the structure of own energy increased in 2022 to 14.61%, from 7.34% in 2021. Net output volumes of the Group's individual power plants are shown in Chart 1.

In 2022, the capacity market revenues amounted to PLN 160 008 thousand and decreased by PLN 25 785 thousand, or 13.88%, compared to the previous year. A lower price of contracted capacity for 2022, as well as the lower revenue realised in the secondary market, are responsible for the lower revenues.

Heat sales revenues in 2022 amounted to PLN 75 384 thousand and increased relative to 2021 by PLN 20 651 thousand, i.e., by 37.73%. The increase in revenues from heat sales resulted from a higher heat price with a simultaneous decrease in the sales volume.

Revenues from construction contracts in 2022 amounted to PLN 49 034 thousand and increased by PLN 7 944 thousand, i.e., by 19.33%, relative to the revenues recorded in the same period of the previous year. The increase in revenues during the analysed period was associated with the implementation of larger-scale projects, both material and financial, executed in Germany and the contract for the modernisation of the biomass system at the Konin power plant, performed by PAK Serwis sp. z o.o., a company from the renovation segment, for an external entity.

In 2022, revenues from sales of property rights related to energy certificates of origin decreased by PLN 31 322 thousand, or 34.87%, compared to 2021. The lower production volume and lower certificate price quotations on the market compared to the same period last year, as well as the lower realised profit on the actual sales of certificates compared to their measurement at the time of their production, contributed to the decrease in revenues.

Revenues from the termination of the LTC (termination of the long-term capacity and electricity purchase contract) amounted to PLN 127 678 thousand in 2022 and decreased by PLN 42 896 thousand, i.e., by 25.15%, as a result of the realisation of a higher margin on the generation from unit 9.

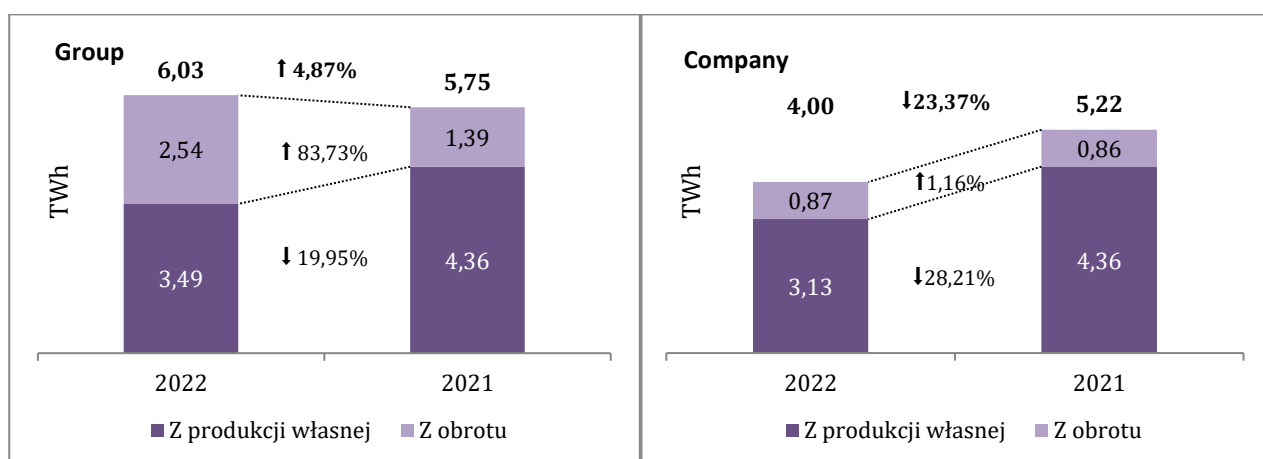
*Table 4: Specification of consolidated sales revenues*

	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2022</i>	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2021</i>	<i>PLN thousand</i> <i>change</i>	<i>%</i> <i>dynamics</i>
Revenues from sales of goods and services, including:	4 017 907	2 192 461	1 825 446	83.26
– revenues from sales of own electricity	1 943 487	1 477 306	466 181	31.56
– revenues from sales of purchased electricity	1 683 761	388 116	1 295 645	333.83
– capacity market revenues	160 008	185 793	(25 785)	(13.88)
– revenues from heat sales	75 384	54 733	20 651	37.73
– revenues from construction contracts	49 034	41 090	7 944	19.33
– other sales revenues	106 233	45 423	60 810	133.87

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

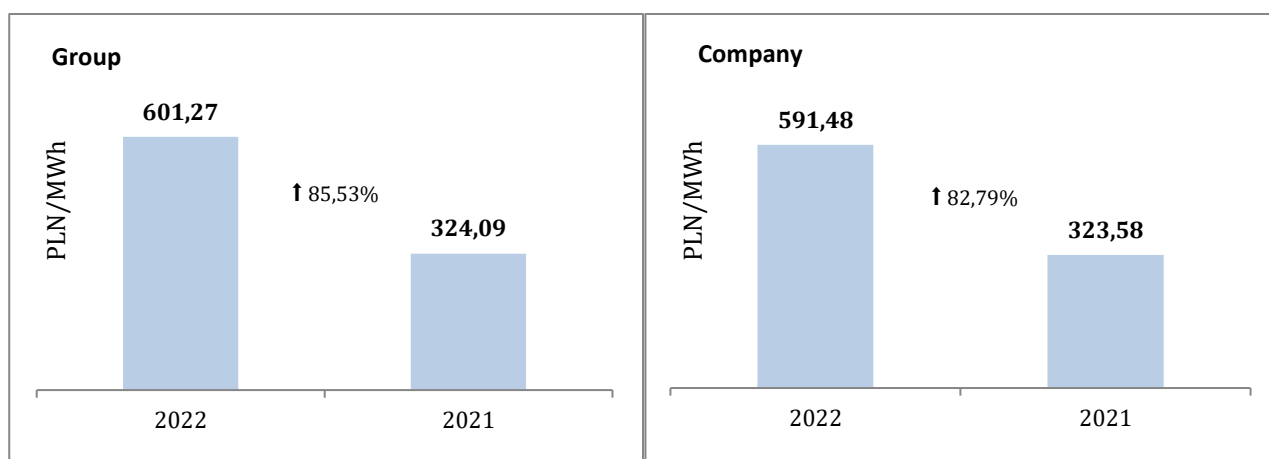
Other revenues, including:	186 174	260 392	(74 218)	(28.50)
– property rights on energy certificates of origin	58 496	89 818	(31 322)	(34.87)
• revenues from the production of certificates of origin	55 471	74 531	(19 060)	(25.57)
• profits on sales of certificates of origin	3 025	15 287	(12 262)	(80.21)
– compensation for termination of long-term contracts	127 678	170 574	(42 896)	(25.15)
Excise tax	(3 846)	(1 644)	(2 202)	(133.94)
<b>Total sales revenues</b>	<b>4 200 235</b>	<b>2 451 209</b>	<b>1 749 026</b>	<b>71,35</b>

Chart 10: Electricity sales



Source: internal data

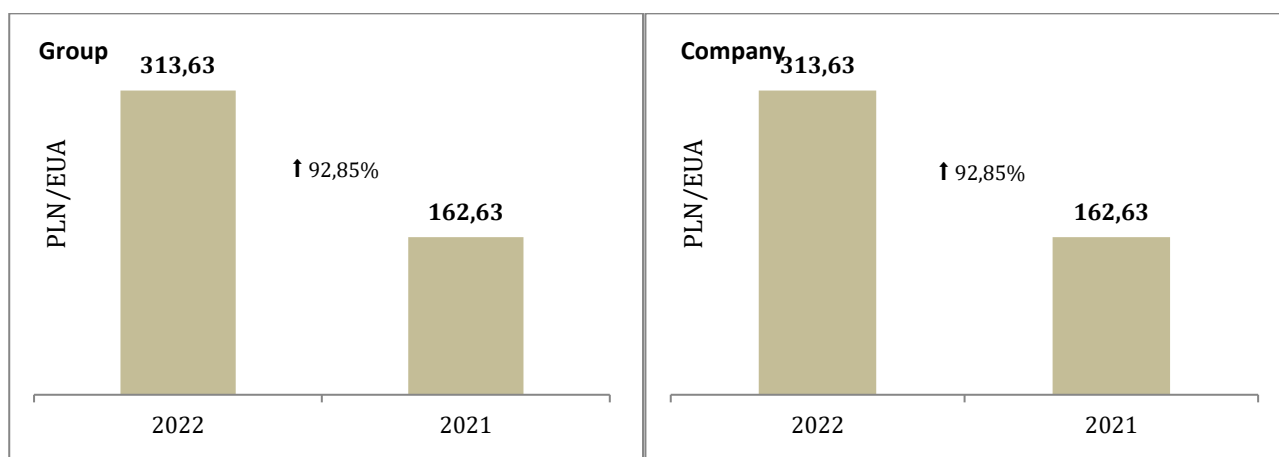
Chart 11: Average electricity sales prices\*



\* Average price, calculated as electricity sales revenues (own, traded and system services) divided by the sales volume.

Source: internal data

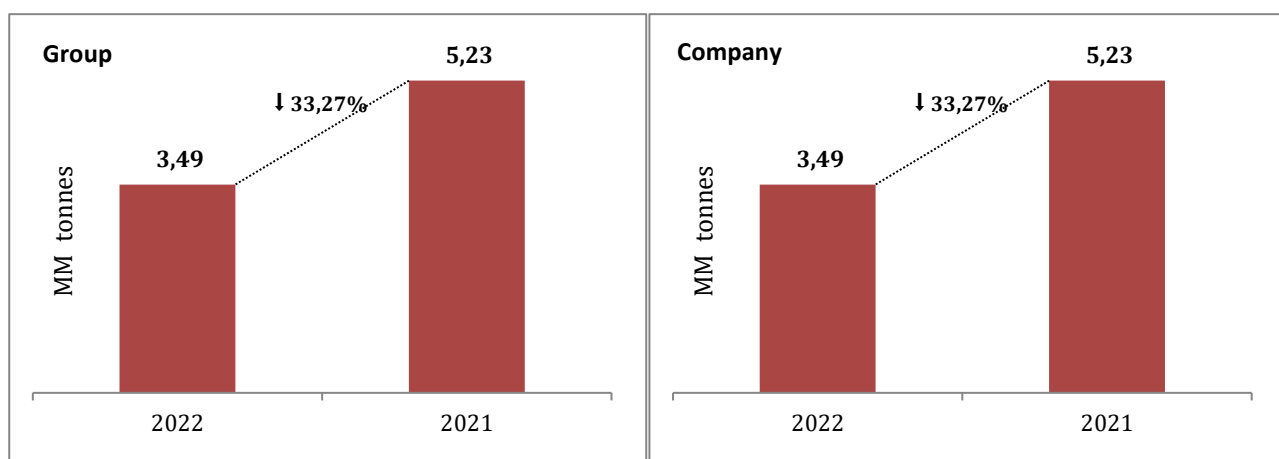
Chart 12: Average acquisition prices of CO<sub>2</sub>\* emission allowances (EUA)



\* Average price calculated as EUA purchase costs for a given period divided by CO<sub>2</sub> emission volume.

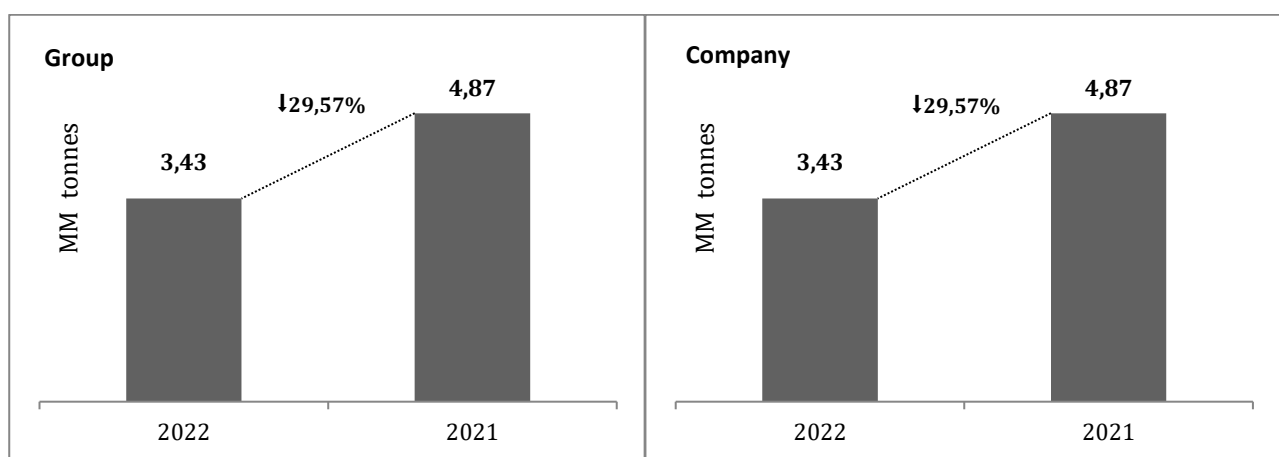
Source: internal data

Chart 13: Lignite consumption



Source: internal data

Chart 14: CO<sub>2</sub> emissions



Source: internal data

Selling prime costs in 2022 amounted to PLN 3 713 186 thousand and increased by PLN 820 244 thousand in relation to 2021, i.e., by 28.35%. The largest contributors to the increase in the prime cost were an increase in the value of purchased electricity sold on the market, higher CO<sub>2</sub> emission costs due to a higher average price per emission allowance, and higher prices for purchased biomass. On the other hand, the largest decrease in costs was recorded in the *tangible fixed asset and depreciation impairment write-down* item due to the coal asset impairment write-downs and biomass unit write-down reversal made at the end of 2021. Taxes and fees paid also decreased in 2022.

Other operating revenues in 2022 amounted to PLN 41 752 thousand and were lower by PLN 22 255 thousand than those obtained in the corresponding period of the previous year. The revenue item were revenues on the demolition and sales of scrap metal and revenues from the disposal of decommissioned fixed assets of the Adamów power plant. On the other hand, the high level of revenues in the corresponding period of the previous year was related to the sales of the remaining assets after the decommissioning of PAK KWB Adamów SA.

Selling costs in 2022 amounted to PLN 14 376 thousand and were higher by PLN 8 285 thousand than incurred last year, due to higher sales to end consumers and the associated higher mandatory charges.

Overheads in 2022 amounted to PLN 151 973 thousand and were higher by PLN 32 253 thousand, i.e., by 26.94% than in the previous year. The increase in overheads was related to an increase in the costs of services and remuneration related to the development of the RES business.

Table 5: Selected items of the consolidated income statement

	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2022</i>	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2021</i>	<i>PLN thousand</i> <i>change</i>	<i>%</i> <i>dynamics</i>
<b>Sales revenues</b>	<b>4 200 235</b>	<b>2 451 209</b>	<b>1 749 026</b>	<b>71.35</b>
Selling prime costs	(3 713 186)	(2 892 942)	(820 244)	(28.35)
Gross profit (loss) on sales	487 049	(441 733)	928 782	-
Other operating revenues	41 752	64 007	(22 255)	(34.77)
Selling costs	(14 376)	(6 091)	(8 285)	(136.02)
Overheads	(151 973)	(119 720)	(32 253)	(26.94)
Other operating costs	(11 174)	(9 085)	(2 089)	(22.99)
<b>Profit (loss) from operating activities</b>	<b>351 278</b>	<b>(512 622)</b>	<b>863 900</b>	<b>-</b>
Financial revenues	56 639	11 782	44 857	380.72
Financial costs	(89 849)	(17 683)	(72 166)	(408.11)
<b>Gross profit (loss)</b>	<b>318 068</b>	<b>(518 523)</b>	<b>836 591</b>	<b>-</b>
Income tax (tax burden)	(102 688)	201 119	(303 807)	-
<b>Net profit (loss)</b>	<b>215 380</b>	<b>(317 404)</b>	<b>532 784</b>	<b>-</b>
Net other comprehensive income	609	2 931	(2 322)	(79.22)
<b>Comprehensive income</b>	<b>215 989</b>	<b>(314 473)</b>	<b>530 462</b>	<b>-</b>
<b>EBITDA*</b>	<b>391 271</b>	<b>243 079</b>	<b>148 192</b>	<b>60.96</b>

\* The Company defines and calculates EBITDA as the profit/(loss) on operating activities (calculated as the net profit/(loss) for the accounting year corrected by the (i) income tax (tax load), (ii) financial revenues, as well as (iii) financial costs) corrected by the depreciation (shown in the income statement), as well as impairment write-downs against tangible assets, intangible assets, and mining assets.

Table 6: Consolidated operating costs

	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2022</i>	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2021</i>	<i>PLN thousand</i> <i>change</i>	<i>%</i> <i>dynamics</i>
Depreciation and amortization	49 484	135 531	(86 047)	(63.49)
Fixed and mining asset impairment write-downs	(9 491)	620 170	(629 661)	-

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Impairment write-downs against inventory	6 550	13 137	(6 587)	(50.14)
Consumption of materials	579 766	322 888	256 878	79.56
Outsourcing	144 428	104 335	40 093	38.43
Taxes and fees excluding excise tax	135 846	160 588	(24 742)	(15.41)
CO <sub>2</sub> emission costs	1 074 838	792 344	282 494	35.65
Employee benefits	397 281	369 764	27 517	7.44
Other costs by type	18 162	25 277	(7 115)	(28.15)
Value of goods and materials sold and of sold energy purchased in trade	1 528 020	493 874	1 034 146	209.39
<b>Operating costs</b>	<b>3 924 884</b>	<b>3 037 908</b>	<b>886 976</b>	<b>29.20</b>

Other operating costs in 2022 amounted to PLN 11 174 thousand and increased by PLN 2 089 thousand compared to the previous year.

The ZE PAK SA Group took a profit of PLN 351 278 thousand on operating activities in 2022. A loss of PLN 512 622 thousand was incurred on operating activities in 2021.

In 2022, the achieved results, similarly to the previous year, were negatively affected by a negative result of financial activities in the amount of PLN 33 210 thousand. The impact of financial activities in the same period of the previous year reduced the result by PLN 5 901 thousand. The largest contributor to the increase in the negative balance in 2022 was the increase in debt service costs.

In 2022, the Group took a net profit of PLN 318 068 thousand. The net profit in 2022 amounted to 215 380 thousand.

### Individual impact statement

The net product, goods and material sales revenues in 2022 amounted to PLN 2 789 738 thousand and increased in relation to 2021 by PLN 542 860, i.e., 24.16%.

The increase in revenues was largely due to an increase in revenues from electricity sales, associated with an 82.79% increase in the average price realised, even despite a 23.37% decrease in the total sales volume. Whereas, a 28.21% decrease in sales of self-generated electricity and a 1.16% increase in sales of purchased electricity were recorded. Coal units, in particular the less efficient coal units 1, 2 and 5 at the Pałnów power plant, recorded a decrease in the output, while a slightly higher generation volume was recorded by unit 9. Less coal available for extraction in the mines supplying the Company contributed to the decrease in the output of coal-fired units. On the other hand, the lower generation volume of the biomass unit in 2022 resulted from taking into account the generation for the first half of the year only, as the Konin power plant, which is the location of the biomass unit, was sold to PAK – PCE Biopaliwa i Wodór sp. z o.o. in July 2022. The net generation volumes of the Company's individual power plants are shown in Chart 1.

In 2022, the capacity market revenues amounted to PLN 160 008 thousand and decreased by PLN 25 785 thousand, or 13.88%, compared to the previous year. A lower price of contracted capacity for 2022, as well as the lower revenue realised in the secondary market, are responsible for the lower revenues.

Company heat sales revenues in 2022 amounted to PLN 35 080 thousand and decreased relative to 2021 by PLN 19 701 thousand, or 35.96%. The demonstrated decrease in heat sales revenues in 2022 is a consequence of the transfer of heat sales for the city of Konin to PAK – PCE Biopaliwa i Wodór sp. z o.o. as of July 2022.

*Table 7: Specification of sales revenues*

	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2022</i>	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2021</i>	<i>PLN thousand</i> <i>change</i>	<i>%</i> <i>dynamics</i>
Revenues from sales of goods and services, including:	2 633 337	1 986 807	646 530	32.54
– revenues from sales of own electricity	1 684 039	1 477 437	206 602	13.98
– revenues from sales of purchased electricity	683 668	210 925	472 743	224.13
– capacity market revenues	160 008	185 793	(25 785)	(13.88)
– revenues from sales of thermal energy	35 080	54 781	(19 701)	(35.96)
– revenues from sales of goods	24 353	22 193	2 160	9.73

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

– revenues from sales of services	46 189	35 678	10 511	29.46
Other revenues, including:	156 401	260 071	(103 670)	(39.86)
– property rights on energy certificates of origin	28 724	89 496	(60 772)	(67.90)
• revenues from the production of certificates of origin	31 854	74 531	(42 677)	(57.26)
• profit (loss) on sales of certificates of origin	(3 130)	14 965	(18 095)	-
– compensation for termination of long-term contracts	127 677	170 575	(42 898)	(25.15)
<b>Net revenues from products, goods and materials sold</b>	<b>2 789 738</b>	<b>2 246 878</b>	<b>542 860</b>	<b>24.16</b>

In 2022, compared to 2021, revenues from sales of property rights from certificates of energy origin decreased by PLN 60 772 thousand, i.e., by 67.90%. The reported decrease in revenues was influenced, besides the decrease in the certificate market price, by the transfer of their production in H2 2022 to the PAK – PCE Biopaliwa i Wodór sp. z o.o., as a result of selling the Konin power plant, where the certificates were produced.

Revenues from the termination of the LTC (termination of the long-term capacity and energy purchase contract) in 2022 amounted to PLN 127 677 thousand and decreased by PLN 42 897 thousand, i.e., by 25.15%, as a result of taking a higher margin on production from unit 9.

The revenues from the sales of services recorded by the Company were higher by PLN 10 511 thousand, i.e., 29.46%. The main reason for the increase in revenues was the expansion of the scope of support services provided by the company as part of the shared services centre for Group entities.

Table 8: Selected income statement items

	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2022</i>	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2021</i>	<i>PLN thousand</i> <i>Change</i>	<i>%</i> <i>Dynamics</i>
<b>Net revenues from sales of products, goods and materials, including:</b>	<b>2 789 738</b>	<b>2 246 878</b>	<b>542 860</b>	<b>24.16</b>
– Net product sales revenues	2 081 717	2 013 759	67 958	3.37
– Net revenues from goods and material sold	708 021	233 119	474 902	203.72
Costs of products, goods and materials sold, including:	2 493 348	2 112 566	380 782	18.02
– Manufacturing costs of products sold	1 989 172	1 813 084	176 088	9.71
– Manufacturing costs of goods and materials sold	504 176	299 482	204 694	68.35
Gross profit (loss) on sales	296 390	134 312	162 078	120.67
Selling costs	1 692	2 357	(665)	(28.21)
Overheads	55 828	51 955	3 873	7.45
Sales profit (loss)	238 870	80 000	158 870	198.59
Other operating revenues	391 514	19 440	372 074	1 913.96
Other operating costs	11 502	621 463	(609 961)	(98.15)
<b>Profit (loss) from operating activities</b>	<b>618 882</b>	<b>(522 023)</b>	<b>1 140 905</b>	<b>-</b>
Financial revenues	30 179	7 601	22 578	297.04
Financial costs	16 801	12 821	3 980	31.04
<b>Gross profit (loss)</b>	<b>632 260</b>	<b>(527 243)</b>	<b>1 159 503</b>	<b>-</b>
Income tax	88 676	(225 308)	313 984	-
<b>Net profit (loss)</b>	<b>543 584</b>	<b>(301 935)</b>	<b>845 519</b>	<b>-</b>

Production costs of products sold amounted in 2022 to PLN 1 989 172 thousand and increased by PLN 176 088 thousand in relation to 2021, i.e., by 9.71%. The increase in cost was mainly due to higher prices of CO<sub>2</sub> emission allowances, while depreciation and third-party services costs decreased.

The value of goods and materials sold in 2022 amounted to PLN 504 176 thousand and was higher than in the previous year by PLN 204 694 thousand, i.e., by 68.35%, as a result of a higher volume of energy purchased for resale and a higher purchase price.

Selling costs in 2022 amounted to PLN 1 692 thousand and were lower compared to the previous year by PLN 665 thousand, i.e., by 28.21%, as a result of lower sales to end consumers and associated lower mandatory charges.

Overheads amounted in 2022 to PLN 55 828 thousand and exceeded those incurred in the previous year by PLN 3 873 thousand, i.e., by 7.45%. The increase in costs was related to an increase in the cost of services and remuneration associated with the growth of the RES business.

A detailed analytical recognition of costs by type is included in Table 9.

Other operating revenues in 2022 amounted to PLN 391 514 thousand and were higher than previous year's by PLN 372 074 thousand, i.e., by 1 913.96%. The increase in revenues is mainly attributable to the profit taken on the sale of OPE Konin Power Plant. Additionally, in 2022, higher revenues were recorded from the decommissioning of the Adamów Power Plant assets.

Other operating costs in 2022 amounted to PLN 11 502 thousand and decreased by PLN 609 961 thousand, i.e., by 98.15%, compared to the previous year. The largest item of other operating costs is the write-down against property rights in the amount of PLN 6 711 thousand, resulting from their lower market value in relation to the booked revenues from their production during the year. On the other hand, write-downs against fixed assets resulting from impairment tests and write-downs against inventories and receivables were responsible for the high level of other operating costs in 2021.

In 2022, an operating profit of 618 882 thousand was recorded.

Financial revenues in 2022 amounted to PLN 30 179 thousand and were higher than that in the previous year by PLN 22 578 thousand, i.e., by 297.04%. The increase in financial revenues was mainly due to higher interest received by PLN 16 757 thousand. In addition, the revenues from the maintenance of collateral in the amount of PLN 9 067 thousand had a positive impact in 2022.

Financial costs in 2022 amounted to PLN 16 801 thousand and were higher than previous year's by PLN 3 980 thousand, i.e., 31.04%. Higher cost level was affected by realized negative exchange rate differences higher by PLN 7 121 thousand.

In 2022, the Group took a net profit of PLN 543 584 thousand.

*Table 9: Operating activity costs*

	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2022</i>	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2021</i>	<i>PLN thousand</i> <i>Change</i>	<i>%</i> <i>Dynamics</i>
Depreciation and amortization	13 380	110 713	(97 333)	(87.91)
Material and energy consumption	659 065	626 314	32 751	5.23
Outsourcing	136 149	159 489	(23 340)	(14.63)
Taxes and fees, including:	1 112 642	839 071	273 571	32.60
– excise tax	39	66	(27)	(40.91)
– CO <sub>2</sub> emission costs	1 074 838	792 344	282 494	35.65
Remuneration	99 177	92 663	6 514	7.03
Social security and other benefits	23 162	21 271	1 891	8.89
Other costs by type	12 653	10 075	2 578	25.59
<b>Total costs by type</b>	<b>2 056 228</b>	<b>1 859 596</b>	<b>196 632</b>	<b>10.57</b>
Manufacturing costs of goods and materials sold	504 176	299 482	204 694	68.35
<b>Operating activity costs</b>	<b>2 560 404</b>	<b>2 159 078</b>	<b>401 326</b>	<b>18.59</b>

### Consolidated financial standing statement

The carrying amount as at 31 December 2022 was PLN 4 539 455 thousand, and increased by PLN 1 227 693 thousand relative to 31 December 2021, i.e., by 37.07%.

As at 31 December 2022, fixed assets amounted to PLN 1 978 515 thousand. Compared to 31 December 2021, they increased by PLN 704 819 thousand, i.e., by 55.34%. The largest increase related to the item of tangible fixed assets



(property, plant and equipment), which increased by PLN 544 606 thousand and the values resulting from the preliminary settlement of acquired projects. Ongoing investment projects and acquired projects are described in more detail in section 3.3 of this report.

As at 31 December 2022, current assets amounted to PLN 2 560 940 thousand. Compared to the last day of 2021 that is an increase of PLN 522 874 thousand or 25.66%. At the end of 2022, the highest reduction of PLN 579 378 thousand was recorded by trade and other receivables, due to a decrease in the number of deposits securing transactions at the Polish Power Exchange and deposits securing transactions for the purchase of carbon emission allowances. The value of receivables due to compensation in connection with the termination of LTCs (PPAs) also decreased.

*Table 10: Selected items from consolidated assets*

	<i>PLN thousand</i>	<i>PLN thousand</i>	<i>PLN thousand</i>	<i>%</i>
	<i>31 December 2022</i>	<i>31 December 2021</i>	<i>change</i>	<i>dynamics</i>
<i>Fixed assets</i>				
Tangible fixed assets	1 726 864	1 182 258	544 606	46.06
Right-of-use assets	61 425	45 856	15 569	33.95
Investment property	1 782	1 810	(28)	(1.55)
Intangible assets	9 034	2 383	6 651	279.10
Goodwill	150 342	14 107	136 235	965.13
Other long-term financial assets	10 103	8 515	1 588	18.65
Other long-term non-financial assets	503	9 998	(9 495)	(94.97)
Deferred tax assets	18 462	8 769	9 693	110.54
<b>Total fixed assets</b>	<b>1 978 515</b>	<b>1 273 696</b>	<b>704 819</b>	<b>55.34</b>
<i>Current assets</i>				
Inventories	120 972	74 241	46 731	62.95
Trade and other receivables	815 406	1 394 784	(579 378)	(41.54)
Income tax receivables	7 793	81	7 712	9 520.99
Short-term derivative financial instruments (assets)	19 824	10 540	9 284	88.08
Other short-term financial assets	-	150	(150)	100.00
Other short-term non-financial assets	130 112	50 129	79 983	159.55
Long-term receivables due from customers under contracts	4 084	1 472	2 612	177.45
Cash and cash equivalents	1 462 749	506 669	956 080	188.70
<b>Total current assets</b>	<b>2 560 940</b>	<b>2 038 066</b>	<b>522 874</b>	<b>25.66</b>
<b>TOTAL ASSETS</b>	<b>4 539 455</b>	<b>3 311 762</b>	<b>1 227 693</b>	<b>37.07</b>

As at 31 December 2022, the *equity* item of the balance sheet amounted to PLN 1 214 499 thousand and increased by PLN 690 267 thousand or 131.67%, compared to the balance at the end of the previous year, mainly as a result of the realisation of the net profit for 2022 and the sale of shares in PAK - Polska Czysta Energia sp. z o.o.

As at 31 December 2022, liabilities amounted to PLN 3 324 956 thousand, which means that they increased by PLN 537 426 thousand, i.e., 19.28% over the course of the year, of which interest-bearing loans and borrowings increased the most by PLN 655 956 thousand or 145.20% to PLN 1 107 727 thousand.

*Table 11: Selected items from consolidated liabilities*

	<i>PLN thousand</i>	<i>PLN thousand</i>	<i>PLN thousand</i>	<i>%</i>
	<i>31 December 2022</i>	<i>31 December 2021</i>	<i>change</i>	<i>dynamics</i>
<i>Equity</i>				
Basic capital	101 647	101 647	-	-
Supplementary capital	1 232 981	1 131 326	101 655	8.99
Other reserve capitals	3 472	3 472	-	-
Uncovered losses	(614 406)	(711 828)	97 422	13.69
Exchange rate differences related to foreign unit conversion	2	10	(8)	(80.00)

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Equity allocated to majority shareholders	723 696	524 627	199 069	37.94
Non-controlling interest equity	490 803	(395)	491 198	-
<b>Total equity</b>	<b>1 214 499</b>	<b>524 232</b>	<b>690 267</b>	<b>131.67</b>
<i>Long-term liabilities</i>				
Interest-bearing loans and borrowings	619 551	249 226	370 325	148.59
Employee benefits	23 949	27 155	(3 206)	(11.81)
Trade liabilities and other financial liabilities (long-term)	258	467	(209)	(44.75)
Lease liabilities	57 172	41 515	15 657	37.71
Subsidies and income prepayments and accruals	28 926	4 317	24 609	570.05
Other long-term provisions and accruals	440 356	439 105	1 251	0.28
Deferred income tax provisions	28 926	32 802	(3 873)	(11.81)
<b>Total long-term liabilities</b>	<b>1 199 141</b>	<b>794 587</b>	<b>404 554</b>	<b>50.91</b>
<i>Short-term liabilities</i>				
Short-term trade liabilities and other financial liabilities	273 436	251 887	21 549	8.56
Current portion of interest-bearing loans and borrowings	488 176	202 545	285 631	141.02
Short-term derivatives (liabilities)	-	3 606	(3 606)	100.00
Other non-financial liabilities	99 094	200 723	(101 629)	(50.63)
Income tax liabilities	3 077	663	2 414	364.10
Short-term employee benefits	4 388	4 371	17	0.39
Subsidies and short-term deferred income	46	46	-	-
Contract-related amounts due to customers under long-term contracts	4 226	3 680	546	14.84
Other short-term provisions and accruals	1 246 907	1 319 106	(72 199)	(5.47)
<b>Total short-term liabilities</b>	<b>2 125 815</b>	<b>1 992 943</b>	<b>132 872</b>	<b>6.67</b>
<b>Total liabilities</b>	<b>3 324 956</b>	<b>2 787 530</b>	<b>537 426</b>	<b>19.28</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>4 539 455</b>	<b>3 311 762</b>	<b>1 227 693</b>	<b>37.07</b>

### Individual balance sheet

The carrying amount of the Company as at 31 December 2022 was PLN 2 784 643 thousand and increased by PLN 82 871 thousand in comparison to 31 December 2021, i.e., by 3.07%.

The value of fixed assets decreased by PLN 63 756 thousand, i.e., by 7.56%. The biggest changes occurred in the *tangible fixed assets* item, which decreased by a net amount of PLN 622 569 thousand, mainly as a result of the sale of ZCP Elektrownia Konin. At the same time, long-term investments increased by PLN 555 727 thousand, mainly as a result of increasing the equity in PAK - Polska Czysta Energia and PAK CCGT, and the granting of loans to affiliated companies.

The value of current assets increased by PLN 146 627 thousand, i.e., by 7.89%. At the end of 2022, the biggest change was recorded by the *receivables* item, which decreased by PLN 868 432 thousand, mainly as a result of a decrease in the amount of security deposits for transactions on the Polish Power Exchange and security deposits for transactions to purchase carbon emission allowances, and in the *short-term financial assets* item, which increased by PLN 248 424 thousand because of loans granted to affiliates.

Table 12: Selected individual asset items

	PLN thousand 31 December 2022	PLN thousand 31 December 2021	PLN thousand Change	% Dynamics
<b>Fixed assets</b>	<b>779 112</b>	<b>842 868</b>	<b>(63 756)</b>	<b>(7.56)</b>
Intangible assets	2 420	1 917	503	26.24
Tangible fixed assets, including:	37 490	660 059	(622 569)	(94.32)
1. Capital work	5 952	450 232	(444 280)	(98.68)
2. Capital work in progress	13,870	187 291	(173 421)	(92.59)

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

3. Advance payments for capital work in progress	17 668	22 536	(4 868)	(21.60)
Long-term receivables	0	0	0	-
Long-term investments	732 081	176 354	555 727	315.12
Long-term prepayments and accruals	7 121	4 538	2 583	56.92
<b>Current assets</b>	<b>2 005 531</b>	<b>1 858 904</b>	<b>146 627</b>	<b>7.89</b>
Inventories including:	14 220	57 225	(43 005)	(75.15)
1. Materials	11 841	23 852	(12 011)	(50.36)
2. Goods	2 378	33 373	(30 995)	(92.87)
3. Advance payments for supplies	1	0	1	-
Short-term receivables	487 932	1 356 364	(868 432)	(64.03)
Short-term investments	1 499 496	445 020	1 054 476	236.95
1. Short-term financial assets, including:	1 499 496	445 020	1 054 476	236.95
– in affiliates	281 499	33 075	248 424	751.09
– in other entities	0	0	0	-
– cash and other cash assets	1 217 997	411 945	806 052	195.67
2. Other short-term investments	0	0	0	-
Short-term prepayments	3 883	295	3 588	1 216.7
<b>Basic capital contributions due</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>
<b>Equity shares (stocks)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>
<b>Total assets</b>	<b>2 784 643</b>	<b>2 701 772</b>	<b>82 871</b>	<b>3.07</b>

As at 31 December 2022, equity amounted to PLN 1 408 421 thousand, an increase of PLN 543 584 thousand, or 62.85% compared to the end of 2021, as a result of the net profit for 2022.

Provisions level at the end of 2022 amounted to PLN 1 268 605 thousand and was higher in comparison to the previous year by PLN 102 493 thousand, i.e., by 7.48%. A decrease was recorded by the *deferred income tax provision* and in the *provisions for CO<sub>2</sub> emission allowances redemption*, for which a provision for the redemption of emission allowances for 2022 was established during the year, in an amount lower than the released provisions as a result of redeeming purchased emission allowances for 2021.

Total liabilities at the end of 2022, compared to the end of 2021, decreased by PLN 357 302 thousand, i.e., by 77.05%. Therein, non-current and current liabilities decreased by PLN 107 249 thousand and PLN 250 053 thousand, respectively. The largest decrease in liabilities was related to loan liabilities, VAT liabilities and received deposits securing the CO<sub>2</sub> emission allowance purchase transactions.

Table 13: Selected individual asset items

	PLN thousand 31 December 2022	PLN thousand 31 December 2021	PLN thousand Change	% Dynamics
<b>Equity</b>	<b>1 408 421</b>	<b>864 837</b>	<b>543 584</b>	<b>62.85</b>
Basic capital	101 647	101 647	0	-
Supplementary capital	1 766 996	1 665 340	101 656	6.10
Revaluation capital	8 466	110 122	(101 656)	(92.31)
Other supplementary capitals (funds)	3 472	3 472	0	-
Profit (loss) from previous years	(1 015 744)	(713 809)	(301 935)	42.30
Net profit (loss)	543 584	(301 935)	845 519	-
Write-offs from net profit during the financial year (negative value)	0	0	0	-
<b>Liabilities and provisions for liabilities</b>	<b>1 376 222</b>	<b>1 836 935</b>	<b>(460 713)</b>	<b>(25.08)</b>
Provisions for liabilities	1 268 605	1 371 098	(102 493)	(7.48)
1. Deferred income tax provisions	0	10 618	(10 618)	(100.00)
2. Provision for retirement and similar benefits	20 095	23 138	(3 043)	(13.15)
3. Other provisions	1 248 510	1 337 342	(88 832)	(6.64)

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Long-term liabilities	129	107 378	(107 249)	(99.88)
1. To related parties	0	0	0	-
2. To other entities in which the entity has equity interests	0	0	0	-
3. To other entities, including:	129	107 378	(107 249)	(99.88)
– loans and borrowings	0	107 030	(107 030)	(100.00)
– other financial liabilities	0	0	0	-
– other	129	348	(219)	(62.93)
Short-term liabilities	106 282	356 335	(250 053)	(70.17)
1. Liabilities to related entities	18 141	19 099	(958)	(5.02)
2. Liabilities against other entities, in which the entity has equity interests	0	0	0	-
3. Liabilities against other entities, including	84 199	332 480	(248 281)	(74.68)
– loans and borrowings	0	13,249	(13 249)	(100.00)
– other financial liabilities	0	4 057	(4 057)	(100.00)
– trade-related, with a maturity period of	41 808	58 662	(16 854)	(28.73)
– on account of taxes, customs duties, social and health insurance, and other public-law issues	28 183	163 040	(134 857)	(82.71)
– remunerations	4 666	4 468	198	4.43
– other	9 535	89 004	(79 469)	(89.29)
4. Special funds	3 942	4 756	(814)	(17.12)
Prepayments and accruals	1 206	2 124	(918)	(43.22)
<b>Total liabilities</b>	<b>2 784 643</b>	<b>2 701 772</b>	<b>82 871</b>	<b>3.07</b>

### Consolidated cash flow statement

In 2022, the Group generated a positive cash flow balance from operating activities amounting to PLN 503 256 thousand, which was higher by PLN 496 701 thousand, i.e., by 7 577.44%, compared with the previous year. The largest contributor to the increase in net cash flow from operating activities was the significant reduction in the amount of security deposits held for open positions related to electricity sales on the Polish Power Exchange, despite the doubling of expenses on the purchase of CO<sub>2</sub>.

In 2022, investment activities involved expenditures for the acquisition of fixed assets in the amount of PLN 601 737 thousand. This included expenditures related to investments described more thoroughly in section 3.3 of this report. There were also sales of assets in the amount of PLN 23 897 thousand.

The balance of cash operations under financing activities in 2022 was positive and amounted to PLN 1 104 000 thousand. The balance mainly comprised loans and borrowings received and repaid for investments in progress.

Cash amount increased during 2022 by PLN 956 080 thousand and at the end of 2022 amounted to PLN 1 462 749 thousand.

Table 14: Selected items of the consolidated cash flow statement

	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2022</i>	<i>PLN thousand</i> <i>12-month period</i> <i>concluded on</i> <i>31 December 2021</i>	<i>PLN thousand</i> <i>change</i>	<i>%</i> <i>dynamics</i>
<i>Cash flows from operating activities</i>				
Gross profit (Loss)	318 068	(518 523)	836 591	-
Adjustments for:				
Depreciation and amortization	49 437	119 134	(69 697)	(58.50)
Interest and shares in profits	20 343	-	20 343	-
(Profit) Loss on exchange rate differences	292	124	168	135.48
(Profit) Loss on investment activities	(616)	(25 244)	24 628	97.56

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

(Increase) Decrease in receivables	498 006	(1 021 512)	1 519 518	-
(Increase) Decrease in inventories	(46 731)	(6 382)	(40 349)	(632.23)
Increase (decrease) in liabilities, except for loans and borrowings	(97 399)	225 541	(322 940)	-
Change in provisions, prepayments/accruals and employee benefits	1 207 345	1 246 268	(38 923)	(3.12)
Income tax paid	(121 635)	15 194	(136 829)	-
Expenses on CO <sub>2</sub> emission allowances	(1 319 523)	(639 159)	(680 364)	(106.45)
Tangible fixed asset and mining asset impairment write-down	-	620 170	(620 170)	100.00
Other	(4 331)	(9 056)	4 725	52.18
<b>Net cash from operating activities</b>	<b>503 256</b>	<b>6 555</b>	<b>496 701</b>	<b>7 577.44</b>
<i>Cash flows from investment activities</i>				
Sale of tangible fixed assets and intangible assets	23 897	31 815	(7 918)	(24.89)
Acquisition of tangible fixed assets and intangible assets	(601 737)	(409 720)	(192 017)	(46.87)
Expenses and proceeds related to other financial assets	(73 819)	(13 321)	(60 498)	(454.16)
Received dividends	222	46	176	382.61
Other	261	(49)	310	-
<b>Net cash from investment activities</b>	<b>(651 176)</b>	<b>(391 229)</b>	<b>(259 947)</b>	<b>(66.44)</b>
<i>Cash flows from financial activities</i>				
Proceeds on account of increased share value	478 730	-	478 730	-
Repayment of financial lease liabilities	(727)	(290)	(437)	(150.69)
Proceeds from loans, borrowings and debt securities	945 589	492 639	452 950	91.94
Repayment of loans, borrowings and debt securities	(290 141)	(95 126)	(195 015)	(205.01)
Interest paid	(30 129)	(3 741)	(26 388)	(705.37)
Other	678	-	678	-
<b>Net cash from financial activities</b>	<b>1 104 000</b>	<b>393 482</b>	<b>710 518</b>	<b>180.57</b>
<b>Increase (decrease) in net cash and cash equivalents</b>	<b>956 080</b>	<b>8 808</b>	<b>947 272</b>	<b>10 754.68</b>
<b>Cash at beginning of period</b>	<b>506 669</b>	<b>497 861</b>	<b>8 808</b>	<b>1.77</b>
<b>Cash balance at end of period</b>	<b>1 462 749</b>	<b>506 669</b>	<b>956 080</b>	<b>188.70</b>

### Individual cash flow statement

In 2022, the Company generated a positive cash flow balance from operating activities amounting to PLN 636 265 thousand, which was higher by PLN 655 167 thousand compared with the previous year. The largest contributor to the increase in net cash flow from operating activities was the significant reduction in the amount of security deposits held for open positions related to electricity sales on the Polish Power Exchange, despite the doubling of expenses on the purchase of CO<sub>2</sub>.

In 2022, investment activities involved realizing proceeds from the sales of non-financial assets in the amount of PLN 499 266 thousand, which mainly comprised the sale of OPE in the form of the Konin power plant, and expenditure on the acquisition of fixed assets in the amount of PLN 69 292 thousand, which included expenditure related mainly to the investment in the construction of the biomass unit, and expenditure on financial assets in the amount of PLN 327 891 thousand, which mainly covered loans granted.

The balance of cash operations under financing activities in 2022 was positive and amounted to PLN 30 119 thousand. The balance was primarily contributed by the loan received for the construction of the new biomass unit.

Cash amount increased during 2022 by PLN 809 269 thousand and at the end of 2022 amounted to PLN 1 221 175 thousand.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 15: Selected items of the individual cash flow statement

	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2022</i>	<i>PLN thousand</i> <i>Year concluded on</i> <i>31 December</i> <i>2021</i>	<i>PLN thousand</i> <i>Change</i>	<i>%</i> <i>Dynamics</i>
<b>Cash flows from operating activities</b>				
Net profit (loss)	543 584	(301 935)	845 519	-
Total adjustments	92 681	283 033	(190 352)	(67.25)
1. Depreciation and amortization	13 380	110 713	(97 333)	(87.91)
2. Profits (losses) on foreign exchange differences	3 217	(509)	3 726	-
3. Interest and shares in profits (dividends)	(5 067)	(405)	(4 662)	(1 151.11)
4. Profit (loss) on investment activities	(403 643)	572 478	(976 121)	-
5. Change in provisions	1 153 650	1 018 973	134 677	13.22
6. Change in inventories	43 005	14 639	28 366	193.77
7. Change in receivables	847 233	(933 531)	1 780 764	-
8. Change in short-term liabilities, excluding loans and borrowings	(233 738)	201 636	(435 374)	-
9. Change in prepayments and accruals	(7 904)	1 759	(9 663)	-
10. Other adjustments	(1 317 452)	(702 720)	(614 732)	(87.48)
<b>Net cash flows from operating activities</b>	<b>636 265</b>	<b>(18 902)</b>	<b>655 167</b>	<b>-</b>
<b>Cash flows from investment activities</b>				
Proceeds	540 068	51 566	488 502	947.33
1. Disposal of intangible and legal assets, as well as tangible assets	499 266	38 018	461 248	1 213.34
2. From financial assets, including:	40 802	13 548	27 254	201.17
– in affiliates	40 580	13 502	27 078	200.55
– in other entities, including:	222	46	176	382.61
dividends and shares in profits	222	46	176	382.61
Expenses	397 183	190 264	206 919	108.75
1. Acquisition of intangible legal assets, as well as tangible assets	69 292	170 922	(101 630)	(59.46)
2. Financial assets, including:	327 891	19 342	308 549	1 595.23
– in affiliates	327 891	19 342	308 549	1 595.23
<b>Net cash flows from investment activities</b>	<b>142 885</b>	<b>(138 698)</b>	<b>281 583</b>	<b>-</b>
<b>Cash flows from financial activities</b>				
Proceeds	38 466	135 279	(96 813)	(71.57)
1. Loans and borrowings	38 466	135 279	(96 813)	(71.57)
Expenses	8 347	15 910	(7 563)	(47.54)
1. Repayment of loans and borrowings	4 571	15 000	(10 429)	(69.53)
2. Financial lease liability payments	475	297	178	59.93
3. Interest	3 301	613	2 688	438.50
<b>Net cash flows from financial activities</b>	<b>30 119</b>	<b>119 369</b>	<b>(89 250)</b>	<b>(74.77)</b>
<b>Total net cash flows</b>	<b>809 269</b>	<b>(38 231)</b>	<b>847 500</b>	<b>-</b>
Cash flow change in the balance sheet, including:	806 062	(37 722)	843 784	-
cash change related to foreign exchange differences	3 217	509	2 708	532.02
<b>Cash at beginning of period</b>	<b>411 906</b>	<b>450 137</b>	<b>(38 231)</b>	<b>(8.49)</b>
<b>Cash at end of period, including</b>	<b>1 221 175</b>	<b>411 906</b>	<b>809 269</b>	<b>196.47</b>
restricted cash	7 171	8 684	(1 513)	(17.42)

### Consolidated and individual financial ratios

The realisation of both consolidated and individual net profit in 2022 resulted in all profitability ratio recording positive values.

The total debt ratio decreased at the end of 2022, meaning that the level of provisions and liabilities decreased in relation to the carrying value.

The current liquidity ratio indicates the extent to which short-term liabilities and provisions, including provisions related to carbon dioxide emission allowances, are covered by current assets and the value of purchased carbon allowances. The values of the Group's and Company's ratios are above one and have increased compared to previous year's level, which means that at the end of 2022, the liquidity situation in the Group and the Company has improved compared to the end of 2021.

*Table 16: Consolidated ratios*

		2022	2021	change	% dynamics
ROE	%	17.73	(60.55)	78.28	-
ROA	%	4.74	(9.58)	14.32	-
Net sales profitability	%	5.13	(12.95)	18.08	-
Overall debt ratio	<i>x times</i>	0.73	0.84	(0.11)	(13.10)
Current liquidity index	<i>x times</i>	1.20	1.02	0.18	17.65

*Table 17: Individual ratios*

		2022	2021	Change	% Dynamics
ROE	%	38.60	(34.91)	73.51	-
ROA	%	19.52	(11.18)	30.70	-
Net sales profitability	%	19.49	(13.44)	32.93	-
Overall debt ratio	<i>x times</i>	0.49	0.68	(0.19)	(27.94)
Current liquidity index	<i>x times</i>	1.57	1.15	0.42	36.52

### 5.3. Significant off-balance sheet items

The description of significant off-balance sheet items can be found in Notes 34, 35 and 36 of the Group's consolidated financial statement for 2022.

### 5.4. Projected financial standing

The past year saw a continuation of the improvement in the liquidity situation of the Company and the Group. While in 2021 there was a surplus of current assets over current liabilities for the first time in several years, in 2022 the surplus was already several times higher. The improvement in the liquidity situation is also confirmed by the increase in the value of the current ratio from 1.02 at the end of 2021 to 1.20 at the end of 2022. The Company does not foresee any threat to its liquidity situation in the foreseeable future.

Financial results achieved in 2022 at both EBITDA and net profit levels are significantly better than those recorded a year earlier. In the case of the net result, comparability is distorted due to the write-downs made in 2021. However, in the case of the EBITDA result, the year-on-year increase was 60.96%. It should be taken into account that the Company's and the Group's financial results for 2023 will be largely influenced by regulatory aspects, in particular the Act and the Regulation, the actual impact of which leads to a limited margin opportunity for electricity generation and trading (for more information on the regulatory aspects affecting the Company's operations in 2023, see section 4 "Main business risk factors").

The Company and the Group continue to assume relatively high capital expenditures associated to the continued implementation of planned investment projects, with more on this issue in section 3.3 "Execution of the investment programme".

## 5.5. Specification of factors affecting current and future financial results

The financial performance of the Group, as an entity focused on the generation and sale of generated electricity on the free wholesale market, is fully subject to and dependent on the behaviour of other market participants who, to a greater or lesser extent depending on their market share, influence price levels. The behaviour of wholesale energy market participants is, in turn, stimulated by legislative actions in the field of broadly understood energy policy, conducted both at the national and EU levels, but also at the global economy level.

In 2019, a package of regulations called "Clean Energy for All Europeans" (Winter Package) was enacted, fundamentally affecting national legislation in the energy sector. The entry into force of these regulations, in particular the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (the so-called "Market Regulation"), is very important from the point of view of the Polish power market. As of 1 July 2025, the provisions of the above-mentioned Market Regulation withdraw the support for system emitting more than 550g CO<sub>2</sub>/kWh during the production of electricity from fossil fuels, which started generation before the entry into force of the Market Regulation. However, generating units that started commercial operation prior to 4 July 2019 and do not meet the emission limit will have the opportunity to participate in the secondary market, allowing provisions for multi-year contracts concluded until the end of 2019. Currently, due to the global electricity market situation, fuelled by both the COVID-19 pandemic and Russia's war with Ukraine, energy prices are recording unprecedented levels and fluctuations, negatively affecting household budgets and, more globally, the entire EU economy. With this in mind, the European Commission has been urged by the European Parliament to work quickly on a structural reform of the energy market. In view of the increasing needs to invest in generation sources of individual EU member states, as well as persistent gas shortages, which continue to keep electricity prices high, a reform is required to ensure European energy sovereignty and achieve climate neutrality. The European Commission is expected to present a proposal for a new market reform already in Q1 2023. This reform was subject to public consultations at the level of individual Member States until mid-February this year.

In addition to the above-described reform of the European electricity market, when assessing the market and regulatory environment of the electricity producer and seller, several phenomena of particular relevance last year must be taken into account, the effects of which may also affect the Group's performance in the future:

- increasing energy raw material prices as a long-term effect of the COVID19 pandemic and Russia's war with Ukraine,
- work on final settlements of key elements within the "Fit for 55" guidance package, concerning the reform of the EU ETS, REPowerEU funding intentions, including a radical increase in the EU's 2030 reduction target of 62% reduction in emissions compared to 1990,
- extraordinary legislative solutions to limit the impact of high energy, gas and heat market prices on consumers,
- abolition of the exchange obligation,
- growth of RES-related capacity in the NPS, in particular intensive growth of photovoltaic systems,
- work on revising the Polish Energy Policy until 2040 (PEP2040), which defines the shape of the target energy mix for Poland,
- work on a draft act amending the Act of 20 May 2016 on investments in wind power plants (the so-called Distance Act),
- Poland's participation in inter-operator projects aimed at building a common European electricity market,
- continuation of work on the reform of the balancing market,
- the European Commission's work on taxonomy delegated acts, including towards the recognition of natural gas and nuclear as sustainable fuels.

The ZE PAK SA Group generates most of its revenues from the generation and sales of electricity, therefore the price for which it sells electricity is very important for the results of its activities. Analysing current market trends in the context of the level of electricity prices on wholesale energy markets primarily requires a look at the prices quoted on the Polish Power Exchange ("POLPX" or "TGE"). Factors significantly affecting the level of exchange quotations on the SPOT market (DAM&IDM of the POLPX) are mainly the volume of wind generation, the state of reserves in the NPS system, the volume of transmission capacity made available for cross-border exchange and the status of customer contracts on the forward electricity market. Another factor has gained in importance over the last two years, namely, the solar conditions. Due to the significant and dynamic growth of installed photovoltaic capacity, they affect energy prices, especially in the spring and summer.



The volume of electricity trading on the POLPX amounted to 141 371 527 MWh in 2022, a decrease of 37.2% compared to 2021<sup>5</sup> (225 174 640 MWh). The weighted average price of a "BASE" contract (the so-called "band", i.e., the delivery of a fixed amount of energy over a specific unit of time) on the POLPX Day-Ahead Market was at 796.17 PLN/MWh in 2022, an increase of 395.00 PLN/MWh, i.e., almost 98.5%, compared to the corresponding price in 2021 (401.17 PLN/MWh). In turn, the weighted average price of the annual contract with band delivery in 2023 (BASE\_Y-23) on the "CFM" futures market amounted to PLN 1 110.04/MWh for the whole of 2022, which means an increase of PLN 725.88/MWh, i.e., 188.95%, in relation to the price from the quotation of the BASE\_Y-22 contract in 2021 (PLN 384.16/MWh). The significant increase in the average annual price of the BASE\_Y-23 contract can be associated with the unstable situation on the European gas market, which became even more acute in the aftermath of Russia's aggression against Ukraine. The reduction in demand for gas stimulated an increase in the price of this commodity. Both of these factors implied increases in other energy commodities, which translated into a global increase in energy prices.

The price of CO<sub>2</sub> emission allowances ("EUAs"), which the emitter is obliged to redeem in an amount corresponding to the volume of CO<sub>2</sub> emitted into the atmosphere, is currently the factor that most determines the competitiveness of a lignite-based power utility company, in addition to the cost of coal and auxiliary fuels. Currently, one of the Group's Companies receives a very small amount of free CO<sub>2</sub> emission allowances resulting from the allocation for heat production, therefore, practically the entire number of allowances required by the Group must be purchased on the market. The level of prices at which the Group purchases CO<sub>2</sub> emission allowances has had in previous years and will continue to have a significant impact on the Group's future financial performance, as long as the Group continues to produce energy from lignite. It is reasonable to assume that, given the plans to phase out coal-based generation, this impact should diminish in the long term. The CO<sub>2</sub> Emission Allowance Market is one that is currently most exposed to price changes caused by political decisions resulting from the directions of the debate on the shape of the European Emissions Trading Scheme (EU ETS) reform, which has been continuing for several years, as well as the ongoing economic transition. In December 2022, EU bodies reached a preliminary agreement to increase the level of emissions reductions to 62% (set at 55% in the 2020 "Fit for 55" package). The 2022 reporting year was a year which recorded an increase in the demand for emission allowances in the industrial sector due to the situation caused by the war between Russia and Ukraine. In consequence to the outbreak of war, EUA prices fell rapidly to EUR 58.30 (EUA prices in December 2021 were quoted at around EUR 85). In March 2022, EUA prices recovered and reached EUR 90.00. Ultimately, the year closed at EUR 86. Any changes in the regulatory environment that are assumed to increase the cost of CO<sub>2</sub> emissions will increase the cost of energy generation by coal-fired generating units of the ZE PAK SA Group. Due to the high level of variable operating costs of coal units, caused mainly by the cost of CO<sub>2</sub> emissions, the income generated by coal units does not always cover the costs, resulting in periods when generation is no longer economically justified. In the context of the carbon market, reforms to the EU ETS to ensure greater price stability and reduce speculation are important. Over the course of 2022, EU bodies have been discussing the issue of excluding financial institutions from the carbon market; however, in the end this step was not decided upon, with increased ESMA supervision suggested instead.

Another factor that will undoubtedly have an impact on the Group's future financial performance is the participation of the Group's generating units in the capacity market. In 2018 and 2019, the Group's generating units participated in the main auctions on the Capacity Market conducted by Polskie Sieci Elektroenergetyczne SA, in accordance with the rules set out by the Capacity Market Act of 8 December 2017, concluding capacity contracts for the 2021-2024 supply years. As an auction outcome, the Group concluded one-year capacity contracts for 2021-2024 for the existing coal units taking part in the auction. In addition, as a result of the auction held in 2019, ZE PAK SA concluded a capacity contract for 17 years of supply, contracting 40 MW of capacity obligation at a price of PLN 259.87/kW/year for a new generation capacity market unit, i.e., the modernised biomass combustion unit at the Konin power plant, which was previously used for lignite power generation. During auctions held in previous years, ZE PAK SA contracted the capacity obligation in one-year contracts at 587 MW for 2021 - at a price of 240.32 PLN/kW/year, 587 MW for 2022 - at a price of 198.00 PLN/kW/year, 587 MW for 2023 - at a price of 202.99 PLN/kW/year, 628 MW for 2024 at a price of 259.87 PLN/kW/year. In 2021, another held auction with the participation of the ZE PAK SA Group, organized on the basis of the amended provisions of the Capacity Market Act, adapting it to the EU requirements. As a result of the auction, ZE PAK SA's subsidiary, PAK CCGT sp. z o.o., concluded a capacity contract for 17 years of supply, contracting 493 MW of capacity obligation at a base price of PLN 400.39/kW/year, starting from 2026. In addition to the planned revenues from the capacity market contracted on the auction primary market, the Company has the opportunity to generate additional revenues from transactions concluded on the secondary power market. With the beginning of 2021, when the capacity market entered its operational phase, the secondary market was launched in practice. It enables the Company, with regard to spare uncontracted capacity, to take over capacity obligations from other entities. However, when dealing with issues related to the capacity market, it is also important to note that the capacity market does not only mean additional payments for

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<sup>5</sup> TGE announcement from the website [www.tge.pl](https://tge.pl/aktualnosci-tge-czytaj?cmn_id=91541&title=TGE+opublikowana%C5%82a+wyniki+za+2022+rok+(wideo)) [https://tge.pl/aktualnosci-tge-czytaj?cmn\\_id=91541&title=TGE+opublikowana%C5%82a+wyniki+za+2022+rok+\(wideo\)](https://tge.pl/aktualnosci-tge-czytaj?cmn_id=91541&title=TGE+opublikowana%C5%82a+wyniki+za+2022+rok+(wideo))

the participants, but also certain obligations and financial penalties for those who fail to perform or inappropriately perform the contracted capacity obligation.

The announced future shape of Poland's energy mix is of grave importance for the operating framework of the Group. The "Polish Energy Policy until 2040" (PEP2040), which had been under development since 2018, was approved on 2 February 2021. The document assumes, among other things, a gradual reduction of electricity generation from coal sources. It should be mentioned that during the period of work on PEP2040, parallel work was ongoing on the National Energy and Climate Plan (NERP) until 2030, which Poland submitted to the European Commission on 30 December 2019. This document assumes an increase in the RES share target and a reduction in the share of coal in electricity generation. Given the current "green" directions of European policy, in particular the announcements to increase the 2030 emissions reduction target from the approved 55% to 62%, the announcement of the "Fit for 55" package of proposals to align EU policies with emission reduction targets, and given the background of events in 2020 and 2021, including the COVID19 pandemic, the assumptions of the post-pandemic Recovery Fund and Russia's war with Ukraine, work is currently in progress to revise these documents, which assume the introduction of energy sovereignty provisions. Relating the Group's generation activities to the opportunities and threats to financial results in the context of the provisions of PEP2040 and the NAPE 2030, both of which envisage increasing the share of RES and reducing the share of coal in electricity generation, it should be noted that the Group, in line with its strategy, intends to focus on the development of low-emission and emission-neutral generation sources, as well as the generation and use of "green" hydrogen, which corresponds to the directions set at national and EU levels. Over the past year, this direction has been consistently pursued through investing in RES projects.

From the point of view of new investments in RES sources, the amendments to the Act on Renewable Energy Sources introduced last year, i.e., 2021, are significant. These include the extension of system support from 2039 to 2047 and the change in the rules for balance settlement in three-year periods<sup>6</sup>, and not, as was previously the case, after the end of the overall support period, i.e., a maximum of 15 years. On the other hand, the amendment to the provisions of the so-called "distance law", announced for the Q2 2022, the adoption of which has largely restricted the development of new wind projects in recent years, has still not been enacted.

The amendments to the Taxonomy Delegated Act adopted by the European Commission at the beginning of 2022, on which work intensified during 2021, are of great relevance in the context of the ZE PAK Group's investment intentions, including the planned investment in the construction of a CCGT unit at the Adamów Power Plant and the fund-raising for this project. The adopted regulations recognise both gas and nuclear power projects as sustainable, subject to the inclusion of specific guidelines in the draft regulation, which have yet to be accepted by the Member States. The Group is taking action associated with plans for both the gas project at the Adamów Power Plant and a potential nuclear project at the Pałnów Power Plant after the operating period of coal assets expires.

As of 2019, intensive work is ongoing in terms of the balancing market reform, bringing the market into line with the requirements of European law. The changes introduced in the balancing market as part of Phase I of the reform include allowing active participation in the balancing market for DSR and non-CDGU (non-centrally disposed generating unit) units, including wind and PV farms, as well as the participation of storage/pumped storage plants (PSPs) in the balancing market. As of 1 January 2021, the reform has also enabled market participants to update balancing bids on the intraday market, thus allowing the Group to participate more actively in the technical market. The outflow of the implementation of the reforms announced as part of Phase II, i.e., the introduction of the scarcity pricing mechanism, changes to system services and significant changes to balancing market settlements, which should help mitigate the "missing money" issue for ZE PAK SA's coal-fired units, may prove to be particularly important for the Company's financial result. However, due to a number of external factors, the timetable for the implementation of Phase II of the reform, which was initially to be implemented for operational application on 1 January 2022, will slip by one year and the estimated implementation of all Phase II solutions may not take place before 2024. As at the date of this report's publication, the broadly understood market is in the consultation phase of the proposed legislative solutions on balancing market reform.

In H2 2022, a series of legislative acts were adopted at both EU and national levels to influence the reduction of energy prices, which reached unprecedented levels in Q3 2022. The package of regulations is the result of extraordinary legislative work aimed at restricting the "excessive", as the legislator described it, revenues of companies in the electricity sector. Among the documents enacted by the Polish legislator, the *Act of 27 October 2022 on emergency measures aimed at limiting electricity prices and supporting certain consumers in 2023*, as well as the implementing regulation to this Act, i.e., the *Regulation of the Council of Ministers of 8 November 2022 on the method of calculating the price cap*, which oblige the Group to make financial resource write-offs to the Price Difference Fund, starting from 1 December 2022, are of particular importance from the point of view of the Group's future results. The obligation to make write-offs to the

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<sup>6</sup> The change came into force on 16/10/2022.

Price Difference Fund, which arises under contracts concluded for the sale of electricity above the price cap, calculated according to the principles indicated in the aforementioned regulation, will, according to today's knowledge, be in force until the end of 2023. Due to the fact that electricity prices at which the Group sells its output are the most important among the factors indicated by the Company as having an impact on its financial results, the extraordinary legislative solutions adopted by the Polish legislator, which are and, as practice shows, will be subject to further revisions by the legislator, will undoubtedly have an impact on the financial results of the ZE PAK SA Group.

Another legal act adopted in Q4 2022, which affects the limitation of potential achievable company revenues is the regulation of the Minister of Economy, which determines, among other things, the mechanism for the application of maximum prices (MaxCO) by energy generators in balancing bids submitted. The introduction of this legislative solution has undoubtedly affected electricity price levels in short- and medium-term contracts. It should be noted that the regulation has also abolished the so-called arbitrage blocking mechanism introduced at the beginning of the year, i.e., settlement of deviations on the Balancing Market at the exchange price or the balancing market price, which depended on the contracting status of the NPS.

Adopting the *Act of 29 September 2022 amending the Act - Energy Law and the acts on Renewable Energy Sources*, which, on 6 December 2022, abolished the "exchange obligation" by repealing Art.49a of the Energy Law Act, was also included in the legislator's package of activities aimed at limiting high electricity prices. The annulment of the obligation affected the volume of exchange trading, which is very evident in the annual data presented by TGE SA, where the total trading volume decreased by nearly 40%, which was reflected in both the DAM, CDM and CFM markets.

## **5.6. Unusual factors and events affecting achieved financial results**

In the financial year 2022, the Group did not identify any unusual factors or events that would impact the achieved financial results.

## **6. FINANCIAL ASSET MANAGEMENT**

### **6.1. Assessment of financial asset management**

The Group manages its current financial resources in a flexible manner, employing cash liquidity analysis models and planning future cash flows based on periodically prepared financial forecasts in the short- and long-term perspective. Using the aforementioned tools, Companies of the Group execute current monitoring and analyses of the receivable and liability maturity dates, as well as adjust the deadlines and bank account balances to the amounts of cash flows. Excess cash is managed by investing in safe instruments of the financial market, which mainly include bank deposits. The period of increased cash demand is usually the turn of the Q1 and Q2. This is due to the fact that the Company hedges the volume of CO<sub>2</sub> emission allowances in the forward market and, as their redemption date approaches (end of April each year), needs cash to acquire them. Overdraft credit facilities are used to ensure flexibility during periods of increased cash demand.

The cash demand of companies with investment projects (including wind, photovoltaic and hydrogen) is also important. The Group's approach in this regard is to finance such projects in the short term from loans granted within the Group, as well as from a third party, while simultaneously working to secure targeted long-term financing in the form of bank loans or soft loans.

### **6.2. Assessment of investment plan implementation**

The Group has its own operating strategy and an investment plan adjusted accordingly. Investment plans take into consideration the current conditions in legislation and law, as well as economy and technology. The adopted method of implementing planned investments is mainly based on the use of resources obtained through current activities as well as external financing. In planning the funding, the Group's companies take into consideration a series of existing or future factors which can have substantial impact on the executed program. The projected financing structure of particular investment plans also takes into consideration the levels of a series of financial indexes, such as the debt or liquidity index, in a way which allows to obtain their optimal levels. The ZE PAK SA Capital Group believes that the scale and extent of currently implemented and planned investment projects focused around the PAK – PCE sp. z o.o. exceed the ZE PAK SA Group's financing capacity. In light of the above, the Company analysed possible scenarios for further funding of the extensive investment plan related to the development of renewable energy projects and the generation and use of "green" hydrogen, and decided to choose the scenario involving a project partner with a stronger capital standing

than the Group. On 20 December 2021, an agreement for the sale of a majority stake in PAK – PCE sp. z o.o. was concluded between the Company and Cyfrowy Polsat SA. Also, in the case of other projects developed by the Group, cooperation with external partners is envisaged. An example being the offshore wind farm project developed jointly with Ørsted or the cooperation on the use of assets at the Pątnów Power Plant for the potential construction of a nuclear power plant. The assumptions made in the field of investments are feasible to implement with the use of existing and potential resources. It should be emphasized that the Group is constantly monitoring the factors having the biggest impact on the implemented investment program, and in case of substantial changes in one or several factors, the Group's companies introduce adjustments or significant changes in the executed strategy.

## 7. SIGNIFICANT DEVELOPMENT FACTORS AND PROSPECTS

### Directional activities designated by the Group's Strategy

The ZE PAK SA Capital Group's strategy directions are determined based on a systematic analysis of a wide spectrum of economic and process factors, such as, e.g., conventional fuel price trends, CO<sub>2</sub> emission allowance prices, mechanisms supporting various electricity and thermal energy production.

The ZE PAK SA Group directs its attention to the regulatory surroundings and technological progress in the broadly understood fields associated with the Group's activities. The aim of such an approach is optimizing investment projects, as well as directional – in terms of diversifying the fuel base and generation source technology, and detailed – related to improvements within existing generating units, and adaptation of generating equipment operation schedules. The Group strives to develop a long-term functioning model under conditions of adverse trends for high-emission power becoming evident in policies adopted at EU level, which is also reflected in forecast changes in the Polish energy mix.

Broadly understood legislative framework determined by the EU and Polish law provisions directly translate to the Group's production capacity. Worn-out technical generating equipment, for which the analyses do not show the usefulness of a modernization, will be gradually decommissioned pursuant to decisions taken. The operation method during the transitional period must be closely matched to their capabilities through choosing a dedicated exemption in environmental law. The optimal method for utilizing the available fuel base will also be additionally taken into account.

The Company is aware of the changes, especially the ones in the legislative and legal areas, which take place within its surroundings. Legal regulations aimed at reducing emissions of CO<sub>2</sub>, other gases (SO<sub>2</sub>, NO<sub>x</sub>) and dusts, as well as regulations regarding the renewable energy source sector comprise significant challenges for the Group's companies. New environmental regulations arising from the introduction of BAT (Best Available Technology) conclusions that came into force in 2021, extend the catalogue of limited pollutions. It is noteworthy that investment activities and proper renovation management covering existing generating units and their associated pollution reduction equipment, result in a gradually reduced emissivity of generated electricity.

The development directions adopted by the Group mean, that the Group, on one hand gradually limits lignite-fired energy production until a total phase-out, and on the other, it develops projects associated with producing energy from low-emission and zero-emission sources, and intensifies actions aimed at generating and using "green" hydrogen. The directions of activities aimed at making the business model more sustainable have then been thoroughly described, also using measurable indicators, in the sustainable development strategy of the ZE PAK Group for the years 2023-2027. Business model transition falls in line with the directions outlined in EU systematics (so-called taxonomy), assuming, among others:

- complete and quick phase-out from lignite extraction and gradual decommissioning of the production based on this fuel in the baseline scenario by the end of 2024,
- significant investments in generation assets enabling energy generation based on low- and zero-emission sources described in the taxonomy, including wind and photovoltaics, and electricity and thermal energy generation based on biomass, fossil gas fuels and nuclear fuel, i.e., activities in line with the so-called EU systematics (taxonomy),
- development of activities in the field of production and utilization of green hydrogen fuel.

A structure of special purposes vehicles (SPV) that are to be responsible for the activities within individual technologies of renewable energy sources is being gradually constructed around PAK – PCE sp. z o.o. Owing to the planned sales of the majority stake in PAK – PCE sp. z o.o., to the Cyfrowy Polsat Group, it is planned to obtain a financially strong partner that will be able to ensure the implementation of a wide range of prospective investment projects in the field of renewable energy sources, as well as generation and utilization of "green" hydrogen.

The PAK CCGT sp. z o.o. special-purpose vehicle is to be responsible for preparing and implementing a project covering the construction of a gas-and-steam unit within the former coal-fired Adamów power plant. The project has won a capacity market auction and thus obtained support in the form of a 17-year capacity contract.

Within its transition-related operations, the Group is also active in the field of construction projects covering wind farms in the Baltic Sea (offshore). It is also planned to use the assets of the Pątnów Power Plant for the needs of a potential nuclear power plant construction. Both projects are developed in cooperation with third-parties.

### ***Plans for conventional capacity utilisation***

The baseline operating model for the coal segment assumes the use of currently exploited open pits and no new investments in this area. This means that of the 3 deposits mined in 2022, two are currently being mined - the Józwin open pit and Tomisławice. The Drzewce open pit completed extraction on 11 August 2022. Coal extraction within the Józwin open pit will cease in mid-2023, while only the Tomisławice open pit will continue.

The Pątnów Power Plant currently operates two modernised units No. 1 and 2, each with a capacity of 222 MW, a partially modernised unit No. 5 with a capacity of 200 MW and a modern supercritical unit No. 9 with a capacity of 474 MW (the former Pątnów II Power Plant). The baseline scenario for the operation of coal units at the Pątnów power plant assumes their operation until the current support mechanism in the form of the capacity market is terminated, i.e., until the end of 2024. However, the Company does not exclude the possibility that it will be able to incur relevant capital expenditure and extend the operation of the most efficient 474 MW unit in the event of the implementation of a support system after 2024, which would ensure the economic viability of such activities. The remaining units at the Pątnów power plant were decommissioned - unit No. 4 with a capacity of 200 MW was decommissioned at the end of 2019, while units No. 3 and 6, with a capacity of 200 MW each, were decommissioned at the end of June 2020.

The Adamów power plant was decommissioned at the beginning of January 2018. Currently, demolition works and site preparation for the new investment, which is to be a gas-steam unit, have been completed at the site. Document legally required by regulatory authorities have been developed and the possibility of auxiliary economies operating to the necessary extent has been secured. As a result of a capacity auction held in 2021, PAK CCGT sp. z o.o. concluded a capacity contract for 17 years of supply, contracting 493 MW of the capacity obligation for this generation capacity market unit, starting from 2026.

Once the operation of the coal units at the Pątnów Power Plant has been completed, it will be possible to employ the existing infrastructure and prepare the site for a potential future nuclear power plant project. To this end, the Company has established cooperation with an external partner, the state-owned Korean company Korea Hydro & Nuclear Power Co., Ltd. and with PGE Polska Grupa Energetyczna SA, the state-owned power company. In April 2023, ZE PAK and PGE formed a joint special purpose vehicle in the form of a joint stock company based in Konin to directly cooperate on the project to build a nuclear power plant based on the Korean APR1400 technology. The objective and task of this company will be to participate in the planned construction of the nuclear power plant in Konin/Pątnów.

### ***Plans for the development of renewable energy sources***

The Konin power plant, owned by BiW sp. z o.o., currently generates electricity and heat using two biomass-fired units with a total generating capacity of 105 MW (50 MW and 55 MW). The second unit was commissioned in April 2022 and is a source that generates electricity and secures heat generation in emergency situations. As a result of the 2019 Capacity Market Auction, the ZE PAK SA Group concluded a capacity contract for 17 years of supply, contracting 40 MW of the capacity obligation for the new capacity market generating unit (including the so-called "green bonus"). The biomass unit will also power the electrolysis system, which in turn will allow the production of so-called "green hydrogen".

Owing to the modernisation, the capacity available at the Konin Power Plant increased to 100 MW and the Konin Power Plant became the first power plant in the country to switch from coal to biomass as its supply source.

In the case of the reclaimed PAK KWB Adamów and PAK KWB Konin open pit mine areas - in line with the objectives of the energy and climate policy and having the appropriate potential at its disposal, the Company made a directional decision to use these areas, previously taken over for mining activities, to prepare for investments in photovoltaic and wind technologies. The first 70 MWp photovoltaic farm, developed by a special purpose vehicle, was built on reclaimed land where lignite was once mined in the Adamów area. The farm was commissioned on 27 October 2021, and on 10 November 2021 PAK – PCE Fotowoltaika sp. z o.o. was granted a concession to generate electricity. The concession was granted by the President of the ERO for the period from 10 November 2021 to 31 December 2040. Also, in Brudzew, a 12.4 MWp power plant was designed on the land acquired from the developer, owing to the Land Development Conditions and the Environmental Decisions obtained by the developer. The project will be connected to the GPO substation used for the Brudzew 70 MWp wind farm, as the second part of this investment project.

Another major photovoltaic project, for which an environmental decision has already been obtained, is the project of a photovoltaic farm with a rated capacity of approximately 200 MWp, at the site of the Adamów open pit, located in the Przykona commune area.

The Group is also developing wind projects. Advanced work was conducted in 2022 on wind farms in Kazimierz Biskupi, Miłosław in the Wielkopolskie province, the Przyrów commune, Częstochowskie province, and the Człuchów commune in the Pomorskie province. Projects in the field of renewable energy sources, and the production and use of “green” hydrogen will be developed in cooperation with Cyfrowy Polsat. On 20 December 2021, the two companies concluded a preliminary agreement providing for the sale of a majority stake in the structure created around PAK – PCE sp. z o.o.

The company has also taken steps towards the implementation and development of wind farm projects in offshore areas of the Republic of Poland. This project is also developed on a cooperative basis with a third-party partner, Ørsted, a world leader in offshore wind farms.

Employing various support mechanisms for such investment projects, available in the broadly defined regulatory environment, the Company seeks to obtain preferential financing with a view to increase the economic efficiency of the planned investments.

***Using renewable energy sources to produce hydrogen as a new field of Company's activities.***

Hydrogen will be produced through electrolysis, using RES-based electricity. The implementation of this task will enable the production of the so-called “green hydrogen”. The first step towards the construction of a hydrogen plant was the conclusion of a contract for the purchase of an electrolyser in PEM technology, which, together with the necessary infrastructure, will be located on the premises of the Konin power plant, and thanks to the modular construction of the plant and the preparation of the infrastructure, will enable increasing the production capacity, depending on the demand for hydrogen. The Company believes that the importance of hydrogen in the low-carbon economic model will grow. An area of significant growth potential is public transport, e.g., and the Company is currently working with partners interested in using hydrogen in this segment. A mobile hydrogen storage facility has been ordered to enable the supply of hydrogen to filling stations. Work on the construction of a hydrogen bus prototype was also completed at the end of 2021 followed by starting bus tests. An EU approval for the manufactured city bus was obtained on 20 April 2022. An official premiere and presentation of the bus named NesoBus took place on 30 May 2022. Work is currently ongoing in the Świdnik Economic Activity Zone to build a manufacturing plant for hydrogen cell-powered buses, which will have the capacity of 100 buses per year.

The scope and pace of implementation of the aforementioned projects intentions will largely depend on the pace of economic model changes towards carbon neutrality. In the case of a faster reduction in the economy's dependence on fossil fuels, market opportunities for the potential of the planned projects should arise more quickly. In the case of a slower decarbonisation path, the pace of investment project implementation may depend on the availability of support mechanisms and preferential financing.

## **8. SHAREHOLDING STRUCTURE SPECIFICATION**

### **8.1. Shareholding structure**

As at 31 December 2022, the Company's share capital amounted to PLN 101 647 094.00 and was broken down into 50 823 547 shares with a face value of PLN 2.00 each.

The following table shows the list of shareholders holding, directly or indirectly through subsidiaries, at least 5% of the total number of votes at the Company's General Meeting, according to the information available to the Company based on the notifications provided on the acquisition/disposal of the Company's shares as at the date of this report and as at 31 December 2022 and 31 December 2021.

*Table 18: List\* of shareholders holding, directly or indirectly through subsidiaries, at least 5% of the total number of votes at the General Meeting of the Company*

<i>Shareholder</i>	<i>pcs</i>			<i>%</i>		
	<i>Number of shares and corresponding number of votes at the General Meeting</i>			<i>Share in the total number of stocks/votes</i>		
	<i>27/4/2023</i>	<i>31/12/2022</i>	<i>31/12/2021</i>	<i>27/4/2023</i>	<i>31/12/2022</i>	<i>31/12/2021</i>

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

<b>Zygmunt Solorz (indirectly) through:</b>	<b>33 523 911</b>	<b>33 523 911</b>	<b>33 523 911</b>	<b>65.96</b>	<b>65.96</b>	<b>65.96</b>
– Argumenol Investment Company Limited	33 523 911	33 523 911	33 523 911	65.96	65.96	65.96
<b>Nationale-Nederlanden OFE</b>	<b>4 503 242</b>	<b>4 503 242</b>	<b>4 503 242</b>	<b>8.86</b>	<b>8.86</b>	<b>8.86</b>
<b>OFE PZU “Złota Jesień”</b>	<b>4 635 719</b>	<b>4 635 719</b>	<b>4 635 719</b>	<b>9.12</b>	<b>9.12</b>	<b>9.12</b>
<b>PTE Allianz Polska SA</b>	<b>3 720 890</b>	<b>3 720 890</b>	<b>-</b>	<b>7.32</b>	<b>7.32</b>	<b>-</b>

\* List developed according to the information held by the Company based on the provided notifications on the acquisition/disposal of shares.

The structure of shareholders holding, directly or indirectly through subsidiaries, at least 5% of the total number of votes as at the date of submission of this annual report for 2022 differs from the corresponding list of the periodic report for 2021. The difference is due to an increase in the shareholding in share capital and the total number of votes of ZE PAK SA in the accounts of Allianz OFE, Allianz DFE and Drugi Allianz OFE above 5%, which resulted from a merger of 30 December 2022 between Powszechnie Towarzystwo Emerytalne Allianz Polska SA managing Allianz Polska Otwarty Fundusz Emerytalny, managing Allianz Polska Dobrowolny Fundusz Emerytalny with Aviva Powszechnie Towarzystwo Emerytalne, Aviva Santander Spółka Akcyjna, managing the Drugi Allianz Polska Otwarty Fundusz Emerytalny, pursuant to Art. 69 in connection with Article 87(1) cl.2b of the Act on public offering and conditions for introducing financial instruments to organised trading and on public companies.

The Company is not aware of any agreements, which would result in future changes in the shareholding structure of the current shareholders.

## 8.2. Acquisition of own shares

The Company did not acquire own shares in 2022.

## 8.3. Stocks and shares of entities of the ZE PAK SA Capital Group held by management and supervisory persons

The table below presents (direct and indirect) holding of the Company's shares and the stocks/shares in affiliates of the Company held by management personnel as at 31 December 2022 and as at the date of this statement.

Table 19: Status for shares in the Company and shares/stocks in entities affiliated with the Company held by managing personnel as at 31 December 2022 and as at the statement date.

Name and surname	ZE PAK SA shares		Shares/stocks in ZE PAK SA affiliates	
	quantity	face value	quantity	face value
Piotr Woźny	0	0	0	0
Zygmunt Artwik	0	0	0	0
Maciej Nietopiel	0	0	0	0
Andrzej Janiszowski	0	0	0	0
Katarzyna Sobierajska	0	0	0	0

The table below presents (direct and indirect) holding of the Company's shares and the stocks/shares in affiliates of the Company held by management personnel as at 31 December 2022 and as at the date of this statement.

Table 20: Company's share holdings as well as affiliates' share/stock holdings by the supervisory personnel as at 31 December 2022 and as at the date of statement development.

Name and surname	ZE PAK SA shares		Shares/stocks in ZE PAK SA affiliates	
	quantity	face value	quantity	face value
Zygmunt Solorz	0	0	0	0
Wiesław Walendziak	0	0	0	0

Tomasz Szelaż	0	0	0	0
Henryk Sobierajski	0	0	0	0
Sławomir Zakrzewski	0	0	0	0
Maciej Stec	0	0	0	0
Alojzy Z. Nowak	0	0	0	0
Jarosław Grzesiak	0	0	0	0
Tobias Solorz	0	0	0	0
Piotr Żak	0	0	0	0

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#### **8.4. Employee shares programme control system**

The Company does not have an employee share programme, therefore, there is no control system of the employee share programme.

### **9. DECLARATION OF COMPLIANCE WITH CORPORATE GOVERNANCE RULES**

The declaration of compliance with corporate governance rules is presented in accordance with Art. 70(6) cl. 5) of the Regulation of the Minister of Finance dated 29 March 2018 on current and periodic information provided by issuers of securities and conditions for recognising as equivalent the information required by the law of a non-member state.

#### **9.1. Set of applied corporate governance rules**

As of 1 July 2021, ZE PAK SA is subject to a set of corporate governance principles for companies listed on the WSE Main Market - Best Practice for WSE Listed Companies 2021 ("DPSN 2021"), adopted by Resolution No. 13/1834/2021 of the Exchange Supervisory Board of 29 March 2021.

The Company's Management Board, within the competencies granted to it by the Articles of Association and the generally binding legal regulations, exercises due care in order to ensure the Company's compliance with the Code of Best Practice to the greatest extent possible. The number and scope of principles which were not applied in 2022 have been described in detail in the section below. The Company's Management Board makes all exceptional efforts in order for the Company's information policy towards investors, both individual and institutional, comprising the execution of guidelines included in the Code of Best Practice, to be compliant with the expectations. The Company strives to minimise both the number and scope of principles that have been waived. In addition, for reasons not attributable to the Company, not all principles contained in the Best Practice are applied.

The text of the Best Practice 2021 is published on the website of the Warsaw Stock Exchange at:

DPSN 2021 - [https://www.gpw.pl/pub/GPW/files/PDF/dobre\\_praktyki/DPSN21\\_BROSZURA.pdf](https://www.gpw.pl/pub/GPW/files/PDF/dobre_praktyki/DPSN21_BROSZURA.pdf)

In accordance with the Best Practice, the Company has published information on the status of Company's application of the principles contained in the Best Practice at:

[https://ri.zepak.com.pl/upload/files/2021\\_PL\\_GPW\\_dobre\\_praktyki\\_ZEPAK.pdf](https://ri.zepak.com.pl/upload/files/2021_PL_GPW_dobre_praktyki_ZEPAK.pdf)

#### **9.2. Set of waived DPSN 2021 principles**

Below you can find corporate governance rules, which the Company has not complied within its activities in 2022, together with an explanation of the Company's position regarding each specific departure.

##### **Principle 1.4.2 DPSN 2021**

Information on the strategies in the ESG shall, among others, present the equal pay index for its employees, defined as the percentage difference between the average monthly pay (including bonuses, awards and other benefits) of women and men in the last year, and present information about actions taken to eliminate any pay gaps, including a presentation of related risks and the time horizon of the equality target.

*Explanation of the reasons for not applying principle 1.4.2.*

Due to the specific nature of the Company's business operating in the heavy industry segment, men (in the production area) constitute a clear majority in the workforce and therefore the Company does not keep such statistics. However,



remuneration in the Company is tailored to the level of education and competence and the position occupied and is not in any way dependent on the gender or age of the employee.

### **Principle 2.1. DPSN 2021**

A Company should have in place a diversity policy applicable to the management board and the supervisory board, approved by the supervisory board and the general meeting, respectively. The diversity policy defines diversity goals and criteria, among others including gender, education, expertise, age, professional experience, and specifies the target dates and the monitoring systems for such goals. With regard to gender diversity of corporate bodies, the participation of the minority group in each body should be at least 30%

*Explanation of the reasons for not applying principle 2.1.*

The Company has not developed a diversity policy in relation to the management board and supervisory board. According to standards applicable at the Company, such objective criteria as knowledge, experience, competences and skills required to hold assigned functions are decisive when selected management and supervising personnel. In the Company's opinion, the cited criteria can ensure effective and efficient operation of the Company and the implementation of the adopted strategy.

### **Principle 2.2. DPSN 2021**

Decisions to elect members of the management board or the supervisory board of companies should ensure that the composition of those bodies is diverse by appointing persons ensuring diversity, among others in order to achieve the target minimum participation of the minority group of at least 30% according to the goals

of the established diversity policy referred to in principle 2.1.

*Explanation of the reasons for not applying principle 2.2.*

Persons making decisions related to appointing members of the management board and supervisory board ensure the versatility of these bodies, guided by current Company needs, expressed through taking into account the appropriate professional experience, competences and education exhibited by the candidates, which are required to perform the functions entrusted to them. The principle does not apply in terms of satisfying the imposed index of a 30% minimum minority share. The Company believes that the adoption of a fixed minority share ratio in the Company's bodies may lead to a situation where the criterion of belonging to a minority will have a decisive impact on the selection of a candidate at the expense of the criteria which are most important in the Company's opinion, such as relevant professional experience, competence and education.

### **Principle 2.11.6 DPSN 2021**

The annual reports contain information regarding the degree of implementation of the diversity policy applicable to the management board and the supervisory board, including the achievement of goals referred to in principle 2.1.

*Explanation of the reasons for not applying principle 2.11.6.*

Due to the absence of a developed diversity policy and the explanation of the non-application of principle 2.1, the annual report of the supervisory board will not contain information on the degree of implementation of the Company's diversity policy.

### **Principle 4.1. DPSN 2021**

The Company shall enable their shareholders to participate in a general meeting by means of electronic communication (e-meeting) if justified by the expectations of shareholders notified to the company, provided that the company is in a position to provide the technical infrastructure necessary for such general meeting to proceed.

*Explanation of the reasons for not applying principle 4.1.*

The Company offers real-time coverage of the general meeting, but in the Company's opinion the current shareholding structure does not justify real-time two-way communication allowing shareholders to speak during the general meeting while at a location other than the venue of the meeting. The possibility to exercise voting rights in person or by proxy is an established practice during the Company's general meetings of shareholders.

### **Principle 6.2. DPSN 2021**

Incentive schemes should be constructed in a way necessary among others to tie the level of remuneration of members of the company's management board and key managers to the actual long-term standing of the company measured by its financial and non-financial results as well as long-term shareholder value creation,

sustainable development and the company's stability.

*Explanation of the reasons for not applying principle 6.2.*

There are currently no incentive schemes within the Company; however, the Company assumes that should such a scheme be adopted it will be compliant with the Best Practice principles.

### **Principle 6.3. DPSN 2021**

If company's incentive schemes include a stock option programme for managers, the implementation of the stock option programme should depend on the beneficiaries' achievement, over a period of at least three years, of pre-defined, realistic financial and non-financial targets and sustainable development goals adequate to the company, and the share price or option exercise price for the beneficiaries cannot differ from the value of the shares at the time when such programme was approved.

*Explanation of the reasons for not applying principle 6.3.*

There are no incentive schemes based on stock options or other stock-related instruments implemented within the Company; however, the Company assumes that should such a scheme be adopted it will be compliant with the Best Practice principles.

## **9.3. Incidental violation of DPSN 2021 principles**

### **Principle 4.9.1**

If the general meeting is to appoint members of the supervisory board or members of the supervisory board for a new term of office, the candidates for members of the supervisory board should be nominated with a

notice necessary for shareholders present at the general meeting to make an informed decision and in any case no later than three days before the general meeting; the names of candidates and all related documents should be immediately published on the company's website;

*Comment regarding the incidental violation of principle 4.9.1*

Due to the fact that the Company did not receive candidate proposals for supervisory board members within a date enabling the shareholders presents at the General Meeting to take a duly considered decision, but not later than 3 days prior to the General Meeting, the materials regarding the candidates proposed at the General Meeting on 10 March 2022 were published by the Company on its website immediately after receiving the complete set of materials, on 14 March 2022, by way of current report No. 9/2022.

## **9.4. Description of the main features of internal inspection and risk management systems applied in relation to the preparation of financial and consolidated financial statements**

The process of developing Company's financial statements as well as the Capital Group's consolidated financial statements involves using internal control and risk management mechanisms, such as Company's internal procedures, mechanisms of managing IT systems used for registration of economic activities and development of financial statements, as well as data and system protection mechanisms, principles of supervision over the preparation of financial statements, principles of verification and assessment of statements, internal audit and other control elements.

The development of the Company's financial statements as well as the Group's consolidated financial statements is executed in an orderly manner, pursuant to the organisational structure of the Company and Group. The management accounting tools and IT systems implemented in the Company and Group for the purpose of registration of economic events in books of account provide the basis for the evaluation that the Company's financial statements and the Group's consolidated financial statements reliably and clearly present the Company's and Group's financial and economic situation.

The basic regulations in the scope of development of financial statements include: the Company's accounting policy in accordance with the Accounting Act of 29 September 1994, International Financial Reporting Standards ("IFRS"), approved by the European Union, the procedure of closing the books of account of companies including the Capital

Group, as well as the financial statement and consolidated financial statement development requirements imposed by the Warsaw Stock Exchange.

As of the date of development of this statement, the Company did not make a decision on keeping the books of account in the Group according to the International Financial Reporting Standards (“IFRS”). Therefore, the process of development of financial statements in the Group takes place in two stages. Firstly, all the companies of the Group develop their own individual statements pursuant to the Polish accounting standards. These statements are studied if they meet the conditions specified in the Accounting Act. Next, the companies transform individual statements based on the accounting policy determined for the Group, in accordance with the International Financial Reporting Standards (“IFRS”) and using the so-called sheets of transition into financial statements in the IFRS standards. So prepared individual statements are the basis for the development of the Group’s consolidated financial statement. An automatic process of importing data from the SAP ERP system to the SAP BPC consolidation system takes place only in the case of ZE PAK SA.

The Group’s consolidated statement is developed with the use of the SAP BPC IT system. A stand-alone central unit in the parent company (i.e., ZE PAK SA) merged with accounting departments in individual subsidiaries functions within the system. The consolidation process is started with the central unit opening access for companies to enter data into the system, the subsidiaries have the possibility to access their historical data at any time, but without the possibility of their adjustment. The central unit constantly monitors the entry of data by the companies, and then, after entering individual data, it starts the consolidation process. This process is based on defined business rules, which determine the content of consolidation adjustments. Furthermore, the consolidation process allows for entering manual adjustments by the central unit. The result of the consolidation process completion includes a complete package of the financial statement together with explanatory notes in Excel files, which is then exported to a Word file after verification.

The Management Board is responsible for the Company’s internal control system and for its effectiveness in the process of developing financial statements and periodical reports developed and published in accordance with the Resolution of the Minister of Finance of 29 March 2018 on the current and periodical information submitted by issuers of stocks as well as conditions for the recognition as equally important of information required by the regulations of the law of a country not comprising a member state.

The substantive supervision over the process of development of the Company’s and Group’s financial statements and periodical reports is executed by a member of the Management Board responsible for financial issues. The organisation of works related to the development of financial statements is the responsibility of the CFO, who together with the Chief Accountant develops a schedule of work leading to the development of the statements.

The Company’s effective internal control and risk management systems related to the process of financial reporting is ensured owing to:

- development of procedures specifying the principles and division of responsibility in the development process of financial statements,
- specification of the scope of reporting pursuant to the mandatory provisions of the Accounting Act and International Financial Reporting Standards,
- implementation and execution of supervision over the use by the Capital Group’s companies of coherent accounting principles as well as
- semi-annual inspections and annual audits of the financial statements of ZE PAK S.A. and Capital Group by an independent statutory auditor.

The annual and semi-annual financial statements are subject to the independent auditing and inspection by the independent statutory auditor, who gives an opinion on the reliability and clarity of such a statement as well as correctness of account books comprising the basis for the statement development.

The choice of a statutory auditor is made by the Supervisory Board, from a group of reputable auditing companies, which guarantee high service standards and the required independence.

Financial statement audits are carried out:

- in accordance with the provisions of Chapter 7 of the Accounting Act of 29 September 1994,
- pursuant to the National Standards of Financial Auditing within the meaning of International Standards on Auditing, adopted by the resolution of the National Chamber of Statutory Auditors (KRBR) of 10 February 2015 as amended and the KRBR resolution of 7 July 2017.

In particular, the audits include verification of correctness of the accounting rules used by the Company and Group, verification of significant estimates, verifying – in a random manner – accounting evidence and records, which the amounts and information included in the financial statement result from, as well as comprehensive assessment of the financial statement.

The Company's and Group's financial results are regularly monitored during the financial year and are subject to periodical evaluation made by the Supervisory Board. During regular sessions of the Supervisory Board, the Company's Management Board provides information regarding the current financial situation of the Company and ZE PAK SA Group.

The Company's and Group's task is to develop such a financial statement, which includes numerical data and verbal clarifications, which:

- reliably and clearly presents all information which are significant for the evaluation of the financial and economic standing at a given day, as well as the financial result for a given period,
- was properly developed in all the significant aspects, that is, in accordance with the accounting rules resulting from the International Financial Reporting Standards, as well as the related interpretations published in the form of the European Commission regulations, and according to the requirements of the Accounting Act and executive regulations issued on its basis, as well as on the basis of correctly kept books of account,
- is compliant with the regulations and provisions of the Company's Articles of Association, which affect the financial statement content.

The Company hold documentation, which describes its adopted accounting principles, specified in Art. 10 of the Act on Accounting. The applied principles of cost accounting, asset and liability measurement, as well as financial result determination are pursuant to the Act on Accounting and the International Financial Reporting Standards.

The Management Board is responsible for the correct accounting of the Company and Group. The Company keeps account books within the integrated SAP ERP IT system. This system, like the aforementioned SAP BPC consolidation system of statements, ensures a division of competence, coherence of operation entries in the books, as well as control between the main book of account and auxiliary books. The records kept enable determining the financial result, VAT tax and other budget liabilities. Accounting records ensure correctness and completeness of entries. The chronology of economic events is observed. Entries in account books reflect the actual state, and data is entered in a complete and correct manner, based on accounting records qualified for entry. The continuity of entries and correctness of the applied procedures are ensured. Accounting records meet the requirements of the Act on Accounting. Account books of account are kept at the Company's registered office. There is a possibility to modify system functionalities in order to ensure the adequacy of technical solutions to the changing accounting principles and legal standards. The system includes documentation both in the part related to end users and the technical part. The system's documentation is subject to periodical verification and updating. The Company implemented organisational and system solutions in terms of ensuring proper use and security of data and hardware access protection systems. Access to the financial record system resources is restricted via proper rights, which are provided to authorised employees only to the extent of their responsibilities and activities.

The Company has an internal audit system aimed at aim conducting an independent and objective assessment of risk management and internal control systems. The internal audit is conducted pursuant to auditing regulations. The audit implements planned and temporary auditing tasks both within the parent company and the Group's companies. Audit plans are developed based on risk analyses. Audit results are reported to the Company's Management Board. Information on internal audit activity also constitutes the subject of analyses by the Audit Committee.

As part of the control activities, the periodic management reporting is subject to evaluation in terms of presented information, especially in the context of analysing the deviations from assumptions adopted in financial plans.

## **9.5. Shareholders holding significant blocks of shares**

The table below shows shareholders with significant blocks of shares, according to the best of Company's knowledge, based on notifications submitted to the Company.

*Table 21: Shareholders holding, directly or indirectly, significant blocks of shares (above 5%), pursuant to information held by the Company and based on notifications on the acquisition/disposal of Company shares, as at the date of report submittal\**

<i>Shareholder</i>	<i>Number of shares</i>	<i>Percentage share in share capital</i>	<i>Number of votes</i>	<i>The percentage share in the total number of votes</i>
Zygmunt Solorz (indirectly) through: Argumenol Investment Company Limited.	33 523 911	65.96%	33 523 911	65.96%
Nationale-Nederlanden Otwarty Fundusz Emerytalny	4 503 242	8.86%	4 503 242	8.86%
OFE PZU „Złota Jesień”	4 635 719	9.12%	4 635 719	9.12%
PTE Allianz Polska SA	3 720 890	7.23%	3 720 890	7.23%

\* According to the information held by the Company based on the provided notifications on acquisition/disposal of shares.

## 9.6. Holders of stocks providing special control rights

As at 31 December 2022 and as at the date of development of this statement, the Company has not issued stocks giving special control rights.

## 9.7. Restrictions on exercising the voting right

According to the Company's Articles of Association and other internal documents of the Company, as at 31 December 2022 and as at the date of development of this statement, there are no limitations regarding the execution of the voting right.

## 9.8. Restrictions on the transfer of the stock ownership right

As at 31 December 2022 and as at the date of development of this report, the Company is not in any way limited in terms of transferring the ownership to Company's stocks.

## 9.9. Rules of the appointment and dismissal of management and supervisory personnel

### Management Board

The Management Board is comprised of 3 to 6 members appointed for a joint term. The composition of the Management Board includes: President of the Board, Vice-Presidents and other Board members. The number of Management Board members and their functions are specified by the Supervisory Board. The Management Board's term is three years. The President, Vice-Presidents and other members of the Management Board are appointed and dismissed by the Supervisory Board in a secret ballot. The President, Vice-presidents and other members of the Management Board can be dismissed or suspended in duties also by the General Meeting.

The Management Board administers the Company's cases and represents the Company. The Management Board operates pursuant to applicable law, the Company's Articles of Association and Regulations of: the Management Board, Supervisory Board, Company Organizational Regulations, Work Regulations and Employee remuneration rules, as well as General Meeting resolutions.

Management Board's resolutions are required in cases exceeding common management, in particular:

- 1) adopting and changing the organizational rules that specify the organization of the Company's enterprise,
- 2) taking loans and borrowings,
- 3) proxy establishment,
- 4) granting loan guarantees and sureties,
- 5) acquisition and disposal of properties, perpetual usufruct or share in a property or perpetual usufruct.

Management Board's resolutions are also required in cases where the Board addresses the General Meeting and the Supervisory Board.

## **Supervisory Board**

The Supervisory Board is comprised of at least 5 members appointed for a joint term. The Supervisory Board's term is five years. The members of the Supervisory Board are appointed and dismissed during the General Meeting. The General Meeting, prior to the appointment of Supervisory Board members for a new term, specifies the number of members of the Supervisory Board. In a secret ballot, the Supervisory Board elects the Chairperson, Secretary of the Board, Deputy Chairperson and, if deemed necessary, two Deputy Chairpersons from among its members.

The Supervisory Board should include two members satisfying the criteria of independence provided for an independent supervisory board member within the meaning of the Committee's Recommendation of 15 February 2005 on the role of non-executive directors or directors who are members of supervisory boards in stock-exchange listed companies and (supervisory) board committees (2005/162/EC), taking into account the Good Practices of Companies Listed on the Warsaw Stock Exchange. A candidate for an Independent Supervisory Board Member provides the Company, prior to his/her appointment as a Board member, with a written declaration on meeting independence criteria.

Pursuant to the act of 11 May 2007 on expert auditors, audit firms and public supervision (cons. text., Dz. U. of 2022, item 1302), the Company has the status of a public interest entity within the meaning of this Act, therefore, should have an Audit Committee. The audit committee is composed of at least 3 members. At least one of the audit committee members has knowledge and skills in the field of accounting or auditing financial statements. Pursuant to the said act, most audit committee members, including its chairperson, must satisfy the criteria of independence from a given public interest entity.

The Board supervises the Company's activities in all areas of its operation.

The competence of the Supervisory Board includes issues reserved by the Code of Commercial Companies and the Company's Articles of Association, in particular:

- 1) examination of the Company's annual financial statement and consolidated financial statement both in terms of their conformity with the books, documents and the facts, examination of the annual report of the Management Board on the activities of the Company including an assessment of Management Board, and examination of the Management Board's proposal concerning profit distribution or loss coverage, and submission of a written report on the results of the above examinations to the Ordinary General Meeting,
- 2) preparation and presentation to the Ordinary General Meeting of a report on the activities of the Supervisory Board, evaluation of the Company's standing, evaluation of the manner in which the Company fulfils its information obligations, evaluation of the reasonableness of the Company's policy, including, among others, its pricing policy, as well as evaluation of the internal control system and the significant risk management system, in each of the aforementioned cases taking into account the corporate governance principles adopted by the Company,
- 3) approval and amendment of the Company's Management Board Regulations and the Company's Organisational Regulations,
- 4) approval of the Work Regulations and the Employee Remuneration Rules,
- 5) determination of principles and amounts of remuneration for Management Board Members,
- 6) suspension in duties due to significant reasons, in a secret ballot, of the Board's President, Vice-Presidents as well as other Management Board members or the entire Management Board,
- 7) delegating a Member or Members of the Supervisory Board for a period not exceeding three months to temporarily perform the duties of a Company's Management Board Member who has been dismissed, who has resigned or who is unable to perform his/her duties for other reasons,
- 8) determination of the remuneration for the Supervisory Board Member or Members delegated to temporarily perform the duties of the Management Board Member,
- 9) selection of an expert auditor to examine Company's financial statements,
- 10) the approval of the Company's and the Group's multi-annual operating programmes, including the Company's and Group's operating strategies, as prepared by the Management Board,
- 11) approval of the Company's quarterly and annual action plans, as well as the Group's quarterly and annual action plans, especially involving generation and revenue plans, type cost plans, unit cost plans, remuneration plans, investment plans as well as renovation and maintenance plans.
- 12) approval of the terms, plans and prices related to the Company purchasing or selling goods and services. to the extent determined by resolution of the Supervisory Board,
- 13) approval of bidder selection in the Company's tender procedures and approval of bids submitted by the Company under tender procedures, within the scope defined by resolution of the Supervisory Board,

- 14) approval of employment in the positions of a director, deputy director, expert or advisor, regardless of the grounds for such employment, in particular, under the employment relationship, as well as other legal relationships. The consent of the Supervisory Board is also required to modify or terminate the employment referred to above.
- 15) consent to seek, modify or waive any concession or permit referred to in Art. 4(2) of the Articles of Association, as well as to their transfer or provision to third parties,
- 16) consent to the Company issuing bonds other than bonds convertible into shares or bonds with pre-emptive rights,
- 17) approval of the plan of merger and division of the Company prior to its agreement, as well as a Company transformation plan.

In addition, the following matters fall within the competence of the Supervisory Board:

- 1) consideration of and giving opinions on cases submitted by the Board and comprising the subject of General Meeting's resolutions,
- 2) consent to any acquisition, disposal, subscription or encumbrance of shares in companies, as well as any title to shares in other than companies, entities and organisations,
- 3) consent to advance payment to shareholders on account of anticipated dividends,
- 4) consent to the conclusion by the Management Board of any agreement for the provision of consultancy services,
- 5) consent to the execution by the Company of any Qualified Legal Act subject to such exemptions, as may be provided for by a resolution of the Supervisory Board.
- 6) consent to any acquisition and disposal of properties, the right of perpetual usufruct or a share in property or perpetual usufruct, as well as to the establishment of a limited right in rem on properties, perpetual usufruct or a share in property, with a value up to the amount referred to in Art. 1(4) cl. 15 of the Articles of Association,
- 7) conclusion by the Company with an entity affiliated to the Company of a significant agreement within the meaning of the provisions on current and periodic information provided by issuers of securities admitted to trading on a regulated market, excluding typical agreements concluded by the Company on an arm's length basis in the course of its business,
  - a) consent to candidates proposed by the Company's Management Board to perform functions in the governing bodies of the Group's companies, designation by the Management Board of persons to perform functions in the bodies of companies and other entities in which the Company participates directly or indirectly.

At the request of the Management Board, the Supervisory Board grants Board members the approval to take positions in bodies of companies, in which the Company holds shares, as well as to receive remuneration in this regard.

## **9.10. Personal composition, its changes and a description of the activity of management and supervisory bodies**

### **Management Board**

In the financial year of 2022, the Company's Management Board composition was as follows:

- 1) Piotr Woźny – President of the Management Board,
- 2) Zygmunt Artwik – Vice President of the Management Board,
- 3) Maciej Nietopiel – Vice President of the Management Board,
- 4) Andrzej Janiszowski – Vice President of the Management Board,
- 5) Katarzyna Sobierajska – Vice President of the Management Board

The Management Board was not subject to any composition changes in 2022.

As at the date of publishing this statement, the Company's Management Board is composed as follows:

- 1) Piotr Woźny – President of the Management Board,
- 2) Zygmunt Artwik – Vice President of the Management Board,
- 3) Maciej Nietopiel – Vice President of the Management Board,
- 4) Andrzej Janiszowski – Vice President of the Management Board,
- 5) Katarzyna Sobierajska – Vice President of the Management Board.

### **Supervisory Board**

As at the beginning of the reporting period, the composition of the Supervisory Board was as follows:

- 1) Zygmunt Solorz – Chairman of the Supervisory Board,
- 2) Wiesław Walendziak – Deputy Chairperson of the Supervisory Board,

- 3) Tomasz Szela – Secretary,
- 4) Henryk Sobierajski,
- 5) Leszek Wysłocki,
- 6) Sławomir Zakrzewski,
- 7) Grzegorz Krystek,
- 8) Maciej Stec,
- 9) Alojzy Z. Nowak.

On 10 March 2022, the Extraordinary General Meeting of the Company's Shareholders determined the number of Company's Supervisory Board members and appointed three new members of the Company's Supervisory Board. On 30 March 2022, Mr Leszek Wysłocki stepped down as a member of the Company's Supervisory Board.

On 13 April 2022, the Company's Supervisory Board adopted a resolution to entrust Mr Piotr ak with the function of Deputy Chairman. On 22 April 2022, the Extraordinary General Meeting of Shareholders of the Company determined the new number of the Company's Supervisory Board members and dismissed Mr Grzegorz Krystek from the function of a Supervisory Board member.

On 19 December 2022, the Company's Supervisory Board enacted organizational changes among Supervisory Board members, with effect as of 1 January 2023.

On 13 April 2023, Mr Maciej Stec stepped down as a member of the Company's Supervisory Board. Given the above changes, as at the date of signing this report, the composition of ZE PAK SA's Supervisory Board is as follows:

- 1) Zygmunt Solorz – Chairman of the Supervisory Board,
- 2) Tobiasz Solorz – Deputy Chairman of the Supervisory Board,
- 3) Piotr ak – Deputy Chairman of the Supervisory Board,
- 4) Wiesław Walendziak – Secretary of the Supervisory Board,
- 5) Tomasz Szela – Supervisory Board Member,
- 6) Henryk Sobierajski – Supervisory Board Member,
- 7) Sławomir Zakrzewski – Independent Member of the Supervisory Board,
- 8) Alojzy Z. Nowak – Independent Member of the Supervisory Board,
- 9) Jarosław Grzesiak – Supervisory Board Member

Members of the Supervisory Board who satisfy the independence criteria referred to in Art. 129(3) of the Act of 11 May 2017 on expert auditors, audit firms and public oversight, and the principle 2.3. of Best Practice 2021 are: Sławomir Zakrzewski and Alojzy Z. Nowak.

In the execution of their code-based and statutory obligations in 2022, the Supervisory Board held nine sessions adopting a total of 160 resolutions.

During the reporting period, the Supervisory Board collectively supervised the Company's activities in all areas of its operation. The Board primarily focused on the following issues:

- 1) evaluation of statements developed for the financial year of 2021,
- 2) expressing consent on the Company's activities resulting in incurring liabilities valued in excess of PLN 500 thousand,
- 3) issuing opinions on the applications submitted by the Management Board with regards to cases related to the Company's current activities,
- 4) approving activities associated with the restructuring process in progress at the ZE PAK SA Capital Group,
- 5) discussing current activities undertaken by the Company in the field of investments, involving the creation of a second biomass-based generating unit at the Konin power plant, based on the existing coal-fired boiler and turbine generators,
- 6) implementation by the Company's Management Board of the ZE PAK SA Capital Group's energy transition through expanding the RES project portfolio.

### **Audit Committee**

In 2022, the Audit Committee debate in the following composition:

- 1) Sławomir Zakrzewski – Chairman of the Audit Committee,
- 2) Tomasz Szela,
- 3) Alojzy Z. Nowak.

A member of the Audit Committee with knowledge and skills in the industry in which ZE PAK SA operates is Mr Sławomir Zakrzewski, who acquired these through his extensive professional experience in the construction and energy



sectors, gained both domestically and abroad. A member of the Audit Committee with knowledge and skills in the field of accounting is Mr Tomasz Szeląg, who acquired these through his education and perfected them by holding numerous managerial positions requiring the said knowledge and skills. The members of the Audit Committee satisfying the criterion of independence are Mr. Sławomir Zakrzewski and Mr. Alojzy Z. Nowak.

The Company has developed a policy for the selection of the audit firm to conduct an audit and a policy for the provision of permitted non-audit services by the audit firm, entities affiliated with the audit firm and a member of the audit firm's network.

Main assumptions of the policy for selecting the audit firm to conduct the audit:

- 1) In accordance with the Company's Articles of Association, the body selecting the audit firm for the statutory audit is the Supervisory Board of the Company.
- 2) The statutory audit remuneration received by the audit firm or its subcontractors, may neither be subject to any conditions, including the outcome of the statutory audit, nor shaped or conditioned upon the provision of additional services that do not constitute the statutory audit of the Company or its affiliates.
- 3) The Audit Committee of the Company's Supervisory Board approves the procedure for the selection of the audit firm.
- 4) The Company draws up tender documents for the invited audit firms according to specified criteria.
- 5) The Company evaluates the bids submitted by audit firms according to the selection criteria specified in the tender documentation, prepares a report containing the conclusions of the selection procedure and submits it to the Audit Committee.
- 6) The Audit Committee recommends an audit firm selection to the Company's Supervisory Board.
- 7) If the decision of the Company's Supervisory Board regarding the selection of the audit firm deviates from the Audit Committee's recommendation, the Company's Supervisory Board shall justify the reasons for not following the Audit Committee's recommendation and communicate such rationale Company's General Meeting of Shareholders.

Main principles of the policy on the provision of permitted non-audit services to the Company by the audit firm, its affiliates and a member of the audit firm's network:

- 1) In implementing the provisions of the Act of 11 May 2017 on expert auditors, audit firms and public oversight ("AoEA"), the Company does not enter into agreements with the audit firm performing the audit, entities related to the audit firm and members of the audit firm's network for the provision of prohibited services within the meaning of Art. 136 of the AoEA.
- 2) To the extent not related to the Company's tax policy, the Company may commission the audit firm performing an audit or an affiliate of that audit firm or a member of that audit firm's network, with work that constitutes permitted non-audit services.
- 3) The legality of the performance of work referred to in point 2 shall be supervised by the Audit Committee. Prior to the Company commissioning the services referred to in point 2, the Audit Committee assesses the independence risk and liability securities referred to in Art. 69-73 of the AoEA.
- 4) The policy also lists the main types of permitted and prohibited services.

The recommendation for the selection of the audit firm to conduct the audit was made following a selection procedure organised by the Company that meets the applicable criteria and such recommendation meets the Company's conditions in terms of the auditor's product.

In 2020, the Audit Committee of the ZE PAK SA Supervisory Board adopted a Resolution on the recommendation of the Audit Committee to the Company's Supervisory Board regarding the selection of an audit firm to conduct statutory audits and reviews of the consolidated and individual financial statements of ZE PAK SA and the individual financial statements of the companies within the ZE PAK SA Capital Group, prepared for the years 2020-2022.

In May 2021, the Audit Committee of the ZE PAK SA Supervisory Board adopted a Resolution on the approval of the auditor to evaluate the reports on the remuneration for the Management Board and the Supervisory Board of ZE PAK SA, prepared for the years 2019-2020, 2021 and 2022.

The Audit Committee of the ZE PAK SA Supervisory Board met with the representatives of the Company twice in 2022.

## **9.11. Operation procedure of the General Meeting, its key powers and a description of shareholders' rights and how to exercise them**

### **General Meeting**

The General Meeting is held in cases specified in the Code of Commercial Companies, as well as the Company's Articles of Association. The General Meeting, as a rule of thumb, is convened by the Company's Management Board and debates as ordinary or extraordinary. In case of summoning a General Meeting by an entity or body other than the Company's Board, the Board is obligated to cooperate with the entity or body in order to take any legally specified actions required to summon, organize or hold a General Meeting. Since the first day of the Company's shares being listed on the regulated market of the Giełda Papierów Wartościowych w Warszawie SA (Warsaw Stock Exchange), General Meetings can take place with via electronic communication devices. The decision on organising a General Meeting through electronic communication devices is made by the Company's Supervisory Board.

The General Meeting takes place in Warsaw or at the Company's registered office. The General Meeting shall be broadcast in real time, with a link to the video broadcast of the General Meeting made available on the Company's website after the debates are closed.

The General Meeting of ZE PAK SA shall be convened by way of announcement on the Company's website and in the manner set out for the transmission of current information pursuant to the provisions on public offering and the conditions for introducing financial instruments into the organised trading system and on public companies.

The materials made available to shareholders in relation to the General Meeting, including drafts of resolutions proposed for passing, as well as other important materials are made available by the Company at <http://ri.zepak.com.pl/>.

The basic competencies of the General Meeting include:

- 1) examination and approval of the Management Board's statement of the Company's activities, as well as the financial statement for the previous accounting year, and granting a discharge to the members of Company's bodies on account of their fulfilment of duties,
- 2) distribution of profit and loss coverage,
- 3) change in the subject of Company's activities,
- 4) amendments to the Company's Articles of Association,
- 5) increase or decrease of the share capital,
- 6) authorisation of the Management Board to acquire own shares for redemption,
- 7) appointment and dismissal of Supervisory Board members,
- 8) determining the remuneration of Supervisory Board members,
- 9) Company merging, division and transformation,
- 10) Company termination and liquidation,
- 11) emission of convertible bonds or bonds with right of priority and subscription warrants,
- 12) disposal and lease of an enterprise or its organized part, and establishing a limited right in rem thereon.
- 13) establishment and cancellation of the Company's capitals and funds,
- 14) conclusion by the Company of a credit, loan, surety or other similar agreement with a member of the Company's Management Board, Supervisory Board, proxy or Company liquidator or for any of these persons,
- 15) conclusion by a subsidiary of a credit, loan, surety or other similar agreement with a member of the Company's Management Board, Supervisory Board, proxy or Company liquidator or for any of these persons,
- 16) any decisions regarding claims for remedy of damage done during the Company's establishment or executing management or supervision, as well as
- 17) use of share capital.

People who are shareholders 16 days prior to the date of the General Meeting have the right to participate in the General Meeting. A prerequisite for admitting a shareholder to participate in a General Meeting is the shareholder providing a personal certificate on the right to participate in the General Meeting, issued by an entity handling the securities account.

A shareholder participates in General Meeting sessions and executes the right of vote in person or through a proxy.

A shareholder representing at least 1/20 of the Company's share capital is entitled to request specific cases to be included in the Company's General Meeting agenda. The request shall be submitted to the Company's Management Board no later than 21 days prior to the Company's General Meeting.

The shareholder who requests to include specific cases in the General Meeting's agenda should demonstrate the possession of an appropriate number of shares at the date of request submission, attaching a deposit certificate to the request, issued by the entity keeping the stocks account.

The shareholder representing at least 1/20 of the Company's share capital can submit resolution drafts regarding the cases introduced into the General Meeting's agenda or cases which are to be introduced into the agenda in written or electronic form and prior to the date of the General Meeting.

During the General Meeting, each of the shareholders authorised to participate in the General Meeting can submit drafts of resolutions in terms of cases introduced into the agenda.

Resolutions by the General Meeting are adopted by an absolute majority of votes cast, unless the Code of Commercial Companies stipulates otherwise. One Company share entitles to one vote at the General Meeting.

## **9.12. Description of rules regarding amendments to the Company's Articles of Association**

Amendments to the Company's Articles of Association pursuant to the Code of Commercial Companies and provisions of the Company's Articles of Association, require the General Meeting to pass a suitable resolution and an entry into the register of entrepreneurs. The General Meeting can authorize the Company's Supervisory Board to determine a consolidated text of the amended articles of association or to introduce editorial changes specified in the General Meeting's resolution. The amendments to the Articles of Association become binding upon being entered into the register of entrepreneurs. In 2021, one amendment was made to the Company's Articles of Association concerning a change of the Company's name from Zespół Elektrowni Pątnów-Adamów-Konin Spółka Akcyjna to ZE PAK Spółka Akcyjna, and therefore, a consolidated text of the Articles of Association was adopted and made available on the Company's website.

On 10 March 2022, the General Meeting of Shareholders adopted the new, amended and consolidated text of the Company's Articles of Association, which was filed with the National Court Register and is effective as of the date of the National Court Register (KRS) registering the change in the Register of Entrepreneurs, i.e., as of 14 June 2022.

## **9.13. Information on the remuneration system and the remuneration amount for management and supervisory personnel**

The remuneration system at ZE PAK SA is based on the Corporate Collective Labour Agreement for ZE PAK SA employees as of 19 October 2021 (CCLA). Only members of the Management Board, the chief accountant and key managers with management contracts are not subject to the provisions of the Collective Labour Agreement. The Company's Collective Bargaining Agreement entered into force on 1 January 2022, which results from the procedure for registering the agreement with the Regional Labour Inspector in Poznań.

The basic employee remuneration components contained in the CCLA include an individual monthly basic salary, a monthly statutory bonus, a length-of-service bonus, an annual bonus, and a post-employment benefit and allowances. The employees are also entitled to receive awards from the Management Board President's Fund and social benefits.

The Management Board determines the principles of remuneration for key managers under individual contracts. The basic remuneration component is the base salary. Key managers are entitled to receive a discretionary bonus awarded by way of a decision of the Management Board. Key managers are also entitled to certain components under the Collective Bargaining Agreement.

Members of the ZE PAK SA Management Board are paid under individual management contracts, the content of which is developed by the Supervisory Board of the Company. In 2020, the Ordinary General Meeting of the Company adopted the "Remuneration Policy for Members of the Management Board and Supervisory Board of ZE PAK SA". The Policy is aimed at ensuring a constant increase in the value of the Company, the implementation of which by the Management Board and the Supervisory Board requires – among other things – an appropriate shape of the remuneration structure for the Management Board and Supervisory Board members throughout the entirety of their duties. This is achieved by limiting the remuneration of these individuals to a fixed portion, allowing them to perform their duties with respect to the Company's overall business without limiting themselves to achieving selected goals only. The volatility of the market, social and economic situation, as well as the need to respond flexibly to emerging business risks and opportunities, do not justify the rigid definition of such objectives. The need to respond flexibly to changing situations and emerging challenges is ensured – in the case of the Management Board boards – by the possibility of granting them bonuses. This provides the flexibility to ensure the stable existence of the Company and its long-term interests. Management Board members are entitled to a monthly salary. They can also be granted a discretionary award. No severance pay is anticipated in the event of a dismissal from the Management Board. There are no provisions on compensation in the event of a discharge due to a merger or acquisition.

The Company does not have an incentive or bonus program based on the Company's capital.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 22: Information on the value of remuneration in 2022 paid by the Company and the Company's subsidiaries to all acting Management Board members in 2022*

<i>Name and surname of the Management Board member</i>	<i>PLN thousand (Gross) remuneration paid by the Company</i>	<i>PLN thousand including variable elements of remuneration*</i>	<i>PLN thousand (Gross) remuneration paid by the Company's subsidiaries</i>	<i>PLN thousand In total:</i>
Piotr Woźny	813.78	0.00	0.60	814.38
Zygmunt Artwik	636.00	0.00	0.50	636.50
Maciej Nietopiel	420.00	0.00	0.80	420.80
Andrzej Janiszowski	393.78	0.00	0.40	394.18
Katarzyna Sobierajska	600.00	0.00	0.00	600.00
<b>Total</b>	<b>2 863.56</b>	<b>0.00</b>	<b>2.30</b>	<b>2 865.86</b>

\* Variable remuneration components included awards and bonuses, severance pays for dismissal of the Management Board, equivalents for holiday leave and retirement benefits.

*Table 23: Information on the value of non-cash benefits in 2022 granted by the Company and the Company's subsidiaries to all acting Management Board members in 2022*

<i>Name and surname of the Management Board member</i>	<i>PLN thousand Total estimated value of non- cash benefits granted by the Company</i>	<i>PLN thousand Total estimated value of non-cash benefits granted by the Company's subsidiaries</i>	<i>PLN thousand Total</i>
Piotr Woźny	0.0	0.7	0.7
Zygmunt Artwik	0.0	-	0.0
Maciej Nietopiel	10.21	-	10.21
Andrzej Janiszowski	0.0	-	0.0
Katarzyna Sobierajska	0.0	-	0.0
<b>Total</b>	<b>10.21</b>	<b>0.7</b>	<b>10.91</b>

The total amount of remuneration, understood as the value of remuneration, bonuses and benefits received in cash, in kind or in any other form, paid by the Company and the Company's subsidiaries to Management Board members in 2022 amounted to PLN 2 876.77 thousand. The given amount must be treated as the gross value of remuneration paid or due in the period from 1 January to 31 December 2022.

The members of the ZE PAK S.A. Supervisory Board are remunerated under Resolution No. 12 of the Extraordinary General Meeting of 15 April 2019, which set the monthly salary for the Chairperson of the Supervisory Board at PLN 15 thousand, Deputy Chairperson of the Supervisory Board at PLN 12 thousand, and for other members at PLN 10 thousand.

*Table 24: Information on the value of remuneration, as well as the value of non-cash benefits paid by the Company in 2022, as well as the Company's subsidiaries to all acting Supervisory Board members in 2022*

<i>Name and surname of the Supervisory Board member</i>	<i>PLN thousand Value of (gross) remuneration paid by the Company and the Company's subsidiaries</i>	<i>PLN thousand Total estimated value of non- cash benefits granted by the Company and the Company's subsidiaries</i>	<i>PLN thousand Total</i>
Zygmunt Solorz	180.00	0.0	180.00
Tomasz Szelaǵ	120.00	1.4	121.40
Wiesław Walendziak	144.00	1.4	145.40
Leszek Wysocki	39.67	0.8	40.47
Sławomir Zakrzewski	120.00	0.0	120.00
Jarosław Grzesiak	87.10	0.0	87.10
Alojzy Z. Nowak	120.00	0.0	120.00
Maciej Stec	120.00	0.0	120.00
Piotr Źak	102.30	0.0	102.30
Grzegorz Krystek	48.19	0.9	49.09

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Tobias Solorz	87.10	0.0	87.10
Henryk Sobierajski	120.00	0.0	120.00
Total	1 288.36	4.5	1 292.86

The total amount of remuneration, understood as the value of remuneration, bonuses and benefits received in cash, in kind or in any other form, paid by the Company and the Company's subsidiaries to the Supervisory Board in 2022 amounted to PLN 1 292.86 thousand. The given amount must be treated as the gross value of remuneration paid or due in the period from 1 January to 31 December 2022.

The Company has no liabilities associated with pensions and benefits of a similar nature towards former executives, supervisors or former members of administrative bodies and no liabilities incurred in connection with such pensions.

## 10. DECLARATION REGARDING THE DIVERSITY POLICY

With reference to Art. 70(6) cl. 5 let. m) of the Regulation of the Minister of Finance of 29 March 2018 on current and periodic information, the Company declares that no separate document describing the diversity policy with regard to the Management Board and the Supervisory Board has been adopted in the ZE PAK SA Group and in ZE PAK SA. According to standards applicable at the Company, such objective criteria as knowledge, experience, competences and skills required to hold assigned functions are decisive when selected management and supervising personnel. In the Company's opinion, the cited criteria can ensure effective and efficient operation of the Company and the implementation of the adopted strategy. At the same time, other management solutions related to the issue of diversity management have been adopted. The Group is highly committed to high corporate culture standards and the creation of a working environment free from any form of discrimination. Employees are appraised based on their performance and not gender, age, nationality or ethnicity.

The restructuring process, which has been continuing for years, has meant that most vacancies had been filled through internal recruitment (as part of transfers between departments and companies). As a side effect of the measures to reduce lay-offs and focus the recruitment process on people already employed in the Group's companies, there was no significant inflow of young employees and, thus, the average age of the workforce increased. At some point this could lead to numbers of significant retirement leaves and staff shortages. Therefore, the ZE PAK SA Group actively monitors changes in the workforce age structure to avoid the adverse consequences of losing a large proportion of experienced employees without adequately preparing their successors.

At the same time, the Code of Ethics adopted within the Company includes both a diversity policy, which guarantees equal treatment regardless of gender, age, worldview, religion, political views, etc. The document constitutes a tool for reporting potential incidents of discrimination on any grounds. It defines desirable and undesirable behaviour within the organisation, while simultaneously constituting its ethical policy. Due to its nature, it also incorporates elements of the anti-discrimination policy, anti-corruption policy and procedures for reporting violations and irregularities, non-compliance with legal obligations, occupational health and safety and environmental safety hazards, unfair competition practices and attempts to conceal any of the above. It applies to all employees, regardless of their position or seniority. In 2020, the Code of Ethics was also implemented in other Group companies.

The Company also adopted the Procedure for whistleblowing violations of the Act on Public Offerings and Conditions for Introducing Financial Instruments to the Organised Trading System and on Public Companies, Regulation 2017/1129 and Ethical Procedures and Standards, which gives employees the possibility to report inappropriate unsafe or unethical behaviour by their employers in a safe and simple manner, as well as providing full protection to the whistleblowers. The Company also adopted the Whistleblowing Regulations 2021, which sets out the Company's internal whistleblowing procedure, follow-up procedure and whistleblower protection procedure.

Both the Code of Ethics and the Whistleblowing Procedure can be found on the Company's Intranet site.

The Company currently believes such solutions to be sufficient.

Figures related to diversity of the Company's and the Group's Management Board and Supervisory Board can be found in this report, in the 2022 Non-Financial information statement in the subsection – "Employee Issues".

## 11. COMPANY MANAGEMENT BOARD'S NON-FINANCIAL INFORMATION STATEMENT FOR 2022 FOR THE CAPITAL GROUP

The published statement on non-financial (ESG) data has been prepared **with reference** to **GRI Standards 2021**, i.e., a recognised international standard for non-financial reporting. Employing the reporting approach and, above all, the indicators of this standard, will significantly simplify for the Group's stakeholders to find key information and compare it with the performance of other companies in the mining and energy industries. Also, to this end, the indices of the various indicators of the standard have also been marked in the text. At the same time, with the entry into force of the new EU Sustainability Reporting Standards (ESRS), implementing the so-called CSRD directive, the ZE PAK SA Group declares to transfer its reporting to the platform of a new standard. In fact, already today some of the reported indices are identical or close to those included in the draft EU Sustainability Reporting Standards (ESRS).

[2-2, 2-3, 2-5] This statement covers all the companies of the ZE PAK SA Capital Group included in the consolidated report of the management board. It refers to the period from 1 January 2022 to 31 December 2022, with an indication of significant events that occurred after 31 December 2022 and prior to signing the statement. The statement on non-financial data has not been attested by an independent auditor.

In addition to the aforementioned GRI Standards 2021, in defining the scope of the content described in the statement, the ZE PAK SA Group took into account:

- the PN-ISO 26000 standard,
- the requirements of Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector, specifically, information relevant to financial market institutions indicated in the document entitled *Final Report on draft Regulatory Technical Standards*,
- "Best Practice for WSE Listed Companies 2021" ("DPSN2021"),
- draft EU Sustainability Reporting Standards (ESRS).

Already at the stage of defining the scope of last year's non-financial data (ESG) statement, the scope of published information, i.e., key reporting areas, was supplemented with aspects directly related to the **Group's transition strategy and the transformation of its business model to a sustainable one**. In other words, last year's and also this year's non-financial reporting process entailed an intra-organisational discussion with a third-party expert to understand the impact of the change in the business model on the nature of the relationship with the environment and, subsequently, the resulting potential changes in the nature of the impact, both positive and negative, on the social, environmental and business environment. Therefore, the aim was to capture not only the current impact, but its dynamics and potential future nature. The materiality assessment and prioritisation of issues conducted in subsequent steps contributed to defining the scope of the statement in a way that refers to the logic for defining material issues described in **GRI 3: Material Topics 2021**.

The already ongoing transformation of the business model aimed at a gradual but also fairly rapid decarbonisation of the business model, including the energy generation model, assumes commissioning new generation sources based on RES, while simultaneously phasing out lignite extraction and energy generation based on this fuel. At the same time, it also assumes expanding the activities with a value chain related to the production and subsequent use of hydrogen. These activities are associated **with significant investments (CapEx) in the activities described by the so-called "taxonomy"**<sup>7</sup>, **gradually emerging operating costs (OpEx) on these activities, as well as an increasing share of revenues from activities considered environmentally sustainable**.

Implementing the said transition today underpins the business development strategy of the ZE PAK SA Group. These aspects are simultaneously also a key element of the new sustainable development strategy, which was developed at the turn of 2022 and 2023. Using targets for the following years, it describes in a tangible way both the investments in new generation assets and the gradual generation process decarbonisation, as well as the phasing out of the current lignite-based mining and generation activities. It also refers to plans associated with long-term reclamation and restoration of brownfield and post-mining sites, as well as the effects of the transition on the local labour market. At the same time, it also sets targets for the ongoing impact on both the environment and the socio-economic situation in the region.

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<sup>7</sup>Regulation of the European Parliament and of the Council (EU) 2020/852 of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.

## 11.1. Business model description

[2-6] The ZE PAK SA Capital Group is one of the most important energy producers on the Polish market. At the same time, it is an important element of the country's energy system, co-guaranteeing its stable functioning. Particularly, which is noteworthy in the current geopolitical situation, its energy generation is entirely based on domestic fuel – lignite comes from local deposits and biomass burned in Konin is also domestic-based. Therefore, **energy generation within the ZE PAK SA Group is not dependent on fuel import** and the associated risk. ZE PAK SA Group:

- is the second largest national producer of electricity from lignite,
- is the fifth largest producer of electricity in Poland.
- remains the largest private (not controlled by the State Treasury) energy group in Poland.

Through the prism of current operations, the companies of greatest importance to the ZE PAK SA Group continue to be ZE PAK SA in terms of conventional electricity and heat generation and PAK KWB Konin SA in terms of lignite mining. The Group also includes other companies that deal with, among others, the execution of construction and installation work, maintenance work, services, manufacturing and trade activities, aimed at fulfilling the demands and providing comprehensive services to the industry.

### Impact of the risk associated with climate change on the business model

The ZE PAK SA Group is aware of the ongoing climate change and, consequently, the associated direct and indirect risk, in terms of both regulations and operations, as well as business opportunities that the energy transition opens up for the company. Therefore, **the Group is planning actions associated with a thorough transformation of its business model towards sustainable economy in advance**. This involves a direction towards environmentally sustainable actions, in line with EU systematics (so-called taxonomy) and meeting these criteria.

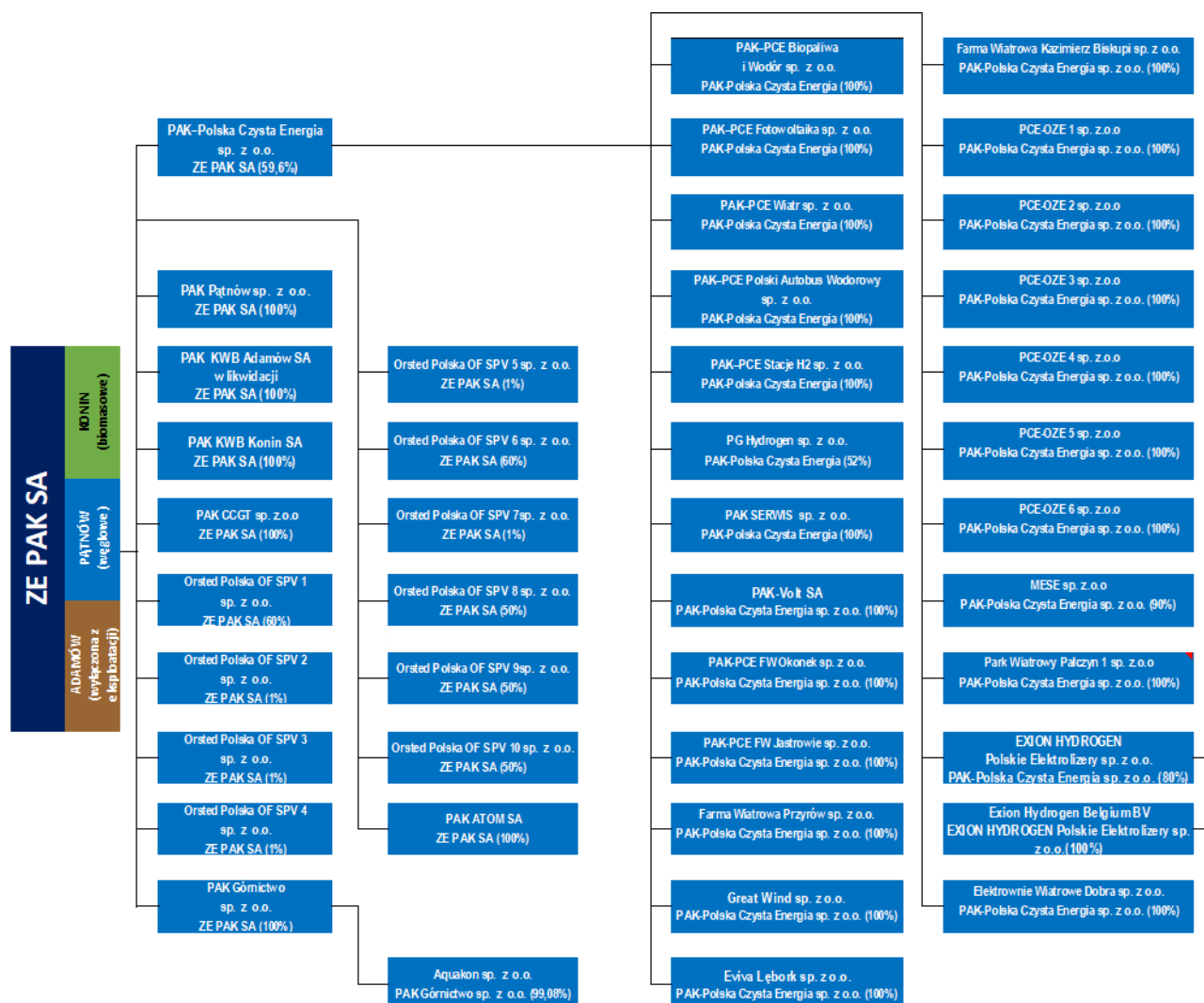
The international community, including EU Member States, in ratifying the Paris Agreement has committed to take actions aimed at stopping the global temperature rise, which results from the excessive, anthropological greenhouse gas emission. Adopted in 2015, it is the first universal, legally binding climate deal in history. As a result, EU countries committed to jointly take actions making EU economy in 2050 the first economy in the world to reach climate neutrality. This commitment determines the economic policy in terms of sustainable development, and thus, EU regulations. As a result, companies emitting significant amounts of greenhouse gases will come under increasing pressure - among others, it will be increasingly difficult for them to acquire funding for their activity, and the emission costs will continue to grow.

Traditionally, conventional generation assets of the Group, based on generating energy through lignite combustion, are of the high-emission type. Therefore, since they are becoming less and less profitable, they require replacing with more eco-friendly sources. Simultaneously, the already observed climate change consequences may additionally hinder functioning under a traditional model.

Thus, the ZE PAK SA Group, already several years ago, initiated first projects eventually included in the development directions of the strategy until 2030.

The directions of activities aimed at making the business model more sustainable have then been thoroughly described, also using measurable indicators, in the sustainable development strategy of the ZE PAK Group for the years 2023-2027. Business model transition falls in line with the directions outlined in EU systematics (so-called taxonomy), assuming, among others:

- complete and quick phase-out from lignite extraction and gradual decommissioning of the production based on this fuel in the baseline scenario by the end of 2024,
- significant investments in generation assets enabling energy generation based on low- and zero-emission sources described in the taxonomy, including wind and photovoltaics, and electricity and thermal energy generation based on biomass, fossil gas fuels and nuclear fuel, i.e., activities in line with the so-called EU systematics (taxonomy).
- development of activities in the field of production and utilization of green hydrogen fuel.



The Group's generation-related assets include two power plants located in the Wielkopolskie Province, in central Poland. **The Patnów Power Plant** generates energy using lignite in 4 power units with a total capacity of 1 118 MW. **The Konin Power Plant**, a former coal-fired power plant, today operates 2 biomass units with a total generating capacity of 105 MW (50 MW and 55 MW) and generates electricity and heat from biomass. The second unit was commissioned in April 2022. As of October 2021, the ZE PAK SA Group's generating assets have expanded to include a **70 MWp photovoltaic farm** located in the Brudzew commune.

The Adamów Power Plant, originally part of ZE PAK SA, was shut down at the beginning of January 2018. The decommissioning of power plant units was dictated by the decision of the European Commission acting on the basis of the derogation described in the directive of 24 November 2010 and stating the need to terminate the operation of generation assets of the Adamów Power Plant at the beginning of January 2018. Currently, the decommissioning work within the power plant site have been completed, the site of the former power plant has been cleaned and prepared for the construction of a new gas and steam unit. In 2022, the entity won a capacity market auction, offering 493 MW of availability for a period of 17 years as of 2026 – associated with the new investment project, namely, a gas and steam unit.

The Group's mining assets are concentrated in PAK KWB Konin SA, which operates the Józwin and Tomisławice open pits. Coal mining at the Józwin open pit will continue until no later than mid-2023. The Drzewce open pit was also exploited in H1 2022, but ended extraction on 11 August 2022. The Tomisławice open pit is planned to operate until the end of 2024.

As time goes by, the companies focused around PAK – Polska Czysta Energia sp. z o.o., which are responsible for the implementation of projects in the field of energy generation based on renewable sources, production of “green” hydrogen and its utilisation, are becoming increasingly important. **Today, the ZE PAK SA Group is the energy sector leader**



**when it comes to green transition.** Having so far been a producer of conventional energy from high-carbon sources, already back in 2020 the Group **initiated the most ambitious strategy for the transition from coal to green energy in Poland - it announced, among other things, a complete coal phase-out by 2030 at the latest, but the current base scenario is to end coal mining and combustion as early as 2024.**

The ZE PAK SA Group, which consists of vertically integrated entities operating in the fields of lignite mining and conventional lignite and biomass power generation and energy trading, is investing heavily in zero- and low-carbon power generation, including renewable energy sources (RES) – worth in this respect are:

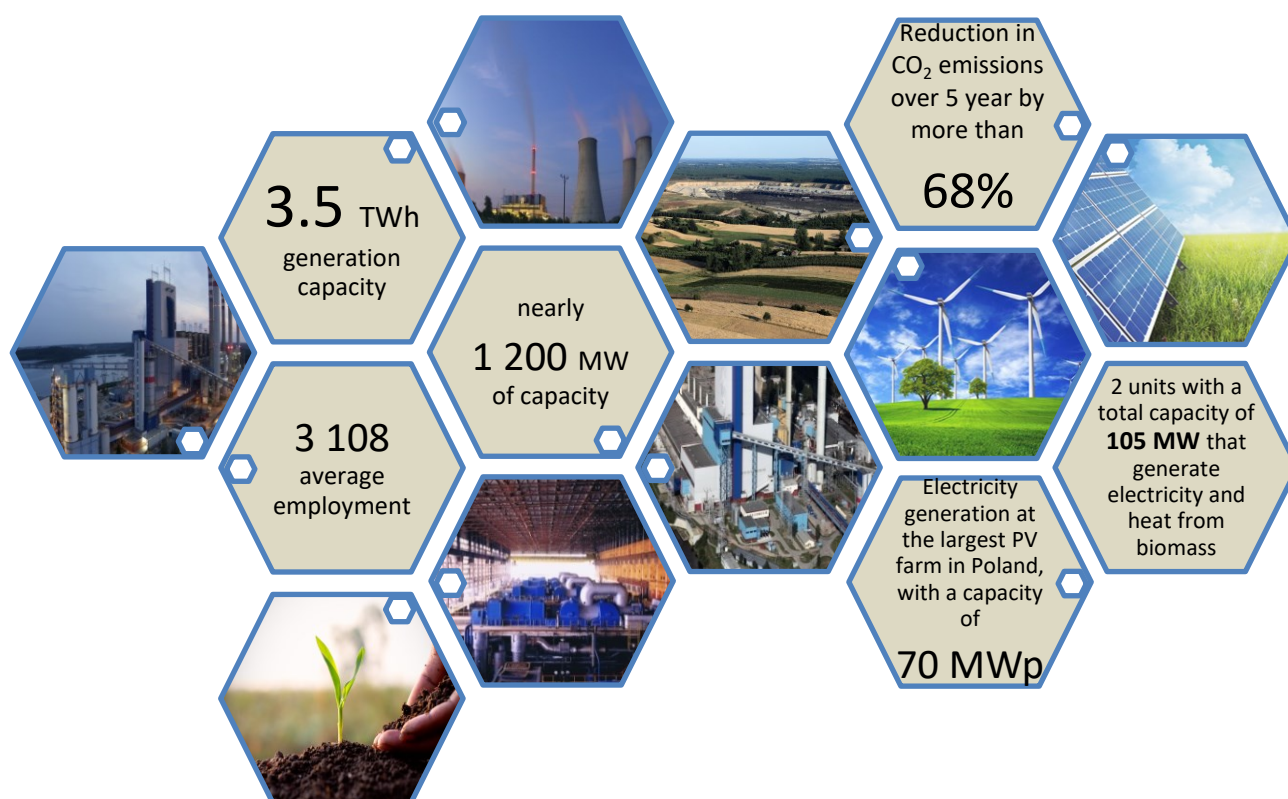
- two biomass units commissioned and in operation at the Konin Power Plant,
- the 70 MWp photovoltaic farm in the Brudzew commune, which has been in operation since 2021,
- Cambria Photovoltaic Farm with a capacity of 12.4 MWp (under construction),
- Kazimierz Biskupi Wind Farm with a capacity of 17.5 MW (under construction),
- Miłosław Wind Farm with a capacity of 9.6 MW (under construction),
- Przyrów Wind Farm with a capacity of 50.4 MW (under construction),
- Człuchów Biskupi Wind Farm with a capacity of 72.6 MW (under construction),
- Drzeżewo IV Wind Farm with a capacity of 50.6 MW (under construction),
- planned construction of a 600MWe CCGT unit in the Adamów Power Plant,
- planned construction of offshore wind farms in cooperation with a third-party partner,
- planned construction of a nuclear power plant in Pątnów together with third party partners.

The best example of the feasibility of investing in sustainable generation sources can be the commissioning of the largest photovoltaic farm in Poland in 2021, and the commissioning of the second biomass unit in 2022. Consistently, the vast **majority of the Group's revenues are generated by the sales of generated electricity; however, its origin, i.e., generation method, will be subject to change.** The baseline operating model for the coal segment assumes the use of currently exploited open pits and no new investments in this area. The generation of energy in the coal-fired units at the Pątnów I power plant will be reduced until the operation of a support mechanism in the form of a capacity market or any other that will ensure the economic effectiveness of such operations. The ZE PAK SA Group assumes **that ceasing energy production at the ZE PAK SA Group's coal-fired sources is planned for the end of 2024.** At the same time, as coal operations are phased out, new areas will be developed, wherein the ZE PAK SA Group intends to establish itself. The Group's new development directions focus on low-emission and emission-neutral ways of generating electricity, as well as the production and use of “green” hydrogen.

Within its transition-related operations, the Group is also active in the field of construction projects covering wind farms in the Baltic Sea (offshore). It is also planned to use the assets of the Pątnów Power Plant for the needs of a potential nuclear power plant construction. Both aforementioned projects are developed in cooperation with third-parties.

The first step to implement the outlined direction was the establishment of PAK – Polska Czysta Energia sp. z o.o. within the Group's structure, which is intended to separate the activities in the field of renewable energy sources from those related to the generation of coal-based energy. Special-purpose subsidiaries responsible for individual areas of activity were also established.

The ZE PAK SA Group in a few numbers:



### Investments in sustainable transition

[203-1] 2022 was the year that saw Poland's largest solar power plant in Brudzew (70 MWp) already operating at full capacity. It is also the year in which the second biomass unit at the Konin Power Plant was commissioned, the prototype of a Polish bus powered by hydrogen cells officially premiered and other investment projects that will soon expand the sustainable generation assets of the ZE PAK SA Group were also commenced. Plans to build another large-scale photovoltaic power plant with a capacity of approximately 180 MWp in the Przykona commune should also be mentioned. Like the Brudzew power plant, it will be constructed on post-mining land (an area originally used by PAK KWB Adamów). Further wind farm projects were also acquired in 2022.

Between 2020 and 2021, approximately 900 ha (formerly used by KWB Adamów) was prepared within post-mining land for the future generation of sustainable energy, and work on setting out a further approximately 1 400 ha (formerly used by KWB Konin) was ongoing in 2022. All these investment projects are part of the activities included in the so-called EU systematics ("taxonomy").

### **A second biomass unit in the Konin Power Plant**

[203-1] The second biomass unit at the Konin Power Plant was commissioned in April 2022. The aim of the task was to adapt the infrastructure previously used to generate energy and heat from lignite to burn biomass. This way, a second biomass unit was created at the Konin Power Plant. In addition to generating energy for the National Power System, it is also an emergency source for heat generation if the biomass heating unit currently operating at the Konin Power Plant is shut down.

The boiler was fired at the end of 2021, obtaining rated turbine speed, followed by the synchronization of the biomass unit with the National Power System. Unit tests required by PSE were conducted with positive results. The final stage of acceptance work covering the modernised unit was a trial run, which also ended with a positive result. The trial run also involved taking measurements to verify that the guaranteed technical parameters had been achieved by the modernisation contractors. Owing to the modernisation, the Konin Power Plant is able to generate 105 MWe (a 55 MWe unit and a second 50 MWe unit) using biomass as the primary fuel.

The contractor for the reconstruction of the coal-fired boiler to a fluidised-bed boiler operating under the BFB technology and adapting it to biomass combustion was Valmet Technologies Oy, based in Espoo, Finland. The task also involved the construction of so-called technology islands (TG5 turbine, G5 generator, biomass feeding system and electrostatic precipitator ash removal system, electrostatic precipitator, unit digital control system).



[203-1] In 2022, the ZE PAK SA Group completed a major project to adapt the K-7 coal-fired boiler at the Konin power plant for exclusive biomass combustion, together with the required technical infrastructure, and commenced the construction of a wind farm in the Miłosław commune. The 70 MWp photovoltaic farm within the Brudzew commune was commissioned already back in late 2021 and is already generating electricity at full capacity. 2022 also saw the official launch of the hydrogen bus. Moreover, investment activities focused also on the launch of hydrogen generation and distribution projects, construction of a hydrogen bus factory and new wind farms, as well as preparations for the implementation of further renewable energy sources and task necessary to ensure the maintenance of ongoing efficiency and a more effective utilization of the extraction and generation assets.

### **Prototype of a bus powered by hydrogen fuel cells and a hydrogen bus factory.**

[203-1] The Polish Hydrogen Bus project was launched in September 2020. The aim was to develop a design of a new eco-friendly hydrogen fuel cell-powered bus from scratch.

The project involved conceptual work and technical analyses related to selecting the main bus components (hydrogen cells, cylinders, batteries and propulsion). Calculations were made to ensure the highest overall energy efficiency of the designed bus. In order to achieve maximum range, a modular installation of hydrogen cylinders pressurized at 350 and 700 bar was developed.

The construction work involved designing a new bus arrangement, taking into account trends in ergonomics and a modern appearance, dedicated to hydrogen-powered buses. This constituted a base to develop prototype structural documentation of the bus.

The construction of a hydrogen bus prototype was completed in October 2021, followed by starting bus tests. An EU approval for the manufactured city bus was obtained on 20 April 2022. An official premiere and presentation of the bus named NesoBus took place on 30 May 2022. In the following months, the NesoBus was tested with the participation of several passengers on bus routes in numerous cities by municipal transport companies.

In December 2022, the Polish NesoBus Hydrogen Bus received the gold prize in the innovation category of the ESG Leaders 2022 competition organised by the Warsaw Stock Exchange, NN Investment Partners TFI and PwC Poland.

In August 2021, PAK – PCE Polski Autobus Wodorowy sp. z o.o. received a positive decision from the Agencja Rozwoju Przemysłu SA (Industrial Development Agency) regarding support for the implementation of a new investment project within the Special Economic Zone EURO-PARK MIELEC. The project will involve the construction of a manufacturing plant for buses powered by hydrogen cells, together with an office building and associated infrastructure.

In September 2021, the company purchased land for the construction of a future hydrogen bus factory in the Economic Activity Zone in Świdnik. Mostostal Puławy SA was chosen as the contractor for the task

On 23 August 2022, PAK – PCE Polski Autobus Wodorowy sp. z o.o. obtained a construction permit for the plant. The planned construction work completion date was set for 31 July 2023.



[203-1] Work was also underway in 2022 to make other investments in assets to enable renewable energy generation, and these investments are:

- Kazimierz Biskupi Wind Farm (7 turbines with a total capacity of 17.5 MW),
- Miłosław Wind Farm (4 turbines with a total capacity of 9.6 MW),
- Człuchów Wind Farm (33 turbines with a total capacity of 72.6 MW),
- Przyrów Wind Farm (14 turbines with a total capacity of 50.4 MW),
- Drzeżewo Wind Farm (23 turbines with a total capacity of 50.6 MW),
- Przykona photovoltaic farm with a rated capacity of approx. 200 MWp, at the former Adamów open pit site,
- Cambria photovoltaic farm with a capacity of 12.4 MWp, as the second stage of the 70 MWp Brudzew photovoltaic farm investment project.

In the case of the Kazimierz Biskupi and Miłosław wind farms, as well as the Cambria photovoltaic farm, the commissioning date is planned for Q3 2023. The rest of the aforementioned investments are planned to be commissioned by the Group in Q2 and Q3 2024.

The Group has also established cooperation with third-party partners to construct wind farms in the Baltic Sea (offshore) and utilize assets at the Pątnów Power Plant for the potential construction of a nuclear power plant.

All of the above-mentioned investment projects are part of sustainable development activities, including those described by the EU systematic (“taxonomy”).

## **Sustainable development strategy and social responsibility management**

The basis for the previous management approach was the ZE PAK SA Group's Social Responsibility Strategy for 2017-2020. It set key action lines and targets (KPIs) focused on optimising efficiency and continuously improving performance in the environmental and social dimensions on one hand, and ensuring compliance in areas of significant impact on the environment on the other.

Although the period covered by the strategy has come to an end, in the period 2021-2022, the lignite mining and conventional power generation areas employed the approach indicated therein, geared towards optimising the performance of the non-financial (ESG) indicators indicated in the strategy and ensuring compliance,

ZE PAK Group's ambitious development strategy, focused on a rapid transition towards clean power generation technologies and a radical reduction of its carbon footprint, initiated an internal reorganisation of the Group, including a discussion on functional strategies, also on the sustainability strategy. While the key areas of responsibility identified in the original strategy are still relevant, and the nature of the day-to-day impact of conducted operational activities will be diminishing in many areas, this will be a gradual process and will still require management attention. At the same time, however, the business model transition will mean new challenges and new aspects of responsibility towards the environment, which the new management approach and sustainability strategy had to be supplemented with.

The developed ZE PAK Group Sustainability Strategy for 2023-2027 takes into account ESG factors, i.e., these concerning the environmental impact (Environmental), social environment (Social) and corporate governance (Governance), and focuses on:

- business model decarbonisation and its transition towards a sustainable economy, as part of the energy transformation of the Eastern Wielkopolska region,
- in ESG areas, not directly related to the transition, on actions in line with the logic of striving to improve existing processes, typical of total quality management (TQM) and ensuring with legal requirements and expectations of the environment, at minimum.

Each of the seven objectives has been assigned metrics (KPIs) and their values, which they should achieve in the following years, as well as directions of activities or projects (also described by the metrics), which will be part of the implementation of the aforementioned objectives.

### **ZE PAK Group's sustainable development strategy for 2023-2027**

The strategy is based on the six following objectives, with the first three related to business transition and decarbonisation, and the next three to optimizing non-financial results of the business, and the last one is a management objective:

Goal 1: Transition towards zero- and low-emission energy.

Goal 2: Entering the hydrogen fuel and zero-emission automotive industries.

Goal 3: Responsible phase-out from the extraction (lignite) industry with respect for the social and natural environment.

Goal 4: Being a responsible regional employer.

Goal 5: Striving for circular economy (CE).

Goal 6: Being a good neighbour and member of the local community: limiting the impact of current operations on the social and natural environment.

Goal 7: Ensuring high-quality management system and its continuous improvement, taking into account social and environmental issues in the decision-making process.

All these goals have been assigned measurable objectives (KPIs):

	2023	2024	2025	2026	2027
<b>Goal 1: Transition towards zero- and low-emission energy.</b>					
% share of lignite-based energy	73%	77%	0%	0%	0%
direct CO2 emission volume related to energy generation per energy unit (1 MWh)*	1.07	0.88	-	-	-
direct CO2 emission volume related to energy generation*	1976	1356	-	-	-
installed capacity of low- and zero-emission assets (wind farms + photovoltaics + biomass)	209.5	332.5	390.9	713.5	713.5
installed capacity of zero-emission assets (wind farms + photovoltaics)	109.5	232.5	290.9	613.5	613.5
installed capacity of low-emission assets (biomass)	100.0	100.0	100.0	100.0	100.0
<i>*excluding biomass</i>					

<b>Goal 2: Entering the hydrogen fuel and zero-emission automotive industries.</b>					
hydrogen production volume (tonnes)	211	480	960	1 920	3 120
number of manufactured hydrogen buses	33	58	60	80	100
<b>Goal 3: Responsible phase-out from the extraction (lignite) industry with respect for the social and natural environment.</b>					
coal extraction (thous. tonnes)	1 200	2 300	-	-	-
reclaimed area (ha)	856	514	540	95	748
<b>Goal 4: Being a responsible regional employer.</b>					
employment level	2 800	2 600	1 450	1 200	1 020
average remuneration within the ZE PAK SA Group/average remuneration announced by the Central Statistical Office for the Konin subregion	≥100%	≥100%	≥100%	≥100%	≥100%
number of plant shut-down days related to strike actions	0	0	0	0	0
accident frequency rate	<100% of the previous year value	<100% of the previous year value	<100% of the previous year value	<100% of the previous year value	<100% of the previous year value
<b>Goal 5: Striving for circular economy (CE).</b>					
degree of economic utilization of flue gas desulfurization raw material	~100%	~100%	~100%	~100%	~100%
degree of economic utilization of combustion waste	≥100% of the previous period level	≥100% of the previous period level	≥100% of the previous period level	≥100% of the previous period level	≥100% of the previous period level
degree of economic utilization of demolition raw materials	~100%	~100%	~100%	~100%	~100%
degree of economic utilization of flue gas desulfurization raw material	~100%	~100%	~100%	~100%	~100%
<b>Goal 6: Being a good neighbour and member of the local community: limiting the impact of current operations on the social and natural environment.</b>					
number of major environmental accidents	"zero"	"zero"	"zero"	"zero"	"zero"
number of major social conflicts	"zero"	"zero"	"zero"	"zero"	"zero"
<b>Goal 7: Ensuring high-quality management system and its continuous improvement, taking into account social and environmental issues in the decision-making process.</b>					
number of significant penalties or sanctions associated with the violation of social or environmental interests, human rights or confirmed practices of corrupt, anti-market, monopolistic nature and related	"zero"	"zero"	"zero"	"zero"	"zero"

to the activities of the ZE PAK SA Group				
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All goals have been broken down into specific actions and projects that are part of their implementation, as well as reaching Sustainable Development Goals (SDGs).



## 11.2. Social issues

ZE PAK SA Group's policy and management approach towards social issues are set out in the ZE PAK Group Sustainable Development Strategy for 2023-2027 and are in principle consistent with the approach adopted in the earlier ZE PAK SA Group Social Responsibility Strategy for 2017-2020. This approach is also reflected in other internal regulations. It is also, in strictly defined cases, arbitrarily specified in administrative decisions permitting mining and generation operations at ZE PAK SA Group facilities and depends on the specifics of a given facility. Each time, however, the optimum solutions in this respect are sought by the Group based on, among others, public consultations and in observance of applicable law.

The ZE PAK SA Group's management approach towards social issues is determined by the nature of the Group companies' environmental impact. In particular, wherever the impact is or may be adverse and may involve certain nuisances for humans, the management approach is aimed at eliminating, reducing or compensating for these nuisances and, consequently, reducing the exposure of the ZE PAK SA Group to risk (also understood as risk to reputation or image).

The impact of the ZE PAK SA Group on the environment is multidimensional:

- **Overall social impact.** From the perspective of the general public, the ZE PAK SA Group is an important energy supplier for the Polish economy and society. However, the Group's main customers are not end consumers; the Group sells the vast majority of the energy it generates on the wholesale market. For this reason, the ZE PAK SA Group strives to ensure a stable supply of electricity at a competitive price.
- **Local communities adjacent to ZE PAK SA.** The ZE PAK SA Group's environmental impact is much broader spectrum from the point of view of the local community, i.e., understood as the community living in the immediate vicinity of the Group's plants, where electricity and heat generation and lignite mining are carried out. The exploitation of lignite seams and the generation of energy have a strong impact on the natural environment (see section: Environmental issues) and, as a consequence, most often the society.

### The impact of ZE PAK SA Group's transition on the social environment and future risks

[413-2] The transition of the ZE PAK SA Group towards a sustainable economy will involve a change in the nature of social impact. Above all, it will contribute to the reduction and gradual elimination of individual risk categories referred to above. Ceasing the exploitation of lignite deposits from new open pits, in relation to which the Group has applied for exploitation concessions, means that there will be no transformation of further new areas and no impact on, among other, surface waters in their vicinity. Already in December 2020, the management board ZE PAK SA confirmed the abandonment of investment projects involving the extraction of lignite and associated minerals from the deposits at: Piaski, Dęby Szlacheckie and Ościslowo. The phasing-out of energy production from lignite will entail shutting-down extraction from the currently exploited deposits. Their gradual liquidation and reclamation of the areas occupied by them. This will ultimately mean the elimination of nuisance to the public associated with, for example, noise or dust from mine sites and coal transport. Natural hydrographic conditions will also be gradually restored, no longer disturbed by artificial drainage of the mining area. Importantly, wherever land reclamation involves water reclamation, water reservoirs will be created, which will be part of nationwide water retention efforts. However, it is worth being aware that in the restoration of natural hydrographic conditions in the interim period may be entail their periodic disruption, which will be the result of depressional funnels filling with water and the associated reduction in the amount of water in certain surface watercourses. These, in turn, will additionally no longer be supplied with water pumped out of the mining areas.

The new activity types should not cause such a serious nuisance to the public environment as the lignite mines do today. The resulting photovoltaic farm, although it covers an area of approximately 100ha, has been located on reclaimed post-mining land, so its construction did not involve the exclusion of land from agricultural production, land purchases or relocation of residents. There are no large concentrations of people in its immediate vicinity. Anyway, the impact of the photovoltaic farm itself, apart from the transformation of the area, is limited.

At present, the ZE PAK SA Group has a limited number of wind turbines at its disposal, and the construction of wind farms must take into account the social impact on the surroundings in the form of disturbance to the landscape or the so-called *stroboscopic effect*. However, on one hand it seems that the restrictive regulations in force in Poland in this respect make it possible to limit potential nuisance, yet on the other, the construction of wind farms in post-industrial (post-mining) areas will mean that they will be moved away from population centres. The already announced plans to invest in nuclear energy may become a possible source of controversy and public concern, especially in relation to the local community or certain groups of ecologists. Nevertheless, it should be noted that conducted surveys commissioned by the Ministry of Climate and Environment show that the acceptance of Poles for the construction of a nuclear power plant in the country, including in the vicinity of their place of residence, is high. According to a communication by the Ministry of Climate and Environment: "The November 2021 survey indicates that 74% of respondents express support for nuclear power plants in our country, while 20% have an opposite opinion. There was an increase of 11% in supporters of this type of investment compared to 2020. It is particularly important that the majority of respondents (58%) support locating a nuclear power plant in the immediate vicinity of their residence. 39% object to this option. The number of supporters of building a nuclear power plant in the neighbourhood increased by 12% compared to the previous year." It is noteworthy that after announcing the intention to build a nuclear power plant, the ZE PAK SA Group did not face any public criticism, either on a national or local level. The ZE PAK SA Group does not expect other of its planned activities (biogas plants, hydrogen production and hydrogen-based motoring) becoming a source of public concern or generating significant public nuisance.

Thus, the nature of the nuisances associated with the operation of the ZE PAK Group will be changing as the transition progresses, but generally, the intensity of nuisances will decrease, and thus the level of social risk will be lower.



## Current social risks and management approach

[413-2] In relation to current sources of social risk, given the adverse impact on the natural but also on the social environment, first and foremost mention should be made of the **risks and nuisances, which are a source of social risk**, related to:

- **impact on site surface** (open pit mineral extraction involves site surface transformation; originally used land is replaced by spatial landforms (pit, spoil heap) and the associated infrastructure (conveyor belts, haul roads, back-up facilities),
- **impact on surface water** (among others, reduction of flow in watercourses influenced by the mine and increased flow in watercourses due to discharge of water from underground and surface drainage of the open pit),
- **impact on groundwater** (formation of a so-called depression funnel as a result of open pit drainage),
- **noise emissions** (primary machinery associated with the excavation of the overburden and its placement, primary machinery extracting coal, coal and overburden conveyors, road transport),
- **impact of mine facilities on atmospheric air** (dust emissions: technological (mechanical), i.e., associated with mechanical mining and transport of raw material by belt conveyors; climatological, i.e., associated with wind erosion of vegetation-free areas; organised emissions of pollutants into the air from the boiler room providing heat for the social facilities of the mine),
- **impact on environmentally valuable areas** (in case the environmentally valuable area is located in the impact zone),
- **risks associated with electromagnetic fields.**

Business risks that may negatively affect the performance and development of the ZE PAK SA Group, and related to the social impact area, directly result from the nature of the impact (e.g., the aforementioned disturbance of the hydrological imbalance or noise). They constitute both a nuisance and may also be a source of material damage to third parties. This



can lead to disputes with the community and a loss of their support for current and future investments, including the so-called public consent to the action. On one hand, this can result in an increase in complaints from the population to administrative authorities, the initiation of proceedings against the company and, if the allegations are confirmed, legal and financial sanctions. Ineffective dialogue, e.g., regarding compensation or land buy-out, can also mean civil lawsuits for damages. A particular threat is the loss of public trust and a negative opinion of the plant as an unreliable investor, which can make it considerably hinder obtaining further permits (e.g., if the existing infrastructure is used for investments in the area of renewable energy sources). This, in turn, may translate into a higher risk associated with a new investment project and lower favourability of investors and lenders, thus, difficulties in raising capital.

It is worth mentioning at this point that **plant workers are recruited from local communities**. Consequently, these groups are not separable and any potential animosity with the local community related to, for example, nuisance will indirectly translate to the organisation's culture and working atmosphere and vice versa: any significant employer-employee incidents can and do result in specific consequences in relations with the local community. The same person may have several roles, i.e., be an employee, a resident of the local community neighbouring the plant and exposed to, e.g., noise nuisance, as well as a property owner who applies for compensation or buy-out.

## Operational management and social impact

[413-2] The management approach of the ZE PAK SA Group at the operational management level focuses primarily on ensuring current safety for the natural and, consequently, social environment, while guaranteeing production continuity and stability. This approach was originally defined in the Social Responsibility Strategy for 2017-2020 and, as previously mentioned, it is still valid at the operational management level and is also reflected in the new ZE PAK Group Sustainable Development Strategy for 2023-2027. It presupposes the provision of effective mechanisms minimizing the risks of anomalies and deviations resulting in an above-normal impact on the environment in the extraction or production process to a minimum. It is an approach typical of quality management systems, assuming continuous improvement of processes and optimisation of applied solutions. At the same time, it is an approach characteristic of typical risk management, i.e., striving to eliminate risks, and in further steps, if elimination is not possible, reduce and ultimately compensate them.

The ZE PAK SA Group assumes that the implementation of the assumed approach of eliminating the negative impact on the environment to a minimum translates also into stable operation of the plants, which is not disturbed by interruptions to mining or generation that would be caused by social factors. These aspects are also addressed by the policies accompanying the management systems and the internal regulations guaranteeing compliance with the law and administrative permits associated with specific generation facilities and installations.

The management approach and, consequently, the actions implemented, directly or indirectly address the risks associated with the loss of support from the local community, thus becoming part of the prevention of events that could disrupt the stable operation of mining and generation facilities. As for the aspects related to impacts on the natural environment, which at the same time represent a source of potential nuisance for local communities, these are described in more detail later in the report (see Environmental issues). All this because they constitute an element of environmental management, which has parallel consequences for local communities. The approach to them was also described in other internal regulations, as well as in administrative decisions regulating environmental issues. This description is limited to characterising the approach of the ZE PAK SA Group to those aspects that directly affect people. Nevertheless, they all focus on measures to monitor and reduce adverse impacts.

### **Property buyout**

[413-2] Lignite deposits in the Group's area of operations have their own specific characteristics and abundance. The Company does not exploit a single deposit but, over the years, has been forced to launch more open pits. In light of the above, the reclamation process of previously exploited open pits and the exploitation of the current ones take place at the same time.

In the areas to be subject to extraction, as well as those in the immediate vicinity of the area where mining is to be conducted, property buy-outs are taking place. This most often applies to agricultural lands, but can also include buildings and structures. The assessment of the impact, i.e., whether a particular property adjacent to an open pit will be subject to buy-out, is always determined on a case-by-case basis. The individual approach is justified in view of the fact that, e.g., emotional factors related to attachment to a particular location, often play a significant role in such matters. It is the Group's intention to implement the described processes in such a way as to limit negative emotions, as this may affect subsequent projects of this type. Those are always difficult situations, especially as often the properties have not only financial but sentimental value to the owners. They are often farms inherited by subsequent generations. Nonetheless, a reduction, and ultimately a cessation, of lignite-based energy production will result in further land buy-outs slowing down, and ultimately halting. Currently, land buy-outs are limited and concern areas within the Konin Mine. It is associated with

the depletion of exploited deposits (Józwin open pit, Drzewce open pit). Land purchases relate, in particular, to the Tomislawice open pit, covered by a concession valid until 2030.

### ***Mining damage***

[413-2] Mining damage can be divided into direct and indirect damage. **Direct** damage is generally associated with mine operations and the progress of exploitation work. They include the reconstruction and construction of new roads, power lines, water mains and other technical infrastructure, as well as the renovation of roads used by mine transport and, in special cases, the relocation of religious cultural objects, e.g., chapels, churches and cemeteries. The Group's mining segment companies **paid out PLN 2 804.9 thousand in 2022**, PLN 2 263.3 thousand in 2021 and PLN 4 639 thousand in 2020 on account of direct damage. It should be noted that in each case the payment of compensation for indirect damage was made by way of a settlement or agreement. In addition to direct damage, there is also **indirect** damage associated with deposit drainage, which leads to drawdown of groundwater levels in areas adjacent to the mines. In turn, the discharge of water from an open and into watercourses can lead, e.g., to a rise in water levels. The outcomes of groundwater level drawdown involve partial degradation of soil productivity, withering of trees, periodic drying up of farm wells and ponds, damage to buildings, impact on the efficiency of deep drilled wells and others. On the other hand, the discharge of water from the open pit drainage via surface watercourses can cause periodic flooding of adjacent areas.

In order to minimise this damage, systematic maintenance of these watercourses is conducted under the company's own activities or financial participation in maintenance costs. The Group's mining segment companies **paid out PLN 1 515 thousand in 2022**, PLN 1 858 thousand in 2021 and PLN 1 515 thousand in 2020 on account of indirect damage. Due to the nature of indirect damage, financial compensation is usually of a one-off nature. The ZE PAK SA Group endeavours to compensate for adverse impacts by paying appropriate compensation to the victims in justified cases. Landowners covered by compensation receive written notifications with a proposal of the compensation amount due related to the impact of the mine. In the event of acceptance, an out-of-court settlement is signed with the owner concerned, with a waiver of claims following payment of compensation. Compensation is paid based on previously concluded settlements or agreements. Only a small number of mining damage cases are subject to settlement by ordinary courts. **In 2022**, PLN 32.2 thousand (approximately 0.7% of the total compensation paid for direct and indirect damage) was paid under a court judgement (1 judgement), in 2021, PLN 216.4 thousand (approximately 5% of the total compensation paid for direct and indirect damages) was paid on the basis of court judgements, while in 2020, this amount was PLN 18.5 thousand (approximately 1% of the total compensation paid). The low share of compensations paid under court judgements proves the conciliatory attitude of the Company, which prefers to agree potential compensation amounts through negotiations, seeking agreement with the other party.

### ***Other nuisances, including periodic***

[413-2] The extraction of coal, its transport and related task can be a source of nuisance in the form of dust or noise. Due to the location of mining plants, i.e., conducting activities at a considerable distance from human concentrations as a result of prior property buy-out, these nuisances are limited. In addition, the work technology, including the dampening of slopes during dry periods, helps to reduce the risk of dust.

In the case of other periodic nuisances, e.g., increased noise associated with renovation or modernisation work at the generating facilities (such work give rise to the necessity to purge the boiler system with air at a very high pressure in order to remove even the tiniest filings from the system that could cause damage to it, which is quite noisy), as a rule the ZE PAK SA Group notifies the local community about such nuisances through the media. The information goes, e.g., to local offices or the local media. The same happens in the case of other nuisances (e.g., in traffic due to transport of oversized equipment, increased dust or dew from chimneys, etc.). As a result, they are not controversial and the plant can count on the forbearance of residents in the immediate vicinity. As part of its educational activities aimed at the external environment, the corporate communications department operating within the ZE PAK SA structure also develops press articles explaining the principles of lignite open-pit mining and post-mining land reclamation. As mentioned above, the residents in the immediate vicinity of the plants are often employees of ZE PAK SA Group companies. Hence, although this refers to communication outside the organisation, proper internal communication, where the employees themselves act as ambassadors of the ZE PAK SA Group, can also play an important role. Internal communication can also play an equally important role in the situations referred to above. In 2021, ZE PAK SA ended publishing the Group's monthly magazine – "Kontakt". Internal communication with employees is mainly conducted via the Intranet, mailing and articles published on social media (Facebook, Twitter).

### ***Social involvement***

[413-1] The ZE PAK SA Group also declares its support for local initiatives. The COVID-19 pandemic, which has slowed somewhat in 2022, has allowed the Company to be involved in local initiatives. The Group's aim is to support the local community through community involvement so that, as far as possible, it can be compensated for those nuisances

associated with the operation of the plants, to the extent that they cannot be eliminated or reduced. Understanding how important the environment is to each of us, the Company also supports projects to promote renewable energy sources.

The Group's aim is not to engage in spectacular ventures for the sake of publicity (supporting a fundraiser for the treatment and rehabilitation of a girl, who was born extremely premature and diagnosed with a number of illnesses), but to reach out to the nearest municipalities (financial support for the organisation of the municipal harvest festival in Turek) and independent organisations in the region.

In the vicinity of the Company's area of operations, in the Kazimierz Biskupi commune, one of the two Camaldolese hermitages active today and the only strictly contemplative, hermitic male order in Poland, i.e., the Congregation of the Camaldolese Eremites of the Crown Mountain – the Five Martyrs' Hermitage in Bieniszewo, runs its activities. The Order has been able to count on the support of ZE PAK SA for many years. This is why the Company has also made a donation to the monks in 2022.

Financial support in 2022 was also given to 23 parishes that are located in areas where the lignite mines are/were operating.

For many years, ZE PAK SA has supported the activities of the “Intercompany Club of Polish Red Cross (PCK) Honorary Blood Donors Pątnów – Konin Power Plants of the ZE PAK Capital Group”.

Traditionally, ZE PAK SA is also involved in supporting the activities of the Polsat Foundation, one of the largest non-governmental organisations operating in Poland, which for over twenty years has been directing its assistance to sick children and their parents. In 2022, the Company joined the “Polsat Foundation for Children of Ukraine” campaign and made a financial and in-kind donation (sleeping bags and field beds). The military operations in Ukraine pose a direct threat to the lives and health of several million children in the country. The needs of Ukraine's young citizens and their caregivers are still enormous and are likely to increase. Key priorities include clean water, warm meals, clothes, blankets and hygiene items and basic medical supplies. It is also becoming necessary to provide children with, among other things, safe shelter and, at a later stage, to organise psychological support, make paediatric care available or launch care and education activities. All this requires a huge financial base. Since the beginning of its activities, the Polsat Foundation has been trying to provide aid where it is most lacking, therefore with the support of companies from the Zygmunt Solorz Group: Telewizja Polsat, Plus network, Polsat Box platform, Netia and ZE PAK have become involved in helping Ukraine.<sup>8</sup>

Understanding the growing awareness related to the impact of physical fitness on health, ZE PAK SA gets involved in various sports events. This year the organisers of running events (the 4th gRUNt race in the Bieniszewska Forest, the “Aktywni Konin” Running Club, the Mine Lamp Run, the Konin branch of the Polish Tourist Society, the Harnaś Mountain Tourism Club) and sailing regattas (the ZE PAK SA President's Cup Sailing Regatta) could count on financial support.

Financial support could also be counted by the Nadgoplański Tysiąclecia Park NPT), which the company was involved in promoting. A tourist and nature guide were developed to promote the park in cooperation between ZE PAK SA and the NPT.

The Company is well aware of the importance of promoting cultural initiatives taking place in Konin and the surrounding area, which is why it willingly joins in the organisation of such events. The largest museum festival in Konin, i.e., Museum Night 2022, could not take place without the support of ZE PAK SA, especially as the largest exhibit is the Gosław forest elephant found in the Józwin opencast.

One of the most important cultural events in Konin for over 40 years, the 42nd International Children's Song and Dance Festival in Konin was also held with financial support from ZE PAK SA. This event, with a 42-year history (interrupted once by martial law, the second time by the pandemic), lasts 5 days and attracts great artists (dancers and singers) from all over the world. Almost 2 500 participants performed on stage in 2022. As emphasized by the jurors of the dance and vocal competitions, the level of the participants in the Festival was so high that it was with great difficulty that they had made their choices.

The most important and such a large-scale event related to environmental issues, in which ZE PAK SA participates – as a strategic partner – is the “For the Earth, for us” (*Dla Ziemi, dla nas*) festival in Uniejów, organised by the Polsat Group. The idea of the festival is to draw attention to the environmental challenges our planet Earth is tackling every day. Huge changes that our planet is subjected to, including the climate ones, have a tremendous impact on the lives of each of us.

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<sup>8</sup> <https://www.fundacjapolsat.pl/news/2022-02-28/grupa-polsat-plus-i-fundacja-polsat-razem-dla-dzieci-z-ukrainy-5-mln-zlotych-w-ramach-akcji-fundacja-polsat-dzieciom-ukrainy/>

Therefore – as the organizers of the festival write on their website – "with all our experience and passion, we want to join an ever-wider stream of people's involvement around the world to reverse the process of this degradation".

The message that accompanied the two-day meeting oscillated around the For Earth For Us idea. Such an idea, stemming from the fact that Wielkopolska's power engineers recognise the progressive degradation of the quality of life on Earth, envelopes the entire ZE PAK SA Group, and it is clear from the idea of the association's Czysta Polska (Clean Poland) Programme, announced by Zygmunt Solorz, co-owner of the Polsat Group and ZE PAK SA Group, that even the smallest action to stop these adverse changes makes sense. Hence the Earth Festival, an event promoting ecology, a concert of the huge stars of the Polish stage and several hundred thousand people already supporting the Clean Poland Program association, which is constantly developing and gaining new supporters. During last year's edition at the ZE PAK SA stand, the youngest visitors had the opportunity to learn how electricity is generated using photovoltaic panels and wind power plants, race cars powered by hand-held generators, construct electronically controlled robots, and build their own jet rocket from balloons. Visitors also had the chance to take a ride in the NesoBus - the Polish Hydrogen Bus, which is the future of urban and agglomeration transport.

As it continues to develop and expand its portfolio of RES investments, the Company participates in numerous conferences on the energy transition. Among others, the PSEW2022 Conference - Polish Wind Energy Association and the Eastern Wielkopolska Water Resources Restoration Conference, held in Wilczyzna, was organized in 2022 under the patronage of ZE PAK SA.

PAK – PCE Fotowoltaika sp. z o.o. made a financial donation to the Voluntary Fire Brigade in Janiszew for the refurbishment of the Tohas motor pump, while the Farma Wiatrowa Przyrów sp. z o.o. donated funds to the Community Cultural and Library Centre for the organisation of the community harvest festival in Przyrów.

PAK KWB Konin SA made a number of donations last year, both in-kind and financial, primarily to the surrounding municipalities, parishes and social organisations. Boulders with loading were donated to the Cuiavian University in Włocławek. The communes of Ślesin, Wilczyn, Skulsk and Kazimierz Biskupi (twice) received sand with loading. Similarly, soil was donated (with loading) – to the Osiek Mały commune and two times to the Kazimierz Biskupi commune.

The donation of two steel catenary poles was made to the town and commune of Ślesin, and the Voluntary Fire Brigade in Łuczywno received four beams from decommissioned B-1600 units together with loading of the beams with a loader. In turn, the company donated 180 ornamental trees and shrubs to the Divine Mercy Parish in Konin. The Lubstówek Association for the Development of the Lubstówek Village received a donation for the construction of a sports and recreation square and a donation for the organisation of a St. Nicholas' Day event for children and youth. Similar financial support – earmarked for the organisation of a St. Nicholas' party for the pupils of the "Żabka" communal kindergarten – was received by the Wierzbinek commune. The Association of Civic Initiatives in Konin was also an aid beneficiary – the company donated Christmas and New Year parcels to the charges of the Sociotherapeutic Day Centre. In addition, the mine purchased 100 camp beds and 100 sleeping bags for the Polsat Foundation.

The company has been supporting the organisation of harvest festivals in communes for years; last year, a donation for the organization of the Harvest Festival was provided to the Community Cultural Centre in Kramsko and the Osiek Mały commune.

As in previous years, on the occasion of St Barbara's Day, PAK KWB Konin SA sponsored a nationwide sporting event. The Sailing Club operating by the Konin Mine received a cash donation to purchase prizes in kind for the winners of the 28th Winter St. Barbara's Day Regatta and a yacht launching service using a mobile crane. As part of last year's Miner's Day celebrations, a donation was also made for religious cult purposes, the recipient being the Roman Catholic Parish of St. Adalbert in Konin.

## **Tax payments and transformation of the ZE PAK SA Group**

Due to the nature and large scale of its operations, the ZE PAK SA Group has a significant direct and indirect economic impact on the region, particularly on the development of the communes wherein it conducts business. Money transfers in the form of various taxes and quasi-fiscal charges (licence fees, concession fees, etc.), contribute significantly to the budgets of the communes. For years, many of the richest communes in Poland have been mining communes. Although in the case of the ZE PAK SA Group, extraction and generation are spread over several communes, the source of the fees are not only the mines, but also the power plants and the photovoltaic farm. For example, in **2022**, the ZE PAK SA Group companies paid **PLN 162 million** in such fees (over PLN 187 million in 2021 and PLN 207 million in 2020), of which **PLN 113 million** (PLN 135 million in 2021 and PLN 157 million in 2020) were charges to local administrations. In the case of the Company, in 2022 ZE PAK SA made public payments of **PLN 41 million** (over PLN 47 million in 2021 and PLN 67 million in 2020), of which **PLN 38 million** (in 2021: PLN 44 million and in 2020: PLN 66 million) were

payments to local administration. These funds enable, e.g., municipalities to implement investment tasks, finance health care, education, etc. Simultaneously, owing to the salaries of employees, most of whom are recruited from local communities, the so-called multiplier effects are triggered and the local economy is stimulated, including sectors not directly associated with lignite mining and energy. In 2022, ZE PAK SA Group companies allocated PLN 397 million for employee benefits (PLN 370 and 385 million in 2021 and 2020, respectively). However, please note that the transition of the ZE PAK SA Group, including the gradual phasing out of mines and generation assets, entails a tangible reduction in the stream of taxes and fees, primarily felt by local government budgets. Reduced extraction output means lower mining royalties, while the reclamation of post-mining areas and the decommissioning of generation assets mean reduced property taxes. Thus, local government revenues in the areas where operations are conducted will shrink. In light of the above, the ZE PAK SA Group is trying to communicate its plans in advance and raise awareness of the consequences of the green transition ongoing within the ZE PAK SA Group for local governments. It is also trying, through the implementation of investment projects, such as the 100-hectare photovoltaic farm in Brudzew, to compensate for the loss of revenue through taxes on new properties, at least partially. However, it is important to be aware that these fees will compensate for the lost revenue of the commune only to a certain extent.

## Other indirect impact on the local economic and social environment

### *Securing heat for Konin*

[203-1] In addition to the important contribution to ensuring stable electricity supplies and co-stabilising the national power system, another important dimension of impact on the social environment (in its local aspect) is associated with the economic use of waste heat, which accompanies electricity generation. For years, part of the heat has been used for heating purposes, among others, by the Municipal Heat Engineering Company in Konin. Such an approach is extremely rational from both the social and environmental perspective. For many years, heat generation was conducted using a lignite-based source at the Konin power plant. For environmental reasons, however, such generation could not be continued. At the same time, however, a mere decision to cease electricity generation at the Konin plant, resulting also in the cessation of heat generation, would be socially unacceptable. Because, in fact, it would mean depriving the inhabitants of heat, i.e., hot water and heating. To this end, the ZE PAK SA Group, wishing to remain a heat supplier to the local community, has launched a new heat source based on a biomass unit. The current solution, based on a renewable energy source, eliminates the risk of a failure to comply with the tightening environmental standards. A second biomass unit was created at the Konin Power Plant. In addition to generating energy for the National Power System, it will also be an emergency source for heat generation if the biomass heating unit currently operating at the Konin Power Plant is shut down.

It is equally important, that all of the biomass used by ZE PAK SA in 2022 was domestic and certified. Forest biomass and energy wood in the form of orchard chips and energy willow (agricultural biomass) were purchased. As of 1 January 2022, holding relevant certification formally became mandatory for biomass suppliers.



### *Local fish farms and heat generation*

[203-2] The Konin energy basin has a unique cooling system based on an open water cycle. The joint name “Konin Lakes” includes the lakes: Gosławskie, Pątnowskie, Wąsowsko-Mikorzyńskie, Licheńskie and Ślesieńskie, which are incorporated into the cooling circuit of the Pątnów power plant and the Konin power plant. All lakes are connected via a system of canals with a total length of approximately 26 km and form a closed circuit, wherein the water flow is regulated by culverts and pumping stations. Discharge of waste heat into nearby lakes has, of course, affected their ecosystems, but has also made the reservoirs particularly valuable for fishing and fish farming. Increased water temperature and high water flow in the canals and lakes have resulted in farmed fish ponds being located within the cooling system. The fish farms operating within this area are not only the largest producers of sturgeon fish in Poland (Siberian sturgeon, Russian sturgeon, sterlet), but also other fish species such as European catfish, rainbow trout, grass carp, silverfish, catfish, carp and ornamental fish. Owing to the use of thermally elevated waters for reproduction, rearing and breeding of thermophilic fish, they are an important producer of fry in the domestic market. Cooperation with the ZE PAK SA Group ensures that warm water flows directly through the ponds, providing optimal conditions for the development of fry and adult fish. One

of the farms even takes its rearing water from the pre-cooling reservoir of the Konin power plant and production is strictly dependent on the conditions created by the power plant, the water temperature, its purity, etc. Therefore, there is a constant communication path and flow of information between the fish farms and the power plants. In addition to some of the largest fish farms in Poland, the area is well known among anglers. Supporting this type of economic activity, as well as any other form of social involvement, makes it possible to partially compensate the social environment for the nuisance associated with the ZE PAK SA Group's operations. It is worth noting that key heat for the fish farms comes from the Konin plant, a plant where only biomass is combusted. Therefore, the departure from lignite and the phasing-out of the units fired by it will not have adverse consequences for fish farms in the region.

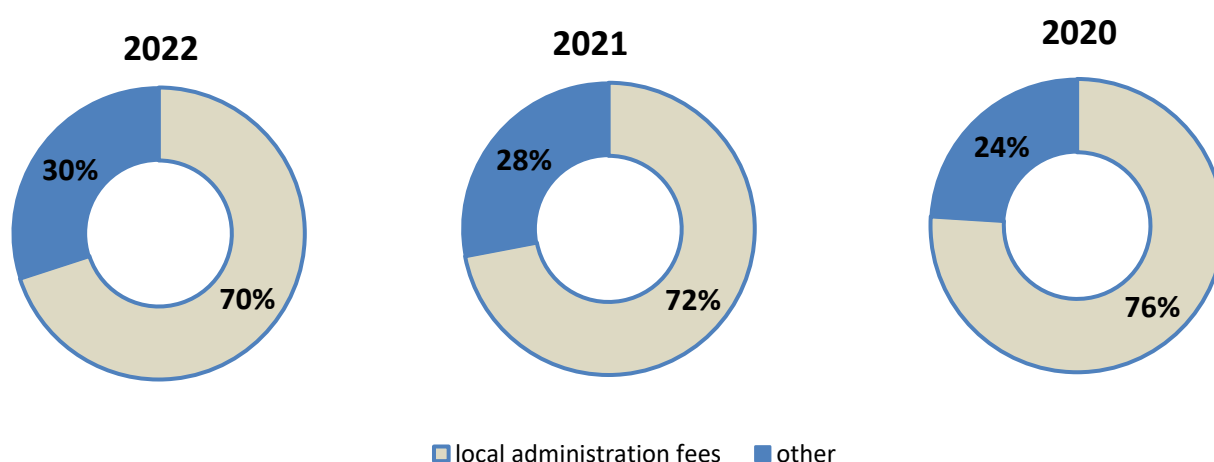


## Key indicators

Table 25: Key indicators related to social impact

	2022	2021	2020
Number of environmental accidents resulting in severe contaminations	0	0	0
Percentage share of compensation paid under a court judgement in relation to the amount of compensation paid by the Group under a settlement or agreement	0.7%	5.0%	1.0%
Total amount of taxed and quasi-fiscal charges paid – Group total	PLN 162 MM	PLN 187 MM	PLN 207 MM
Total amount of taxed and quasi-fiscal charges paid – ZE PAK total	PLN 41 MM	PLN 47 MM	PLN 67 MM
Total amount of taxed and quasi-fiscal charges paid – to local administration (Group)	PLN 113 MM	PLN 135 MM	PLN 157 MM
Total amount of taxed and quasi-fiscal charges paid – to local administration (ZE PAK)	PLN 38 MM	PLN 44 MM	PLN 66 MM

Chart 15: Percentage share of taxes and quasi-fiscal charges in the Group paid to local administration, relative to the total amount of taxes and quasi-fiscal charges paid



### **11.3. Employee issues**

#### **Current employee risks and management approach**

In terms of human resources management, the ZE PAK SA Group has implemented formal solutions that determine the relationship between the employer and employees based on the provisions of Polish law, including, among others, work regulations based on the Labour Code Act, Company Collective Agreements based on the Labour Code Act, Employee Benefit Fund regulations based on the Company Employee Benefit Fund Act, and remuneration regulations are in force at entities not covered by the provisions of the Company Collective Agreements. There are Employee Councils in companies meeting the statutory criteria. There are also trade unions functioning within the companies of the ZE PAK SA Group. In issues set out by legal provisions, the ZE PAK SA Management Board and the Management Boards of other companies communicate and consult decisions with employee representatives.

Simultaneously, in addition to formalised solutions resulting from specific legal regulations or voluntarily adopted (e.g., a recruitment procedure), day-to-day operational activities are based on a number of solutions and customary forms of conduct, which, in the opinion of the management staff, do not require rigid formalisation, but at the same time guarantee effective and efficient management that complies with legal standards and social coexistence standards. The Group Companies comply with labour laws and require proper behaviour of their employees both within mutual relations between employees, and between employees and their superiors.

The Company Collective Bargaining Agreements applicable at the ZE PAK SA Group Companies during the reporting period contain rules for the employment and remuneration of employees. In turn, the bylaws of the Company Employee Benefit Fund set out the rules for the use and financing of social and housing activities for the benefit of employees and their family members. The provisions of both documents are implemented by the managers, although at the same time, there are collective disputes in the Group subject to resolution based on the applicable legislation. During the reporting period we have had 5 collective disputes, namely, three collective disputes at ZE PAK SA and one at PAK Kopalnia Węgla Brunatnego Konin SA and PAK Górnictwo sp. z o.o. each. The collective disputes at ZE PAK SA apply to wage increases and reinstating provisions from the terminated collective agreement. The collective dispute at ZE PAK SA is at the mediation phase with the participation of a third-party mediator. The dispute at PAK Kopalnia Węgla Brunatnego Konin SA concerns a wage increase and the cessation of the company's restructuring and lay-offs. The dispute is at the mediation phase with the involvement of a third-party mediator. The collective dispute at PAK Górnictwo sp. z o.o. concerns a wage increase and the trade unions' desire to conclude a collective agreement. The collective dispute is past the mediation phase and trade union organisations have held a referendum among the employees on whether they intend to go on strike. Trade union organisations have obtained a strike mandate but have not decided to do so. The Company Collective Agreement for ZE PAK SA employees signed on 19 October 2021 came into force on 1 January 2022. In the same period, the Company Collective Agreement for the employees of PAK Serwis sp. z o.o. came into force.

On the other hand, in companies that are important from the perspective of generated revenues, but having a very small workforce and work specifics that does not involve significant health and safety risks, such as PAK – Volt SA (electricity trading; office-based nature of work), the formalisation of labour relationships and related procedures is minimal and limited to legal requirements.

The fundamental aspects associated with the field of people management were also defined several years ago in the ZE PAK SA Group's Social Responsibility Strategy for 2017-2020. In terms of operational management, these have been maintained until the present day, including a reflection in the new ZE PAK Group Sustainable Development Strategy for 2023-2027, albeit taking into account the transition-related requirements.

#### **Ensuring human resources and their restructuring**

The companies of the ZE PAK SA Group are perceived as a stable and trustworthy employer against the background of the local and rather small labour market.

However simultaneously, the restructuring process that has been going on for years has meant that most vacancies have had for years been filled based on internal recruitment (in other words, the employment of people working in the ZE PAK SA Group was protected by making transfers between individual departments, plants and companies). Prolonged concentration on people already employed in ZE PAK SA Group companies in recruitment processes means that there is no significant inflow of young employees and leads to an increasing average age of employees. In turn, the ageing of the workforce translates into an increase in the number of retirees. While such a phenomenon was previously perceived as a certain disadvantage, in the era of the transition of the ZE PAK SA Group, it provides an opportunity to make it less painful. The phasing out of lignite extraction and conventional power generation based on the combustion of this fuel will mean a gradual elimination of jobs both in the mining industry and in the power plants themselves. Certain plants are

already in the phase-out process. It is enough to mention the decommissioned Adamów Power Plant and its associated mine. In 2022, coal mining was ceased at the Drzewce open pit within PAK Kopalnia Węgla Brunatnego Konin SA and the overburden stripping process was completed at the Józwin open pit within the aforementioned company. Whenever possible, employees have been, are being and will be relocated, e.g., to other open pits, but this will not be possible in the case of everyone. To a certain extent, it will be possible to mitigate the social costs of phasing out generation simply through employees reaching retirement age and retiring, especially mining or bridging pensions. ZE PAK SA actively participates in the development of shielding programmes for power engineers and miners, in particular, paid leave in the energy and mining sectors, which may guarantee mitigating the effects of reducing lignite-based power generation. The process of job shedding will be staggered, which will also mitigate the social costs, but it will not be fully possible through compensating for the jobs being shed with retirements.

## Social dialogue

A potential source of risk in the employee area may be protracted collective disputes. Therefore, dialogue with the representatives of the workforce enables identifying potential sources of problems and, on the other hand, provides an opportunity for a reliable and comprehensive presentation of the restrictions within which the companies of the ZE PAK SA Group operate. In the era of the energy transition, trade union organisations are extremely constructive and active in supporting initiatives that are close to the ZE PAK SA Group itself and that fall in line with the so-called just transition. This term is construed as a manner of moving away from fossil fuels, which does not overburden communities associated, for example, with mining regions. Eastern Wielkopolska is such a region exactly. At the same time, the ZE PAK SA Group has been actively involved in the operations of the so-called “Coal Platform”, which is an EU-level structure tasked with developing a framework of financial and organisational support programmes for regions associated with coal mining in Europe. It is easier to cooperate with common goals. Although there are still areas where managers and representatives of the public side differ in opinions, the constructive cooperation referred to above is worth noting. In 2022, on the initiative of the Management Board and with the participation of Trade Union Organisations, talks were held with the Regional Development Agency in Konin and the Marshal's Office in Poznań to specify the regional just transition program. Representatives of Trade Union Organisations and the Management Board had the opportunity to present their ideas at the European Commission's headquarters in Brussels. The aforementioned work will continue until funding is available to support projects for the Eastern Wielkopolska region.

In 2022, Trade Union Organisations, with the significant assistance of the Company's Management Board, held talks with representatives of the Government of the Republic of Poland regarding the introduction of shielding programmes for employees of the lignite mining and lignite-based power industry. On 22 December 2022, the parties eventually signed a relevant agreement and began the process of proceeding legislating regulations concerning the implementation of energy and mining paid leave, as well as severance pay for persons on the lay-off list in connection with the process of abandoning lignite-based electricity generation.

On the initiative of Trade Union Organisations operating in the ZE PAK SA Group, a social legislative initiative committee was established with the aim to collect signatures to a draft act on social security for employees in the lignite mining and lignite-based energy sectors. The Company's Management Board has supported these activities from the beginning and has helped draft the act.

## OHS

[403-1, 403-2] Another dimension of employee-related risk is occupational health and safety risk. It strongly depends on the hazards associated with the arduousness of work at a particular workplace, and all activities in the field of OHS management concentrate exactly on the eliminating or reducing hazards that lead to the minimisation of accident consequences, should they occur, and the occurrence of occupational diseases, conducted based on an occupational risk assessment.

As in the case of the previous areas, the most important directions of activities in terms of occupational health and safety management were originally set out in the Social Responsibility Strategy of the ZE PAK SA Capital Group for 2017-2020. They still remain applicable and are also reflected in the new ZE PAK Group Sustainable Development Strategy for 2023-2027.

At the same time, one should bear in mind the existing certified management systems, with their scope addressing safety management issues, related to:

- the process of electricity and heat generation together with all auxiliary processes, identified environmental aspects, conducted occupational risk assessment based on identified hazards related to onerous work and legal and other requirements (ZE PAK SA - compliant in terms of OHS with PN-ISO 45001:2018),



- work in the field of renovations and servicing of power equipment, industrial construction services, investment management in the power industry and the industry, as well as modernisation and maintenance of electrical and automation systems in the power industry (Przedsiębiorstwo Remontowe PAK SERWIS sp. z o.o. - compliant in terms of OHS with PN-ISO 45001:2018).

Their objective, like that of the sustainable development strategy, is to minimise the accident rate, with particular emphasis on eliminating serious and fatal incidents and the occurrence of occupational diseases by taking organisational and technical measures to eliminate or reduce employee exposure to harmful factors present within the working environment, such as noise down to a standard-compliant level. At the same time, selected management aspects, in line with a broader scope of safety management, are regulated by internal regulations, manuals, orders and work instructions.

### **COVID-19 pandemic**

On 16 May 2022, a decree of the Minister of Health abolished the epidemic state in Poland, which had been in force since 20 March 2020. It was replaced by a state of epidemic emergency. A state of epidemic emergency is an increased likelihood of an epidemic. It signifies a formal recognition of a given area as an area with conditions and a significant degree of probability of an epidemic to occur. The work team established at ZE PAK SA for the ongoing analysis of the situation related to the threat of the SARS-CoV-2 coronavirus has lifted the restrictions previously in force, including the use of masks on the ZE PAK SA premises, and has recommended taking care of hygiene through frequently washing hands, limiting internal and external meetings with a high number of expected participants to a minimum, and organising meetings using means enabling remote communication, i.e., teleconferencing, videoconferencing..

### ***Extraction***

[403-1, 403-2] The extraction sector is the only one of the three main sectors with no implemented certified management system in accordance with PN-ISO 45001:2018. OHS management is conducted based on the Ordinances of the Presidents and Ordinances of the Mining Plant Operations Manager. The Ordinances address all areas that involve the possibility of risks to the proper and safe performance of official duties by the employees. Examples of issues regulated by Ordinances include occupational risks associated with executed work, a list of work requiring special psychophysical predispositions, safe operation of the equipment, medical assistance, periodic examinations and medical check-ups, and many others.

Typical hazards associated with open pit lignite mining should be divided into natural and traumatic hazards. The latter, potentially related to the operation of machines, especially their rotating elements, although dangerous in terms of outcomes, owing to OHS measures and employee awareness, occur rarely. In recent years, in practice, if there have been accidents, they have been light accidents, such as sprains, twists and occasionally fractures. As far as so-called natural hazards are concerned, they can be divided into landslide hazards (slope bursting), methane hazards (occurrence of gas in dewatering wells), fire hazards and water hazards (related to precipitation, proximity of natural reservoirs and watercourses or watercourses in the heading).

In 2020, measures were implemented at PAK KWB Konin SA to improve OHS conditions in the extraction sector, in accordance with the adopted annual plan to improve health and safety conditions. Operator cabins of basic machines, such as excavators and heapers were conducted, which enabled reducing noise emissions in the cabins and improve the technical fit-out of the machines. Air-conditioning units in basic machine operator cabins were repaired and installed to improve working conditions during the summer period. Similarly, the replacement of seats for basic machinery operators made it possible to reduce the workers' exposure to vibrations.

Flashlights were replaced, and new equipment and power tools with accessories (hammers, drills, grinders, impact spanners, etc.) were purchased to eliminate heavy and dangerous physical work. HYT-type radios were purchased and provided for the workers. Battery-powered power tools were purchased to eliminate electric shock hazards. The markings of emergency stop button enclosures on conveyors (so-called "lines") were refurbished. Information and warning signs in switchgear containers on excavators, conveyors and cable gates were replaced.

In terms of activities conducted in 2022 to improve OHS conditions in the mining area at PAK KWB Adamów SA in liquidation, landslides within the Koźmin open pit were being monitored and secured based on an expert opinion specifying the geotechnical conditions of the post-mining reservoir slopes at the stage of further filling. The expert opinion was related to the stability of heap and native soils and was conducted by the National Geological Institute. Monitoring of groundwater and surface water in the areas within the impact range of open pits was also executed.

In connection with the prevailing epidemic situation throughout the country, in order to ensure employee safety and minimise health hazards at PAK Kopalnia Węgla Brunatnego Adamów SA in liquidation and PAK Kopalnia Węgla Brunatnego Konin SA, preventive and prophylactic measures were taken by disinfecting places of frequent direct contact, in particular, door handles, handrails, providing containers with hand-sanitizing liquid, and measuring body temperature prior to entering the plant premises.

### **Conventional generation**

[403-1, 403-2] In the generation segment at ZE PAK SA, as previously mentioned, occupational health and safety is managed based on the procedures of the Integrated Management System in accordance with the PN-ISO 45001:2018 standard. At the same time, the activities in the area of occupational health and safety are regulated by ordinances of the President of the Management Board and business orders of the Vice-President for the generation division, related to broader aspects but also covering occupational health and safety issues.

The key documents specifying the procedures for safe power equipment operation include, in particular, the Power Equipment Operation Manuals, the Power Equipment Safe Work Instructions at ZE PAK SA and official orders of the Vice-President for the generation division and the Power Plant Director, as well as procedures of the Integrated Management System in accordance with the PN-ISO 45001 standard, which include documenting occupational risk assessment, in particular. At this point, it should be added that as of 1 July 2022, assets in the form of the Konin Power Plant were separated from the assets of ZE PAK S.A. and, together with the employees, were transferred to PAK – PCE Biopaliwa i Wodór sp. z o.o. (hereinafter “PAK – PCE BiW”).

Based on the identification of workplace hazards, the employer assesses and documents occupational risks associated with the work conducted and applies the preventive measures required to reduce these risks. A documented occupational risk assessment is a tool that enables managers making optimal and effective use of technical and organisational measures to eliminate or maximally mitigate the level of risk associated with hazards that may constitute a source of an accident at work or an occupational disease. If the technical and organisational protection measures in place are insufficient, the assessment shall identify the personal protection equipment to be used. The procedure for carrying out the risk assessment and templates of the documents used are defined in the procedures of the Integrated Quality, Safety and Environmental Management System. Employees are informed about occupational risks and the principles of protection against hazards each time an update is made. In addition, implemented training programmes in the field of occupational health and safety are intended to update and supplement knowledge of work-related hazards and methods of protection against these hazards.

Analyses conducted annually indicate that the renovations executed over the years, successive modernisations and, above all, the decommissioning of old equipment and the construction of new equipment and systems, including generating units (K7 boiler at the Konin Power Plant transferred to PAK – PCE BiW as of 1 July 2022), in addition to improving generation efficiency and reducing adverse environmental impact, undoubtedly contribute to improving the working conditions of employees. Technical occupational safety is also improved through eliminating or reducing the risk to the health and life of the employees.

The only factor harmful to health occurring within the working environment at ZE PAK SA above the permissible hygienic standards is noise. Overruns are caused by such elements as boilers, turbines, pumps, fans, conveyors, transmission gears, motors, couplings, etc. The number of people exposed to this harmful factor is systematically reduced through organisational and technical measures. The effectiveness of the implemented corrective measures and through the proper organisation of work enabled eliminating the overruns of the highest permissible concentrations of harmful factors in the work environment, i.e., dust. Another group of hazards are dangerous factors that may lead to the injury or death of an employee. These particularly include exceptionally hazardous work and work with a potential of a particular threat to human health or life. The most relevant factors in this group include high temperature, high pressure, electric current, explosive atmosphere and moving machinery parts.

Factors related to work arduousness include inadequate lighting and night-time employment. The number of people exposed to these onerous factors is systematically reduced through taking organisational and technical measures (decommissioning off worn-out production equipment, overhauling and maintaining the lighting system).

There are also factors and work processes at ZE PAK SA that pose a particular threat to health or life. These include chemical, carcinogenic or mutagenic and biological factors. With regard to chemical agents, the conducted hazard identification and risk assessment showed the use of chemical agents belonging to the hazard group of corrosive agents and those with irritant and sensitising effects. Organizational unit managers have lists of hazardous chemical substances used and their material safety data sheets. Employees confirm in writing that they have read the safety data sheets and risk assessments. The occupational health and safety service prepares records and data required by law, which it then submits to a competent state or provincial sanitary inspector and a competent district labour inspector, as well as to a

primary occupational health care unit for the purpose of preventive health care. Employees whose duties include the operation of biomass transport equipment (contact with fungi), the operation of a wastewater treatment plant and chemical analyses of domestic sewage (contact with pathogens found in domestic sewage and waste sludge) are in contact with biological agents. The occupational risk assessment enabled identifying the occurrence of biological agents belonging to risk group 2, i.e.: agents that may cause human disease, may be hazardous to workers but are unlikely to spread within the human population. Effective methods of prevention or treatment usually exist with regard to them. Workers with occupational exposure to biological agents have been offered available vaccinations against these hazards. The vaccinations, most of which the employees consented to, are performed as part of preventive healthcare.

In 2022, the upgrade of the biomass-fired K7 boiler at the Konin Power Plant (now PAK – PCE BiW) was completed and the generated biomass-based electricity is to be used to produce “green” hydrogen.

In association with the current epidemic threat caused by the spread of the SARS-CoV-2 coronavirus at ZE PAK SA, a team was established by the order of the President of the Management Board to assess the risk of coronavirus infection and to introduce procedures aimed at mitigating health risks and minimising the risk of a coronavirus infection. The Occupational Health and Safety Service, taking into account the procedures referred to above, conducted systematic inspections of workplaces and compliance with OHS regulations and rules, and participated in a review of working conditions as part of the activities of the ZE PAK SA OHS Committee. Following the review of working conditions conducted in 2022, corrective actions were taken to improve those and increase the level of occupational health and safety. The actions were listed in the work order of the Power Plant Director issued after the review of working conditions, which set out deadlines for their implementation and persons responsible to do so.

### **Service**

[403-1, 403-2] The workplace occupational risk assessments in the renovation segment (PAK Serwis sp. z o.o.) cover all work positions, both stationary and non-stationary. Occupational risk assessment is conducted out once every three years and in each case of changes to work position are reported or in the event of an accident. The Health and Safety Office keeps lists of all jobs subject to occupational risk assessment.

A so-called last minute risk analysis (LMRA) is also carried out. Prior to the start of the task, employees identify potential workplace hazards using an LMRA sheet. Work and areas of activity associated with significant hazards are identified. For each significant hazard, a course of action and supervision is established to ensure compliance with legal and other health and safety requirements.

The following procedures are of particular significance from the perspective of ongoing OHS management:

- “Occupational health and safety, and environmental protection training”,
- “Hazard identification and occupational risk assessment”,
- “OHS and environmental monitoring”,
- “Major accidents”,
- “Organising work with significant hazards”,
- “Investigation of accidents and occupational diseases”.

Annual analyses show that the most common cause of accidents during maintenance work is incorrect behaviour of employees, i.e., failure to exercise due care and focus attention on the work being executed. In contrast, the most common cause of near-misses is, primarily, failure to conduct a risk assessment before commencing a task. The main factors posing a risk to the health and life of employees, related to the working environment are working at height, optical radiation (UV and IR) and dust containing crystalline silica, and the factor related to the arduousness of work is a forced body position. As part of post-accident prevention, employees are familiarised with accident circumstances and the causes leading to the occurrence of the accident, additional training is provided, and information on accidents is passed on to ZE PAK SA services (in those cases, where the cause is found to be related to power equipment). Occasionally, disciplinary penalties are also imposed on a supervisor who is proven to have failed to comply with OHS regulations in connection with the accident. Employees of the Occupational Health and Safety Office conduct inspections with regard to the compliance with OHS regulations and rules, resulting in the issuing of a so-called non-compliance card and requests for imposition of a disciplinary sanction in individual cases. In their memoranda or post-inspection reports, the services record recommendations, usually concerning disorder at the workplace or improper technical condition of means of work. Also, the duty to conduct workplace inspections is fulfilled by supervision employees (senior masters and managers), which they document through checklists. In the past period, the Occupational Health and Safety Service has greatly focused on inspections of personal protective equipment and equipment used to conduct work - the technical condition and validity of periodic inspections of machinery and equipment.

The employer's obligation to ensure safe and hygienic working conditions for employees at PAK SERWIS was implemented in 2022 as follows:

- a) technical means, purchases included:
- BF-5TP pallet truck – 3 pcs,
  - CELPAK multifunctional cable treatment tool – 2 sets,
  - PED BLUE personal dosimeter – 3 pcs,
  - MINIFOR TR50 cable winch – 2 sets,
  - Amprobe BEHa cable locator – 1 set,
  - ESAB Aristo semi-automatic welding machine – 3 sets,
  - Swepro pneumatic wrench – 1 set,
- b) organisational measures:
- renovation of the bathroom located on the first floor of the MW building at the Konin Power Plant Konin,
  - renovation of the social room (freight lift operation room) located in the boiler room at level 8 m of the Konin Power Plant Konin,
  - rooms and walls painted in the workshop room in the K-5 boiler room at level 9 of the Pątnów Power Plant.

### **Auxiliary activities – Maintenance and service**

[403-1, 403-2] PAK Górnictwo sp. z o.o. conducts maintenance and renovation work at PAK KWB Konin. Work at PAK KWB Adamów in liquidation are conducted in the field of post-open pit area reclamation. An additional activity is water production, which was ceased in April 2022. The company of group collects waste, which it then transfers to authorised entities. The company employs around 950 employees, a significant proportion of whom work in the Mining Plant Operations Department. The OHS Service conducts a post-accident investigation in relation to each accident at work that occurs in the company's areas of operation. A post-accident instruction is drawn up for each accident at work, based on which the employees are made aware of the accident circumstances and the causes behind the occurrence of the accident. Information on accidents is also provided to the services of ZE PAK SA, PAK KWB Konin SA. Accident cause analyses show that the most common cause of accidents during is incorrect behaviour of employees, i.e., failure to exercise due care and focus attention on the work being executed. A five-point occupational risk assessment has been prepared for all work positions in accordance with the Polish Standard PN-N-18002. Harmful factors in the work environment are measured on an ongoing basis, based on the method statement for the supervision of measurements of workplace factors. The main harmful factors within a work environment are noise, vibration, dust and, to a lesser extent, chemical factors, and the factor related to onerousness is night work. Measurements results and records can be found in the OHS office. Organisational and technical programmes are drawn up based on workplace factor tests to reduce exposure to their adverse effects. The employees of the OHS Office conduct inspections on an ongoing basis, which cover observance of OHS regulations and rules. A protocol is drawn up for each inspection. Post-inspection recommendations are implemented by managers. Reviews of working conditions are also conducted based on an official order. The company's Manager Board receives the recommendations from such a review. Recommendations that do not require financial outlay are implemented immediately, whereas a decision to implement review conclusions that require financial outlay is made by the Company's Management Board. In connection with the epidemic situation prevailing in the country, a team has been established at ZE PAK SA, which consists of the company's employees. Its task is to monitor the situation related to the development of the COVID-19 threat. Based on the team's findings, a coordinator was appointed in the company. The main tasks of the coordinator are to analyse the situation related to the coronavirus threat, as well as to implement internal acts, instructions and procedures. PAK Górnictwo has taken a number of measures to minimise the risk of COVID-19 infection. Based on orders and instructions, employees were informed about the pandemic-related restrictions being introduced. In order to minimise the risk of infection, measures such as disinfection of frequent direct contact areas, rotational and remote working were introduced, training was stopped, business trips and meetings were kept to a minimum, workplaces were equipped with disinfectants, and employees were provided with protective equipment such as disposable gloves and reusable masks. A procedure has also been developed for dealing with suspected SARS-CoV-2 infection at the workplace, and off-road motor vehicles with a separate passenger cabin have been designated at the workplace premises and secured for the possible transport of an employee suspected of being infected with coronavirus. Internal legal acts such as ordinances and instructions concerning organisational arrangements, which directly or only indirectly concern issues of occupational health and safety and ergonomics, i.e., which have an impact on ensuring safe and hygienic working conditions in the company, are also drawn up on an ongoing basis. Method statements covering work execution and operation of machinery, equipment and tools, the handling of chemical substances and their mixtures or hazardous materials are developed and updated, together with the hazards that may occur during the work process and the methods of avoiding them or mitigating their effects.

### **New business areas**

[403-2] New areas of activity related to energy generation based on natural gas (Adamów power plant), renewable energy sources (RES), nuclear energy and hydrogen production will be associated work environment risks different to the current ones. In the case of the solar and wind power investment projects, which have already been initiated on a larger scale, one

can, of course, talk about, e.g., the risk of electric shock, for example, but the risk level is incomparably lower than in the certain work positions in lignite mining or conventional power generation. In contrast, planned investments in nuclear power generation will involve exposure of some work positions to ionising radiation and the need for appropriate radiological protection to eliminate or maximally reduce the doses of ionising radiation. Although a workplace risk assessment for certain job positions will only be possible at a more advanced stage of individual ventures, it can be assumed that people's exposure to risks associated with occupational hazards will be less than currently. Also, the risks associated with the arduousness of work in these positions will certainly be lower than today.

## Key indicators

Table 26: End-of-year employment structure by contract type (in people, at the end of subsequent periods) [2-7, 2-8]

	2022			2021			2020		
	females	males	total	females	males	total	females	males	total
<i>By contract type</i>									
<b>Group</b>									
Permanent employment contract	302	2 723	<b>3 025</b>	333	3 092	3 425	364	3 498	3 862
Fixed-term employment contract	15	52	<b>67</b>	7	59	66	4	99	103
Trial-period employment contract	2	14	<b>16</b>	0	5	5	1	6	7
<b>ZE PAK</b>									
Permanent employment contract	209	576	<b>785</b>	228	696	924	245	739	984
Fixed-term employment contract	10	8	<b>18</b>	5	4	9	3	0	3
Trial-period employment contract	0	0	<b>0</b>	0	0	0	0	0	0

Table 26a: Structure of persons working based on civil-law contracts (at the end of subsequent periods) [2-7, 2-8]

	2022			2021			2020		
	females	males	total	females	males	total	females	males	total
<i>Civil-law contract</i>									
<b>Group</b>									
	13	79	<b>92</b>	13	79	92	16	78	94
<b>ZE PAK</b>	3	19	<b>22</b>	4	19	23	5	18	23

Table 27: End-of-year employment structure by position, education and age (in people, at the end of subsequent periods). The structure does not include people employed under a civil-law contract [2-7, 2-8]

	2022			2021			2020		
	females	males	total	females	males	total	females	males	total
<i>By position type</i>									
<b>Group</b>									
Management positions	28	143	<b>171</b>	45	259	304	35	183	218
Non-management positions	281	2 656	<b>2 937</b>	295	2 899	3 194	333	3 421	3 754
<b>ZE PAK</b>									
Management positions	23	50	<b>73</b>	30	60	90	32	68	100

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Non-management positions	196	534	<b>730</b>	203	640	843	216	671	887
<i>By education</i>									
<b>Group</b>									
Higher (bachelor's, master's, post-graduate, including PhD. and professor)	201	730	<b>931</b>	206	764	970	210	801	1 011
Secondary (high school, technical school, post-secondary, post high school)	107	1 062	<b>1 169</b>	123	1 206	1 329	137	1 384	1 521
Vocational (basic, vocational training)	8	872	<b>880</b>	11	1 028	1 039	16	1 216	1 232
Primary (primary, middle school)	3	125	<b>128</b>	5	155	160	6	202	208
<b>ZE PAK</b>									
Higher (bachelor's, master's, post-graduate, including PhD. and professor)	153	263	<b>416</b>	156	294	450	164	301	465
Secondary (high school, technical school, post-secondary, post high school)	64	207	<b>271</b>	73	247	320	79	262	341
Vocational (basic, vocational training)	2	90	<b>92</b>	3	128	131	4	134	138
Primary (primary, middle school)	0	24	<b>24</b>	1	31	32	1	42	43
<i>By age</i>									
<b>Group</b>									
Up to 30 years	5	116	121	4	157	161	13	197	210
31 to 40	51	469	520	56	538	594	56	608	664
41 to 50	93	902	995	100	1 128	1 228	103	1 397	1 500
Over 50	170	1 302	1 472	185	1 330	1 515	197	1 401	1 598
<b>Total</b>	<b>319</b>	<b>2 789</b>	<b>3 108</b>	<b>345</b>	<b>3 153</b>	<b>3 498</b>	<b>369</b>	<b>3 603</b>	<b>3 972</b>
<b>ZE PAK</b>									
Up to 30	3	10	13	2	9	11	8	10	18
31 to 40	34	72	106	38	83	121	41	77	118
41 to 50	67	157	224	72	195	267	71	226	297
Over 50	115	345	460	121	413	534	128	426	554
<b>Total</b>	<b>219</b>	<b>584</b>	<b>803</b>	<b>233</b>	<b>700</b>	<b>933</b>	<b>248</b>	<b>739</b>	<b>987</b>

Table 28: People newly employed within the year (in people, for a given period) [401-1]

Group	2022			2021			2020		
	females	males	total	females	males	total	females	males	total
Up to 30	2	47	49	0	27	27	1	14	15
31 to 40	9	67	76	1	21	22	4	12	16

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

41 to 50	9	93	102	6	24	30	8	20	28
Over 50	7	128	135	2	28	30	10	28	38
<b>Total</b>	<b>27</b>	<b>335</b>	<b>362</b>	<b>9</b>	<b>100</b>	<b>109</b>	<b>23</b>	<b>74</b>	<b>97</b>
<i>% of new employees in a team</i>	<i>8.46%</i>	<i>12.01%</i>	<i>11.65%</i>	<i>2.61%</i>	<i>3.17%</i>	<i>3.12%</i>	<i>6.23%</i>	<i>2.05%</i>	<i>2.44%</i>
<b>ZE PAK</b>									
Up to 30	1	5	6	0	4	4	1	1	2
31 to 40	6	6	12	0	10	10	2	2	4
41 to 50	4	9	13	5	6	11	5	12	17
Over 50	2	4	6	1	7	8	9	15	24
<b>Total</b>	<b>13</b>	<b>24</b>	<b>37</b>	<b>6</b>	<b>27</b>	<b>33</b>	<b>17</b>	<b>30</b>	<b>47</b>
<i>% of new employees in a team</i>	<i>5.94%</i>	<i>4.11%</i>	<i>4.61%</i>	<i>2.6%</i>	<i>3.9%</i>	<i>3.5%</i>	<i>6.85%</i>	<i>4.06%</i>	<i>4.76%</i>

Table 29: People leaving their jobs (in people, for a given period) [401-1]

<b>Group</b>	2022			2021			2020		
	<i>females</i>	<i>males</i>	<i>total</i>	<i>females</i>	<i>males</i>	<i>total</i>	<i>females</i>	<i>males</i>	<i>total</i>
Up to 30	0	57	57	3	26	29	1	57	58
31 to 40	9	117	126	3	83	86	4	115	119
41 to 50	5	192	196	8	193	201	9	185	194
Over 50	34	334	367	26	272	298	48	262	310
<b>Total</b>	<b>48</b>	<b>700</b>	<b>746</b>	<b>40</b>	<b>574</b>	<b>614</b>	<b>62</b>	<b>619</b>	<b>681</b>
<i>% rotation</i>	<i>15.05%</i>	<i>25.10%</i>	<i>24.00%</i>	<i>11.59%</i>	<i>18.20%</i>	<i>17.55%</i>	<i>16.80%</i>	<i>17.18%</i>	<i>17.15%</i>
<b>ZE PAK</b>									
Up to 30	0	2	2	2	0	2	0	0	0
31 to 40	6	11	17	0	4	4	2	3	5
41 to 50	1	29	30	5	8	13	3	1	4
Over 50	20	98	118	13	55	68	29	47	76
<b>Total</b>	<b>27</b>	<b>140</b>	<b>167</b>	<b>20</b>	<b>67</b>	<b>87</b>	<b>34</b>	<b>51</b>	<b>85</b>
<i>% rotation</i>	<i>12.33%</i>	<i>23.97%</i>	<i>20.80%</i>	<i>8.6%</i>	<i>9.6%</i>	<i>9.3%</i>	<i>13.71%</i>	<i>6.90%</i>	<i>8.61%</i>

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 30: Diversity within the Company's bodies (in people, at the end of subsequent periods) [405-1b]

	2022			2021			2020		
	females	males	total	females	males	total	females	males	total
<b>Group's Management Board</b>									
Up to 30									
31 to 40		2	2		1				
41 to 50	3	7	10	2	8	10	1	9	10
Over 50	1	17	18		14	14	0	11	11
<b>Total</b>	<b>4</b>	<b>26</b>	<b>30</b>	<b>2</b>	<b>23</b>	<b>25</b>	<b>1</b>	<b>20</b>	<b>21</b>
<b>ZE PAK SA Management Board</b>									
Up to 30									
31 to 40					1				
41 to 50		2	2	2	8	10	1	9	10
Over 50	1	2	3		14	14	0	11	11
<b>Total</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>23</b>	<b>25</b>	<b>1</b>	<b>20</b>	<b>21</b>
<b>Group's Supervisory Boards</b>									
Up to 30									
31 to 40		1	1						
41 to 50	1	5	6	1	8	9	1	8	9
Over 50		12	13		7	7		7	7
<b>Total</b>	<b>2</b>	<b>18</b>	<b>20</b>	<b>1</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>15</b>	<b>16</b>
<b>ZE PAK Supervisory Board</b>									
Up to 30									
31 to 40		1	1						
41 to 50		3	3	1	8	9	1	8	9
Over 50		6	6		7	7		7	7
<b>Total</b>		<b>10</b>	<b>10</b>	<b>1</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>15</b>	<b>16</b>



Table 31: Accidents at work [403-9]

	2022	2021	2020
<b>Group</b>			
Total number of accidents (casualties), including:	20	37	23
– minor	20	35	22
– severe	0	0	1
– fatal	2	2	0
Number of days lost	1,079	1842	1,909
Total accident casualty frequency rate (per 1000 insured)	7.0	7.9	7.9
Severe and fatal accident casualty frequency rate (per 1000 insured)	0.254	0.254	0.355
<b>ZE PAK</b>			
Total number of accidents (casualties), including:	1	4	0
– minor	1	3	0
– severe	0	0	0
– fatal	0	1	0
Number of days lost	40	79	0
Total accident casualty frequency rate (per 1000 insured)	1.8	1.7	1
Severe and fatal accident casualty frequency rate (per 1000 insured)	0.346	0.346	0

Table 32: Occupational diseases [403-10a]

	2022	2021	2020
Number of confirmed occupational diseases Group	1*	0	0

\*Case confirmed in ZE PAK

*Table 33: Number of employees exposed to factors harmful to health and factors associated with work strenuousness (in people, at the end of subsequent periods) [403-10b]*

	2022	2021	2020
<b>Group</b>			
Noise	45	129	153
Dust	4	0	0
Insufficient lighting	104	141	130
Energy expenditure	6	420	555
Work-related nuisance – working at night	1 302	1383	1 628
<b>ZE PAK</b>			
Noise	13	16	47
Dust	0	0	-
Insufficient lighting	93	141	130
Energy expenditure	6	0	-
Work-related nuisance – working at night	336	438	445

## 11.4. Environmental issues

### The impact of ZE PAK SA Group's transition on the environment and future risks

The transition of the ZE PAK Group towards a sustainable economy will bring hard-to-overestimate benefits, primarily related to achieving climate neutrality, i.e., no greenhouse gas emissions from the combustion of non-renewable minerals. Biomass combustion emissions, while evidently existing, do not affect the CO<sub>2</sub> balance in nature. The same biomass, if not combusted but subjected to putrefaction processes, would release significant amounts of carbon dioxide into the atmosphere due to the oxidation of the carbon therein. Therefore, biomass combustion is considered to be climate neutral and, crucially, biomass is a renewable fuel. Along with reducing combustion, emissions of other pollutants into the air (SO<sub>x</sub>, NO<sub>x</sub>, dust and resulting from kBAT) and the amount of waste (by-products) and wastewater generated will be reduced. The abandonment of lignite extraction will enable avoiding the interference with land relief that the construction of an open pit mine entails, the impact on surface and groundwater, as well as the noise and dust associated with the extraction of this raw material.

As mentioned previously, the gradual phasing out of open pit mining also means the gradual restoration of natural hydrographic conditions, no longer disturbed by artificial drainage of the mining area. Wherever land reclamation involves water reclamation, water reservoirs will be created, which will be part of nationwide water retention and drought-prevention efforts. Nevertheless, the restoration of natural hydrographic conditions in the interim period may be entail their periodic disruption, which will be the result of depression funnels filling with water and the associated reduction in the amount of water in certain surface watercourses. These, in turn, will additionally no longer be supplied with water pumped out of the mining areas.

At the same time, however, the new developments will be associated with other environmental impacts that will give rise to risk categories specific to them. Nevertheless, it is worth noting that the scale of these hazards, and thus the exposure of the ZE PAK SA Group to environmental risk in the case of already implemented investment projects will be much smaller. For example, in relation to photovoltaic farms at the stage of their operation, we can essentially only speak of landscape disturbance. The ZE PAK SA Group also looks with interest at projects that allow the use of farmland, e.g., for sheep grazing. In the case of wind power, however, it is worth pointing out the threat the turbines may pose to birds in addition to the significant disturbance to landscape. Biogas plants using, for example, manure, although sometimes a source of concern for local communities, in practice make it possible not only to generate energy, but also to neutralise the threat that excrement from intensive cattle and pig breeding may pose to the environment (especially surface water).

The new activity types should not cause such a serious nuisance to the public environment as the lignite mines do today. The resulting photovoltaic farm, although it covers an area of approximately 100ha, has been located on reclaimed post-mining land, so its construction did not involve the exclusion of land from agricultural production, land purchases or

relocation of residents. There are no large concentrations of people in its immediate vicinity. Anyway, the impact of the photovoltaic farm itself, apart from the transformation of the area, is limited.

Modern technologies and the level of safeguards employed in modern nuclear reactors minimise the risk of radiological contamination. These solutions practically eliminate scenarios of events analogous to the Chernobyl or Fukushima reactor disasters.



#### **Zero-emission hydrogen buses vs avoided emissions**

Experts of the Polski Autobus Wodorowy, part of the ZE PAK SA Group, have estimated that by replacing one diesel bus with a hydrogen bus, it is possible to avoid CO<sub>2</sub> emissions of 94.69 tonnes per year (per bus), or 7.89 tonnes per month.

For a period of 10 years, projected as the average depreciation period for a hydrogen bus, this provides savings of almost 1 000 tonnes of CO<sub>2</sub> throughout its lifetime (with long-haul buses, the benefits per bus can reach levels of more than 3 000 tonnes of CO<sub>2</sub> for the equivalent lifetime).

The estimation of the environmental effect of the Project is based on the methodology applied by the European Commission under support programmes (e.g., Innovation Fund) for projects related to the use of zero-emission hydrogen for transport.

Hydrogen-powered buses combine the advantages of conventional and electric buses. They do not emit CO<sub>2</sub> when operated, as is the case with buses powered by conventional fuels. In addition, owing to the modularity of the designed bus, it can offer performance currently only available in conventional units and currently unavailable in existing hydrogen and electric buses. Simultaneously, the refuelling time for hydrogen buses is 10 - 13 minutes, which is close to that of a diesel (compression-ignition) bus and significantly better than that of an electric bus (a few to several hours, depending on the charger power).



#### **Current environmental risks and management approach**

As with other segments, the framework of ZE PAK SA Group's policy and management approach to environmental issues at the operational level was already defined in the ZE PAK SA Group's Social Responsibility Strategy for 2017-2020. At the operational management level, these directions still remain applicable and are also reflected in the new ZE PAK Group Sustainable Development Strategy for 2023-2027. At the same time, one should bear in mind the existing certified management systems, with their scope addressing environmental issues, related to:

- the process of electricity and heat generation along with all auxiliary processes, identified environmental aspects, hazards, as well as legal and other requirements (ZE PAK SA),
- work in the field of installation, renovation and servicing of power and industrial equipment, industrial construction services, investment management in the power industry and the industry, as well as modernisation and maintenance of electrical and automation systems in the power industry (Przedsiębiorstwo Remontowe PAK SERWIS sp. z o.o.

and incorporate the environmental policies of the selected companies, followed by specific procedures that are periodically reviewed and optimised. Their aim, just like the aim of the ZE PAK SA Capital Group Sustainable Development Strategy for 2023-2027, is to ensure a stable and environmentally safe process of lignite extraction, energy generation, and maintenance and modernisation works.

At the same time, selected management aspects, in line with a broader scope of environmental management, are regulated by internal regulations and orders. These often reflect not only applicable national laws, but also specific administrative decisions and permits or environmental impact reports relating to a specific project, facility or plant. The latter, i.e., the environmental impact reports, or more precisely, their description of the anticipated impacts of the planned project on the environment, are in themselves a binding reference point for the managers of individual facilities and plants. This approach is extremely important. It is important to realise that environmental impact reports, rather than universal management systems, on one hand refer to the specificity of a given project, and on the other, unlike many other procedural solutions, are created through dialogue and open consultation with the surroundings. Therefore, solutions minimizing the impact on the natural environment are developed under the participation of stakeholders (local authorities, administration, local community, ecological organisations). They also take into account the unique specificity of each site, which is important, for example, in the case of open pits, because even if they are located close to each other, the prevailing site conditions (e.g., geological, hydrological, human settlement location) will be, at most, similar, but not identical. Therefore, the approach towards environmental management and limiting adverse impacts on the natural surrounding may also be, at most, similar, but not identical.

The starting point for the policy and the procedures based on it is the nature of the business activity's environmental impact. It entails specific risks, which are addressed by particular and constantly improved procedures and process solutions. To briefly define the nature of environmental impact requires dividing it into impacts related to mining activities (lignite mining) and energy generation.

In the case of **open pit mines**, the primary environmental impact aspects are:

- **impact on site surface** - (open pit mineral extraction involves site surface transformation; originally used land is replaced by spatial landforms (pit, spoil heap) and the associated infrastructure (conveyor belts, haul roads, back-up facilities),
- **impact on surface water** - (among others, reduction of flow in watercourses influenced by the mine and increased flow in watercourses due to discharge of water from underground and surface drainage of the open pit),
- **impact on groundwater** - (formation of a so-called depression funnel as a result of open pit drainage),
- **noise emissions** - (primary machinery associated with the excavation of the overburden and its placement, primary machinery extracting coal, coal and overburden conveyors, road transport),
- **impact of mine facilities on atmospheric air**
  - unorganised dust emissions: process (mechanical), i.e., related to mechanical mining and transport of raw material by belt conveyors; climate, i.e., related to wind erosion of vegetation-free areas,
  - organised emissions of pollutants into the air from the boiler house providing heat for the social facilities of the mine,
- **impact on environmentally valuable areas** (in case the environmentally valuable area is located in the impact zone),
- **risks associated with electromagnetic fields.**

In the case of **energy generation in conventional coal- and biomass-fired power plants**, the following aspects of environmental impact should be distinguished, among others:

- **emissions of compounds associated with coal combustion, e.g., CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>,**
- **dust emissions,**
- **noise generation** (e.g., due to the operation of power unit turbines),
- **waste generation** (in the process of lignite combustion and flue gas purification),
- **possible leakage of oil, mazout or acids resulting in local contamination of the soil and water environment,**
- **heating of surface water, lakes** (due to the use of lake surface water within the cooling process),
- **leaks of ash pulp or overlaying water into the soil and water environment,**
- **industrial wastewater discharge,**
- **electromagnetic field emissions,**
- **terrorism threat, which may result in environmental contamination.**

The various aspects of environmental impact referred to above give rise to specific risks both for business and the natural environment. In fact, it was the excessive environmental costs of energy generation based on lignite combustion, especially in the climate context, that so influenced the economic policy of the EU and Poland, and further on the decision

to extinguish this activity in the ZE PAK SA Group and transform towards more environmentally sustainable technologies.

In addition, each of the above-mentioned aspects may in certain situations (e.g., an accident resulting in contamination or above-normal emissions) cause image losses, social conflicts and loss of social consent for the activity, legal or financial sanctions or other decisions resulting in profit depletion. As a consequence, this may mean, for example, an upset in generation stability (the need to temporarily shut down some part of a generating system), a decrease in revenues (reduced output) or an increase in costs (e.g., the need to clean up accident consequences, but also the need to incur additional fees and penalties).

Therefore, the policies and procedures adopted by the ZE PAK SA Group with regard to the mining and conventional power generation areas, as adopted in the new ZE PAK Group Sustainable Development Strategy for 2023-2027, focus on ensuring mechanisms and procedures that minimise the risks of anomalies and deviations resulting in an above-normal impact on the natural environment within the extraction or generation process, and minimising atmospheric emissions by optimally shaping the use of the ZE PAK SA Group's current generation capacities and ensuring that the risk of overruns of gaseous emissions into the atmosphere is minimised.

In the generation segment, activities in 2022 have traditionally focused on aspects related to air protection (emissions, immissions), water and wastewater management (lake monitoring, wastewater management, underground water management), waste management, and noise emissions to the environment.

### ***Impact of activities on the immediate natural environment***

[303-1, 304-2] In the mining segment, most key measures to prevent, reduce or compensate for adverse environmental impacts are pre-planned already at the stage of environmental analyses and the development of the environmental impact report. In addition to technical and engineering solutions (appropriate heap shaping, planning solutions to minimise the effects of water condition disturbance due to open pit dewatering, etc.), impact standards are strictly defined in individual environmental aspects and environmental monitoring is conducted out throughout the many years of an open pit life cycle, as well as monitoring of water levels in wells, watercourses and water reservoirs, quantity and quality of water discharged to consumers (waters and to the soil), the extent of the depression funnel, dust emissions, noise levels, etc.

In the past year, PAK KWB Adamów SA in liquidation and PAK KWB Konin SA conducted:

- quantitative and qualitative monitoring of groundwater and surface water,
- nature monitoring, with particular emphasis on areas of high natural value,
- technical and biological reclamation.

[304-1, 304-3] There are several areas of natural significance within the range of significant impact of the ZE PAK SA Group's plants, both open pit mines and power plants: Among others, the eastern part of the "Adamów-Koźmin" mining area has been included in the Natura 2000 Special Bird Protection Area - Dolina Środkowej Warty (site code: PLB300002). The same area is located within the reach of the Drzewce open pit drainage. Part of the Drzewce open pit field A is located within the Natura 2000 area and the rest of the site and field B affects the site. In turn, the "Nadgoplański Park Tysiąclecia" Landscape Park and Nature Reserve (NPT) is located 7-12 km west of the Tomisławice open pit. In the area of the Tomisławice open pit, there is also the "Goplańsko - Kujawski" protected landscape area and the "Jeziro Głuszyńskie" protected landscape area. In turn, Special Habitat Protection Area - "Puszcza Bieniszewska" PLH300011 is in the vicinity of the Pątnów Power Plant, located 2.5 km to the west. Within the range of influence of the Pątnów Power Plant, at a distance of approx. 6-8 km to the south of the power plant, there is also a border of a Special Bird Protection Area - "Dolina Środkowej Warty" - PLB300002 and a Special Habitat Protection Area - "Ostoja Nadwarciańska". - PLH300009.

Groundwater monitoring (in a network of piezometers, farm and drainage wells), surface water monitoring (including studies of flows in river beds in the area of influence) were conducted at PAK KWB Adamów SA.

At PAK KWB Konin SA, monitoring of the water environment was conducted for the Tomisławice, Józwin and Drzewce open pits, as well as the open pits where mining has already been ceased, i.e., Kazimierz and Lubstów. At the Tomisławice opencast, monitoring of breeding birds in Ostoja Nadgoplańska, monitoring of natural habitats and plant species was conducted. As part of corrective measures in Ostoja Nadgoplańska, meadows were mowed to restore, preserve or improve the condition of habitats with protected plant species and to create favourable conditions for birds and insects. Bird monitoring was executed at the Drzewce open pit site, monitoring the impact of the open pit on wetland birds protected in the Dolina Środkowej Warty special bird protection area. As part of nature compensation aimed at habitat restoration, 15 artificial floating platforms for the black tern were installed on an oxbow lake in the Middle Warta Valley.

**Special Area of Habitat Protection PLH300011 "Puszcza Bieniszewska" [304-4]**

The dense forest complex is located at the western edge of the urban-industrial agglomeration of Konin. Almost the entire area is covered by well-preserved oak-hornbeam forests and riparian forests, small areas are occupied by acidophilous and light oak forests. Among them, there are three eutrophic water reservoirs, on the banks of which vast areas of eutrophic rushes and mossy meadows develop. The forest communities are well-preserved and highly diverse. It includes very well-preserved fertile deciduous forests of various types, particularly valuable as a gene reservoir in a landscape subject to very intensive, large-scale anthropopressure (there are extensive external and internal heaps of lignite mines nearby, currently undergoing reclamation).

A total of 8 habitat types from Annex I of the Habitats Directive were identified here. Valuable floristic refuge. Worth noting is the occurrence of a stable population of the *Liparis loeseli*, a species from Annex II of the Habitats Directive (1 Annex II animal species was also observed here). In addition, at least 12 other nationally or regionally rare species occur here. There are also rich populations of numerous species protected under Polish law.

Threats include air pollution - direct neighbourhood of open pit mines, power plant ash settling ponds and heated waters of Lake Gosławickie; change of groundwater level; change of use. The area is mostly located within 4 nature reserves of Bieniszew (144.1 ha; 1996), Sokółki (240 ha; 1996), Pustelnik (100.25 ha; 1997) and Mielno (93.65 ha; 1957). Entirely within the Powidzko-Bieniszewski Protected Landscape Area (20 480 ha).

**Special Protection Area for Birds PLB300002 "Dolina Środkowej Warty" [304-4]**

The area includes the Warta Valley between the villages of Babin (near Uniejów) and Dębno n. Wartą (near Nowe Miasto n. Wartą). The valley varies in width from 500 m to about 5 km, and is filled by silts and sands, with only small areas of shallow peats in drainless depressions. The area of the valley is transformed to a varying degree and used differently.

Within the Kolska Basin, the river is embanked on both sides - floodplains (meadows and pastures, local riparian meadows and vicinage) are located in the zone between the embankments and in the mouths of the Prosna and Kielbaska rivers. Within the Konin-Pyzdrska Valley, the valley has retained a more natural character.

Its western part has not been embanked and is subject to periodic flooding. This area is occupied by a mosaic of extensively used meadows and pastures, riparian woodlands and oxbow lakes overgrown with reeds. The western part of the area (west of the mouth of the Prosna River) is occupied by a large complex of flooded, near-natural old ash and elm riparian forests and lowland oak-hornbeam forests. Their significant fragments have been preserved through reserve protection. Due to the construction of the Jeziorsko dam reservoir on the Warta River, the natural hydrological rhythm of the river Warta has been modified, resulting in a variety of habitat changes. The area contains a European rank E 36 bird refuge (Middle Warta Valley).

There are at least 42 bird species from Annex I of the Birds Directive, and 18 species from the Polish Red List (PCK). The area is a very important wetland bird sanctuary, especially during the breeding season. During the breeding season the area is inhabited by more than 10% of the domestic population of the white tern (PCK), more than 2% of the domestic population of the following bird species: gannet, grebe, redshank, platypus, little tern (PCK), white-winged tern (PCK), black tern, tern and at least 1% of the domestic population of the following bird species: ruff (PCK), bittern (PCK), marsh harrier, pond harrier, middle-spotted woodpecker, spotted warbler, bluethroat (PCK), barred warbler, barred warbler, lapwing, grey heron, hoopoe, oddball, crake, great curlew (PCK), ringed plover (PCK) and barred warbler; relatively high abundance is achieved by: hen harrier (PCK), bulbul, corncrake, corncrake, snipe, ortolan, blindworm (PCK), kingfisher and field pipit; the very rare pintail (PCK) probably nests; in addition, hoopoe, odonata, kestrel and remiz occur in abundance above 1% of the domestic population, and in abundance c. 1% of the domestic population - quail. During the autumn migration there are white egrets (up to 23 individuals), marmots up to 1 500 individuals, cranes (up to 250 individuals) and mixed flocks of geese up to over 5 000 individuals. During the spring migration, tooting ruffs are encountered in numbers of up to 1 200 individuals. The following forms of preservation are employed: Landscape Parks: Nadwarciański (13 428.0 ha), Żerkowsko - Czeszewski (15 640.0 ha), Protected Landscape Area: Pyzdrski (until 1995, 30000) (16 572.0 ha), Uniejowski (18 000.0 ha), Goplańsko-Kujawski, Nadwarciański, Powidzko-Bieniszewski, Sz wajcaria Żerkowska, Złotogórski

Limiting snowmelt floods and unpredictable flooding after heavy summer rains in the period from June to August constitute threats. The change in the hydrological regime leads to a reduction in meadow and pasture management and, consequently, to the expansion of shrub and woody vegetation into open areas. The change in hydrographic conditions also has a negative impact on the health of the riparian forests in the western part of the area.

**Special Habitat Protection Area PLH300009 "Ostoja Nadwarciańska" [304-4].**

The refuge is located in the eastern part of Wielkopolska and includes a fragment of the Middle Warta Valley. The Warta River flows here latitudinally in the Warsaw-Berlin Proglacial Valley shaped during the last glaciation.

The floodplain of the Warta River reaches a width of over 4 km locally and is characterised by a great diversity of vegetation, hence creating favourable habitats for many animal species, birds in particular. The present-day valley bottom has been formed mainly as a result of accumulation and erosion activities of riverine waters (mainly the Warta, and to a lesser extent the Proсна and Czarna Struga). The relief is abundant in various fluvial forms, such as river embankments, floodplain with various types of oxbow lakes, dune terrace and dune hills. The waters of the Warta River are characterised by a snowmelt and rainfall regime, with a specific rhythm of freshets and lows determining the environmental conditions of the entire valley. The flood zone still covers most of the refuge, creating periodic floodplains of up to several thousand hectares. These floodplains are mainly formed in spring, during the melt season, and irregularly occur in summer as well. Originally, such floodplains shaped the natural conditions throughout the valley.

At present, they are modified by a rather narrow embankment of the greater part of the valley, as well as the large dam reservoir "Jeziorsko" in operation since the 1980s. The vegetation cover is very varied. It has mainly retained a semi-natural and natural, dynamic character. There are sporadic fragments of willow riparian forests *Salicetum albo-fragilis*, which are vanishing on a European scale, while phytocoenoses of riverine vicuñas *Salicetum triandro-viminalis*, connected with them in succession, are frequent. In small areas, especially on the edges of the valley, currant alder *Ribonigri-Alnetum* and accompanying ash-alder fenwoods *Fraxino-Alnetum*, as well as riverside forms of ash-elder fenwoods *Ficario-Ulmetum campestris typicum* (now spontaneously expanding their local range) have been preserved. For several hundred years the largest areas have been occupied by wet meadows and pastures (*Molinietalia*) and rushes of the class *Phragmitetea*, especially *Glycerietum maximae* and *Caricetum gracilis*. Aquatic plant communities of the classes *Lemnetea* and *Potametea* are well developed in oxbow lakes. Sandy dunes are overgrown with grasslands of the *Koelerio-Corynephoretea* class and pine stands. There are also interesting transitional bogs in the depressions without drainage within dune terraces.

The vast majority of the area is dominated by extensive meadow and pasture farming (including the grazing of flocks of geese, which is a tradition in this area) with forestry. Arable fields are concentrated in elevated areas and on the valley edge, where moderate agricultural settlements have developed. Some fragments of the terrain, especially in the Warta River riparian zone, are basically subject only to fluvial processes shaping the natural vegetation. The amphibian fauna is abundant in the refuge (13 out of 18 species occurring in Poland were found here). Other groups of organisms are less well identified, but there are interesting species of fungi, bryophytes, molluscs, mayflies, leeches, bats and fish.

The high value of this area is determined by the relatively low level of anthropogenic transformation, as natural and semi-natural ecosystems predominate. The international environmental values of the refuge have been confirmed by its inclusion in the CORINE biotopes and ECONET – Poland programmes. The Middle Warta Valley also meets the criteria of important areas for the preservation of wetland biotopes within the framework of the Ramsar Convention. The area is also important for bird preservation.

**Landscape Park and Nature Reserve "Nadgoplański Park Tysiąclecia" (NPT) [304-4].**

The park area is located 7-12 km west of the Tomisławice open pit. A large area within its boundaries is covered by water – 2 130 ha, including Lake Gopło – 2 050 ha. Of the protected plants, mention should be made of yellow water lily and white water lily. Around the lake, the natural arrangement of meadows has been preserved – from wet meadows to fresh meadows and pastures. Birds are the most numerous and interesting in the NPT area. Lake Gopło is the most populated site in Poland for the greylag goose, breeding site of the bittern, marsh harrier, lapwing, skylark and wintering site of the black stork, red-throated duck, silvery gull, plover and, recently, the white-tailed eagle. New species include the purple heron, common pochard, little ringed plover, ruffed plover, grebe and capped plover. The "Goplańsko – Kujawski" Protected Landscape Area was established in the southern part of the reserve and the landscape park "Nadgoplański Park Tysiąclecia", along the Warta-Gopło channel, in the area of Sompolno, Wierzbinek and Zarynia. Parts of forests with valuable tree stand, marshes and peat bogs with marsh and meadow vegetation, often on meadows of organic origin, are protected within the boundaries of this area. The "Kawęczyńskie Brzęki" forest reserve is located within the "Goplańsko – Kujawski" Protected Landscape Area. The reserve protects an oak-hornbeam forest with a rowan-birch tree. The "Goplańsko – Kujawski" Protected Landscape Area is connected in its

eastern part with the "Głuszyńskie Lake" Protected Landscape Area. Forests (Orle Forest) and meadow and marsh complexes are valuable.

The ZE PAK SA Group conducted reclamation work to recover areas which, due to lignite mining, were excluded from forest or agricultural production.

In areas where the exploitation of deposits has already been completed, technical reclamation and biological reclamation is conducted with relation to water, forest, agricultural, recreational and other. For example, in 2022, technical reclamation was covered approximately 270 ha, and biological reclamation covered approximately 2165 ha. Approximately 456 500 trees and shrubs were planted under biological reclamation.

At PAK KWB Adamów SA, biological reclamation covered an internal heap area of about 180 ha and technical reclamation on an area of about 80 ha. As part of technical reclamation, work was conducted with relation to scarping the Adamów tailings pond and forming the internal heap of the Adamów open pit. At the Adamów and Koźmin and the Władysławów open pit site, work was in progress involving filling post-mining pits with water, with a total area of about 860 ha, and involving nurturing the slopes of these pits including, among others, sodding the slopes of the Adamów Intermediate Reservoir, nursing the slopes of the Władysławów Reservoir and nursing the slopes of the Koźmin Reservoir. Planting was also conducted as part of forestry effort and covered the slope of the Adamów Koźmin Reservoir.

A decision was obtained to declare agricultural reclamation on the internal heap of the Adamów open pit on an area of 78.6057 ha complete. A decision was obtained to complete water-related reclamation for the Koźmin reservoir - on an area of 25.9588 ha. In total, decisions on the completion of reclamation were obtained for 104.5645 ha of land.

In addition, the following administrative decision was obtained:

- Decision of the Director of the Polish Waters Regional Water Management Board in Poznań PO.RUZ.4210.8.2022.JT.8 of 27/5/2022 granting a water permit for the construction of water facilities for the purpose of water management on the Koźmin Koźmin reservoir
- Decision of the Head of the Brudzew Commune ref. No. RSG.6220.5.2022 dated 18/8/2022 on the environmental conditions for the undertaking entitled "Water ditch from the Passive Canal to the Głowy Reservoir in the Koźmin open pit".
- Decision of the Polish Waters Director of the Regional Water Management Board in Poznań PO.RUZ.4210.220.2022.JT.6 of 28/11/2022 granting a water permit for the construction of a water device – water feeder ditch from the Passive Canal to the Głowy Reservoir
- Decision of the Head of the Przykona Commune, ref. No. RRG.6220.1.2022 dated 6/12/2022 on the environmental conditions for the undertaking entitled "Transfer of water from the Jeziorsko reservoir on the Warta river and the Teleszyna river basin in order to increase groundwater resources in the area of the Adamów pit internal heap".

122 000 trees and shrubs were planted in 2022 at the premises of KWB Adamów SA.

At PAK KWB Konin SA, technical reclamation works were conducted on the internal heaps of the Józwin and Drzewce open pits and on the external heap of the Tomisławice open pit. Technical reclamation covered a total area of approximately 190 ha. Biological enclosure of reclaimed areas in modes of water, agriculture, forest and recreation was conducted on an area of approx. 1 125 ha. Decisions on the completion of recultivation in agriculture mode were issued for the areas of Józwin II A and Józwin II B, covering a total area of 206.6065 ha, for the Lubstów water reservoir with an area of 34.7016 ha and for the Lubstów water reservoir with an area of 34.7016 ha, and for the Drzewce open pit area in the forestry mode, with an area of 41.2387 ha. The Local Government Appeal Court (SKO) in Konin upheld the decision in the water mode related to the flooded part of the Kleczew reservoir in the Kazimierz Północ open pit, covering an area of 242.1941 ha. A total of 524.7409 ha of reclamation decisions were obtained. The decision to terminate the water reclamation of the flooded part of the Kleczew reservoir in the Kazimierz Północ open pit, with a surface area of 165.3419 ha, is in the process of becoming final at the SKO in Konin. Reclamation in the forestry mode is ongoing in relation to the Drzewce open pit – Field Bilczew and Field A, Tomisławice open pit – external heap, Józwin II B open pit and the slope of the Kleczew reservoir on an area of approx. 225 ha, and in agricultural, recreational and other modes on the Józwin II A open pit, Józwin II B open pit and LZG (Mining Plant) Kazimierz Północ on an area of approx. 220 ha. Water reclamation is also continuing in the Kleczew and Lubstów reservoirs.

A total of 334 500 trees and shrubs were planted on the PAK KWB Konin SA site in 2022.



Table 34: Specification of area sizes with completed technical reclamation, in the course of biological reclamation and seeding, as well as areas with a decision on successfully completed reclamation (hectares)

	2022	2021	2020
Technical reclamation	270	167	186
Biological reclamation (in progress)	2 165	2 252	1 867
Biological reclamation (completed)	629.3	388.0	3.6

Table 35: Share of lands with a decision on completing reclamation to lands excluded from agricultural and forestry production in mines (%)

	Total since 2006	2022	2021	2020
Lands excluded from agricultural and forestry production subject to reclamation (ha)	3 245.19	36.64	37.86	88.16
Lands with obtained decision on reclamation completion (ha)	3 456.47	629.31	388.05	3.64
Share of lands with a decision on completing reclamation to lands excluded from agricultural and forestry production in mines (%)	107%	1 718%	1 025%	4%

Table 36: Reclamation effectiveness index for a given year: % share of lands with a decision on completing reclamation to lands excluded from agricultural and forestry production (%)

	2022	2021	2020
Estimated area of total lands excluded from agricultural and forestry production subject to reclamation (ha)	4 150	4 740	5 085
Lands with obtained decision on reclamation completion (ha)	629.3	388.1	3.6
Reclamation effectiveness index (%)	15.2%	8.2%	0.1%

Table 37: Plantings

	2022	2021	2020
Number of trees planted (pcs)	456 500	202 000	276 000



#### **Air protection: emissions and immissions**

The generating facilities, which have been in operation for many years, have been modernised and retrofitted with process solutions, primarily associated with adapting them to the ever more stringent environmental standards. Owing to the

modernisation of two units at the Pątnów I power plant and the earlier construction of a unit at the former Pątnów II power plant, **generation efficiency increased** (and thus fuel efficiency) at these power plants on one hand, and **emissivity, including the mass of CO<sub>2</sub> per unit of electricity produced, decreased** on the other. This approach also enabled **dramatically reducing emissions of harmful nitrogen and sulphur oxides and dust into the atmosphere**. However, bear in mind that successive tightening of standards eliminating emissions or increasing the fees associated with them has its impact on the economic efficiency of the energy generation process in a conventional manner, using fossil fuels.

The new, extremely ambitious green transition strategy of the ZE PAK SA Group, which assumes a shift towards low-emission and emission-neutral sources of electricity, as well as the production and use of "green" hydrogen, is becoming a reality. Investments in new, eco-friendly generation assets are implemented together with the phasing out of lignite-based power generation. This had already begun prior to the formal adoption of the strategy document. The following have been decommissioned in recent years:

- Adamów Power Plant (600 MW: 5 coal-fired units with a capacity of 120 MW each) - last unit shut-down on 1 January 2018.
- Pątnów I Power Plant (200 MW: 1 coal-fired unit with a capacity of 200 MW - unit no. "4") - shut-down at the end of 2019.
- Pątnów I Power Plant (200 MW: 1 coal-fired unit with a capacity of 200 MW - unit no. "3") - shut-down in mid-2020.
- Pątnów I Power Plant (200 MW: 1 coal-fired unit with a capacity of 200 MW - unit no. "6") - shut-down at the end of 2020.
- Konin Power Plant (93 MW: 2 steam turbine generators in the manifold system with coal boilers) - shut-down in mid-2020.

**As a result, over the recent years, the ZE PAK SA Capital Group has decommissioned power equipment with a capacity of 1 293 MW. There are only 4 coal-fired units left out of the 7 originally available ones in the Pątnów Power Plant – the largest in the Group.**

The Group is planning to decommission the remaining coal units - **it has announced a complete coal phase-out by 2030 at the latest, but the current baseline scenario is to end coal mining and combustion as early as 2024**. In the case of the **Konin Power Plant**, operated by PAK PCE BiW, 2 boilers with a total thermal capacity of 222 MWt, operating in a manifold system with a TG4 turbine were definitively shut down at the end of 2022. Their operation was related to maintaining a backup heat supply for the city of Konin until the second biomass unit was commissioned. The second unit was commissioned in **April 2022** and, in addition to generating electricity for the National Power System, it is also a source for heat generation, that is inter-redundant with the first biomass unit.

As in the case of the extraction segment, key environmental impact parameters related to electricity generation are monitored, often on a continuous basis. Similarly, reports of potential irregularities are reviewed. However, it should be mentioned that the environmental conditions imposed on conventional generators are becoming increasingly more stringent and this trend is expected to continue. In this context, mention should be made, for example, of the BAT (Best Available Technology) Conclusions, which for the conventional power sector entered into force on 18 August 2021. The BAT regulations tighten emission limits for nitrogen oxides, sulfur oxides and dust, which had previously been governed by the Industrial Emissions Directive (IED). Limits for chlorine and fluorine compounds and heavy metals, such as mercury, have also been included in the catalogue of these standards. This poses major organisational and capital challenges for conventional power generators related to the adaptation to new regulations. However, it is also necessary to take into account certain derogations and exemptions that a generator will be entitled to under certain conditions (e.g., due to a remaining relatively short lifetime that does not justify incurring disproportionate expenses).

Throughout the year, the emission of pollutants at individual power plants was monitored for compliance with applicable emission standards and requirements of BAT Conclusions. Continuous emission monitoring systems were extended to meet the assumptions regarding monitoring air emissions in the light of kBAT. The correct operation of the continuous measurement systems at ZE PAK SA was supervised, and the functioning of procedures, i.e., QAL3 - quality assurance procedure during operation of flue gas emission monitoring systems compliant with PN-EN 14181, was coordinated. As of 18 August 2021, a number of additional emission monitoring obligations, including metals and semi-metals and an extended range of fuel quality were performed. The correct operation of protective equipment reducing air emissions was supervised. The production process was coordinated in terms of meeting air emission standards and limits (optimisation of the combustion process at the Pątnów II power plant). The tasks at ZE PAK SA under the PRTR (National Pollutant Release and Transfer Register) were executed through measuring and reporting pollutants. Financial obligations for the emission of pollutants into the atmosphere as part of the operations, i.e., environmental and penalty fees, and in the scope of reporting pollutant emissions into the air, were performed.

Due to the impact of pollutant emissions on the immediate surroundings, atmospheric air purity within the impact area of the Group's power plants (air pollutant immission) is also monitored. In 2022, no significant differences were identified between the levels of tested substances and their equivalents measured by stations of the Provincial Inspectorate of Environmental Protection in Wielkopolska.

In the context of emissions of all pollutants, including dust, the past year was satisfactory for the Group. A comparison of relevant indicators can be found at the end of this chapter. Integrated permits for the combustion systems of ZE PAK Spółka Akcyjna, i.e., Pątnów I Power Plant - units no. K1, K2 and K5, Pątnów II Power Plant - unit no. K9, Konin Power Plant - units no. K12 as well as K-85 and K-86 were adjusted to the requirements of BAT conclusions, taking into account individual deviations from emission limits. The Company conducts its generation activities in line with the permissible emission limits arising from the IED Directive and BAT Conclusions. Constant emission monitoring systems, expanded according to BAT 4 requirements, constitute grounds for the verification of ZE PAK SA's fulfilment of the requirements set out in the Commission Implementing Decision (EU) 2017/1442 on emissions of pollutants into the atmosphere.

Irrespective of the reduction in emission factors per unit of production referred to above, it is also important to note that the systems employed at the Pątnów and Konin power plants did not exceed permissible emission levels once in the past year.

### ***Water and sewage management, and lake monitoring***

#### *Unique, semi-natural cooling system*

[303-1] From a formal standpoint, the condenser cooling system of the Pątnów Power Plant and Konin Power Plant is an open system. However, this is not a typical solution for many industrial facilities, where cooling is provided by the waters of flowing rivers, whose waters receiving excess heat. The solution applied in the case of the ZE PAK power plant can be viewed as a kind of closed circuit, with incorporated natural water reservoirs, connecting them with each other through a system of canals. This system enables replenishing the water from the Warta River in this specific system in the event of a water table decrease. As a result, the relatively constant water level in the lakes allows power plants to operate effectively in the summer months, a situation impossible in those power plants located on rivers, which have to reduce power in the event of hot droughts (at low water levels). Thus, ZE PAK's power plants are better prepared for the risks entailed by a warming climate, i.e., prolonged droughts, which in the case of ZE PAK do not necessarily, with the output levels of recent years, mean that generation has to be significantly reduced. It is a circuit that combines natural reservoirs and man-made solutions into a whole. However, it is in a closed system of sorts and operates practically independently of the other reservoirs and natural watercourses, without affecting their functioning. This is an engineering solution unparalleled in Europe and the world.

The system connects five natural lakes of Konin, which, as a single lake complex, are a cooling water intake, as well as the receiver and cooling point for heated discharge water. The Pątnów power plant draws cooling water from Lake Gosławskie and Lake Pątnowskie. The Konin power plant draws cooling water from Lake Pątnowskie. Water, heated in condensers, is discharged into discharge ducts that distribute it to all lakes of the cooling circuit. The cooling circuit consists of the following connected lakes: Gosławskie, Pątnowskie, Licheńskie, Wąsowskie, Mikorzyńskie and Ślesieńskie, canals, pumping stations, culverts and siphons. The cooling circuit common to the Pątnów and Konin Power Plants is called a distant circuit (the volume of water in the distant circuit is approximately 87 188 000 m<sup>3</sup>). The exception is Lake Gosławskie, which cools water only from the Pątnów Power Plant and is called the near circuit (amount of water in the near circuit of approximately 21 500 000 m<sup>3</sup>).

The distant cooling circuit operates during the period of elevated air and water temperatures (summer period),

in the following manner: heated cooling water drawn by the Central Pump Station from Lake Gosławskie for cooling of the Pątnów Power Plant is partially discharged through a discharge duct back into Lake Gosławskie through 3 overflows, while the remaining part continues to flow through the duct to and connects with the discharge water of the Konin Power Plant. Combined channels distribute water to Lake Pątnowskie and lakes: Mikorzyńskie and Licheńskie. From Lake Licheńskie, the "Piotrkowice" pumping station pumps water through channels to Lake Ślesieńskie. There may be water shortages in the lakes during summer periods with low rainfall (so-called "dry summers"). These shortages can be supplemented from the Warta River through pumping stations in Morzysław and Pątnów via the Warta - Gopło Channel.

The system created in the 20th century has strongly influenced the biology of the lakes, mainly by contributing to an increase in average lake water temperature. Energy generation by power plants has contributed to the creation of an aquatic ecosystem characteristic only of the heated and well-aerated Konin lakes. The discharge of aerated and warm, but strictly temperature-controlled, water has for years favoured the development of fish breeding, including their reproduction and the production of stocking material. This is further used by fish farms throughout the country. The

management in the vicinity of the power plants implemented by fish farms, which are technologically coupled to the cooling circuit, together constitutes a sturgeon fish breeding system that is unique on domestic, and even European scale.

#### **Alien species, including invasive**

The Konin lake system creates conditions for colonisation by alien, often invasive species. As many as 41 species alien to the region and at least 58 cryptogamous species, i.e., not clearly native or alien, were recorded there, and their expansion or invasion could and may be due to both natural and anthropogenic causes. The predominant species among the studied ones were stringfish, molluscs and amphipods. At the same time, the lake ichthyofauna was enriched by 12 alien fish species.

It was possible to determine the circumstances of lake system colonisation for 58% of the species. Most of them originated from the Pontocaspian and Asian areas. Species from North America, Africa, South America and a few from Australia, Oceania and Central America were also recorded. Some were brought to Poland for commercial purposes (aquaculture, fish-keeping). Others were introduced to the lakes on purpose, e.g., Asian herbivorous fish like grass carp, white trout and spotted trout – as they were to help limit the spread of spiral wallaby (a grass popular in fish-keeping). A significant number of species populated the lakes as “stowaways”. They were accidentally released into the environment, e.g., from aquaculture and fish-keeping. Some also came, for example, from so-called “plantings”, e.g., hybrid water lilly.

An example of an invasive species may be the bivalve mollusc - Chinese bark beetle - occurring naturally in the Amur and Yangtze rivers, and brought to Poland from Hungary together with farmed herbivorous fish in the early 1980s. It was found by accident in the summer of 1993, during an exploration of the bed of the Pątnów power plant discharge channel. Similarly, to the Chinese bark beetle, the stone moroko – a fish naturally found in China, was brought to Poland with stocking material from Hungary, but as a result of its expansion in Poland, it inhabits more than 50 sites, mainly within pond complexes. Its spread has been facilitated by the stocking of farm ponds, lakes and rivers with stocking material of other fish.

A separate group of alien fish species found in Konin lakes includes “escapees” from breeding facilities. The occurrence of sturgeon, rainbow trout, tilapia or golden carp was related to their unintentional introductions. Most of these species do not reproduce in heated lakes. Their impact on the environment and the already poor native lake ichthyofauna is also unknown. The fish inhabiting the lakes are currently under strong pressure from anglers, as well as fish-eating birds congregating in the area of the Konin lakes.

*Source: based on a study by prof. dr hab. Bogusław Zdanowski*

#### *Lake monitoring*

[303-1] Anthropogenic activities have contributed to the formation of an aquatic ecosystem characteristic only of the heated Konin lakes (Gosławskie, Pątnowskie, Ślesieńskie, Licheńskie, Wąsowsko-Mikorzyńskie), which is subject to continuous monitoring by ZE PAK. The following parameters are variable:

- circulating water quantities,
- discharge water temperature,
- lake water levels,
- use of lakes for cooling (“near” or “distant” circuit only).

All the above-mentioned parameters are subject to constant monitoring. The thermal conditions in lakes and cooling circuit channels of the Pątnów power plant and the Konin power plant are systematically monitored by ZE PAK SA under the terms of the integrated permit. The monitoring involves:

- surface water temperature measurements at 24 points important for the preservation of the lakes and cooling circuit operation; the measurements are taken at least once a month (in the cold season) and much more frequently (even daily) in the summer season (depending on air temperature),
- continuous, automatic measurement of water temperature at the intakes from the Pątnowskie and Gosławskie lakes,
- continuous, automatic measurement of water temperature at power plant discharges.

A network of control and measurement benchmarks gauges is established on all cooling system facilities. Measurements of water levels and water flows are taken to control the proper functioning of the entire cooling circuit. This is achieved, among other things, by means of water level gauges, installed on the intake and discharge channels and on the lakes. Lake water level fluctuations depend on a number of factors, mainly of a natural character. In turn, the ability to use water to

cool the units under operation depends on water quantity and temperature. Physical and chemical monitoring of water is also carried out once a month in all lakes and channels included in the cooling circuit.

#### *Wastewater management*

[303-1] Wastewater generated at power plants is treated at on-site treatment plants and, once the achieved parameters are in line with current legislation, is discharged to receiving bodies. However, for many years, power plants have been taking measures to use wastewater in internal systems and prevent water pollution in lakes. Thus, wastewater from the flue gas purification plant, oily wastewater from the washing of industrial floors and filter flushing wastewater from the potable water treatment plant are used to produce ash-slag pulp, so there is no need to use lake water as a transport medium for this purpose. Furthermore, the lakes are not polluted with chemicals. In addition, wastewater from a modern water demineralisation station is used by the flue gas desulphurisation plant for the production of lime milk. Owing to the comprehensive modernisation of the waste water discharge system at the Pańnów power plant, all wastewater (including domestic and industrial) was managed within the plant's internal system, which contributed to the complete cessation of pollutant emissions to surface waters.

#### *Water stress analysis*

According to the *Aqueduct™ Water Risk Atlas*<sup>9</sup> published by the World Resources Institute (WRI), the entire area of the Konin Lakes, where the mining and manufacturing operations of the ZE PAK SA Group are conducted, is a region where the so-called "water stress"<sup>10</sup> has been identified as "high" and the overall water risk<sup>11</sup> as "medium-high". In contrast, the risk of physical water availability, which contributes to the overall water risk and includes, among others, the water stress issue, has been assessed in relation to this area as "extremely high". This implies the need for very serious economical and rational use of the scarce resources and special care not to pollute them.

### **Using post-mining workings to increase retention in Eastern Greater Poland**

On 9 February 2021, ZE PAK SA signed a Letter of Intent with State Water Holding Polish Waters (PGW WP) on the use of post-mining pits to increase retention in Eastern Wielkopolska. The signing ceremony was attended by Deputy Minister of Infrastructure, Marek Gróbarczyk.

The aim of concluding the Letter of Intent is to increase retention in eastern Wielkopolska by finding the most favourable variants for further shaping of river and lake catchment areas in the area where the mines owned by ZE PAK SA operate, using post-mining pits for retention and flood management, and establishing cooperation on the possibility of using considered post-mining pits for renewable energy generation purposes.

An integrated programme for the restoration of hydrographic conditions has been prepared to this end, which covers both post-mining pits, rivers and channels flowing through the area, as well as lakes and wetlands of the nearby Gniezno and Kujawy Lake District. In particular, the signed letter of intent includes actions related to:

- restoring water resources in the catchments of: Teleszyna and Kielbaska rivers after the operation of PAK KWB Adamów SA in liquidation and the Adamów Power Plant are ceased, together with the adaptation of the reservoirs after the Koźmin and Adamów open pits to perform retention and flood control functions;
- restoring water resources in the Topicz River catchment in the area of the Władysławów open pit operation, together with the construction of a system enabling faster filling of the final open pit working to ensure their retention and flood control function;
- faster filling of the final workings of the Józwin IIB and Kazimierz Północ open pit sites in order to accelerate the rebuilding of water-bearing horizons that have been eroded over the years as a result of the depression funnel in this region, which will consequently translate to raising the water tables of the lakes belonging to the Powidzki Landscape Park;
- restoration of water resources and improvement of the hydrological condition of the Warcica river basin, through its recharge with waters from the Warta river, together with restoration of wetlands adjacent to the restored river and occurring in the area of the Drzewce open pit operations;

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<sup>9</sup> <https://www.wri.org/applications/aqueduct/water-risk-atlas>

<sup>10</sup> water stress measures the ratio of total water intake to available renewable surface and groundwater sources.

<sup>11</sup> Overall water risk measures all water risks by aggregating all selected indicators from the physical quantity, quality and regulatory and reputational risk categories. Higher values indicate higher water risk.

- faster filling of the final working of the Lubstów open pit, which will contribute to increasing the volume of water in the Noteć river flowing in the vicinity of the reservoir;
- diverting available surface water to the final working of the Tomisławice open pit mine to speed up the recovery of aquifers depleted over the years due to the depression funnel that had functioned in the region.

On 8 November 2022, ZE PAK SA signed a letter of intent with PGW WP, the Powidzki Landscape Park Association, the Marshal of the Wielkopolskie Province, the Ślupецki and Gniezno districts, the Orchowo and Kazimierz Biskupi communes, and the Miradz Forestry Inspectorate on establishing cooperation to implement a task entitled Increasing the retention and flood protection of the middle Warta river by utilising the potential of the reservoirs in the Biskupia Struga drainage basin and adapting the Ślesiński Channel for water transfer. The planned duration of the task is 2022-2025. Total task cost – PLN 35 000 000.00, including 30% of own contribution provided by the signatories of the letter and 70% of the funding from the Just Transition Fund.

On 26 January 2023, ZE PAK, the Poznań University of Life Sciences and Polish Waters signed a letter of intent on cooperation in the transformation of post-mining areas; cooperation in the area of environmental and technical research with particular focus on new investments in renewable and nuclear energy.

Table 38: Water consumption<sup>12</sup> [303-3]

		UoM	2022	2021	2020
<b>Group</b>					
Surface waters:	fresh (≤1000 TDS)	m <sup>3</sup>	2 352 681	2 701 643	2 890 477
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Groundwater:	fresh (≤1000 TDS)	m <sup>3</sup>	337 894	455 999	430 265
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Salt water:	fresh (≤1000 TDS)	m <sup>3</sup>	0	0	0
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Produced water:	fresh (≤1000 TDS)	m <sup>3</sup>	0	0	0
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Purchased water		m <sup>3</sup>	190 639	184 773	285 064
<b>Total water intake</b>		<b>m<sup>3</sup></b>	<b>2 881 214</b>	<b>3 342 415</b>	<b>3 605 806</b>
<b>ZE PAK</b>					
Surface waters:	fresh (≤1000 TDS)	m <sup>3</sup>	2 352 681	2 701 643	2 890 477
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Groundwater:	fresh (≤1000 TDS)	m <sup>3</sup>	334 917	425 987	391 770
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Salt water:	fresh (≤1000 TDS)	m <sup>3</sup>	0	0	0
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Produced water:	fresh (≤1000 TDS)	m <sup>3</sup>	0	0	0
	other (>1000 TDS)	m <sup>3</sup>	0	0	0
Purchased water		m <sup>3</sup>	0	0	0
<b>Total water intake</b>		<b>m<sup>3</sup></b>	<b>2 387 598</b>	<b>3 127 630</b>	<b>3 282 247</b>

Comment: in the case of ZE PAK: surface water includes the sum of total water drawn for individual power plants i.e., Pątnów, Konin (the former Adamów power plant does not draw such waters). This is a non-returnable consumption. The amounts of water drawn for cooling purposes, which is returned to the environment in its entirety in unchanged quantity and composition, were not included in the

<sup>12</sup> Only entities with the largest water demand were taken into account, i.e., ZE PAK SA and KWB Adamów and KWB Konin.

statement. Groundwater for ZE PAK is the sum of water drawn at the following power plants: Pątnów, Adamów, Konin. In the case of mines, the intake of groundwater from plant's intakes for social-living and fire purposes.

Table 39: Used water discharge (open pit drainage)<sup>13</sup> [303-4]

	UoM	2022	2021	2020
<i>Water discharged, by destination</i>				
Surface waters	m <sup>3</sup>	0	0	0
Groundwater		151 550 861	160 581 455	169 844 423
Salt water	m <sup>3</sup>	0	0	0
Produced water	m <sup>3</sup>	0	0	0
Purchased water	m <sup>3</sup>	0	0	0
<b>Total</b>	<b>m<sup>3</sup></b>	<b>151 550 861</b>	<b>160 581 455</b>	<b>169 844 423</b>

Comment: waters from open pits were discharged into the environment - the specified volume does not include domestic wastewater discharge

Table 40: Water consumption<sup>14</sup> [303-5]

	UoM	2022	2021	2020
Total water consumption	m <sup>3</sup>	193 616	212 419	313 303

## Waste

[306-2] The main waste streams generated at KWB Adamów and KWB Konin are iron and steel scrap, furnace slag and ash from plant boiler houses.

A total of 3 838.59 Mg of waste was generated in 2022, including 15.8 Mg of hazardous waste, including 691.36 Mg of total waste and 3.55 Mg of hazardous waste at KWB Adamów and 3 147.23 Mg of total waste and 12.25 Mg of hazardous waste at KWB Konin. In 2021, 3 691.91 Mg of waste were generated, including 18.12 Mg of hazardous waste. The generated waste was handed over to companies with relevant permits in terms of waste collection, processing, i.e., recovery or neutralization (except for ash and slag waster from plant boiler houses, which were used for hardening land surfaces, construction of internal road and yard substructures).

[306-2] The main waste stream generated at ZE PAK SA is furnace waste (ash) and solid waste from calcium-based flue gas desulphurisation methods (gypsum). The waste generated is primarily managed by external companies as part of waste recovery. Fly ash generated is mainly used to create mixtures for road foundations and road binders. Waste from flue gas desulphurisation, on the other hand, is mainly directed to the production of gypsum products, plasterboard and cement plants. In 2022, approximately 556 000 tonnes of flue gas desulphurisation waste were generated (with more than 219 000 tonnes sold) and approximately 94 000 tonnes of waste from calcium-based flue gas desulphurisation (94 000 tonnes sold). The remaining quantities of waste generated are directed to landfills owned by the Company.

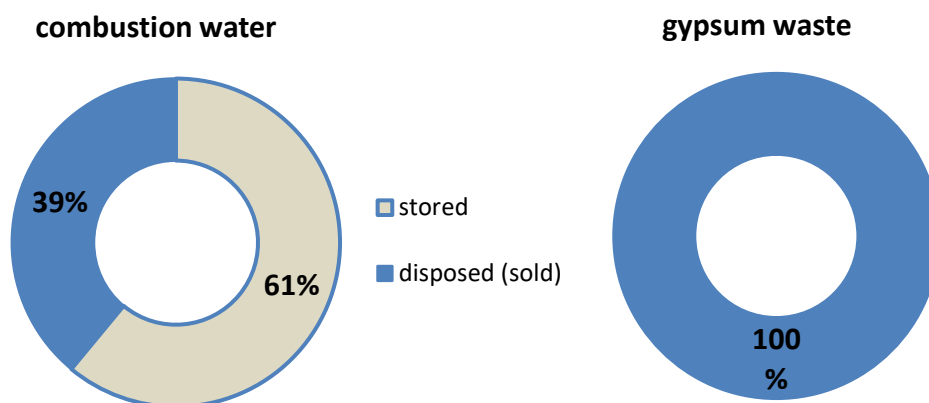
The combustion and flue gas desulphurisation waste generated in ZE PAK SA meet the requirements of environmental protection and does not endanger human life and health, which was confirmed by tests in the field of physico-chemical,

<sup>13</sup> Only entities with the largest water demand were taken into account, i.e., ZE PAK SA and KWB Adamów and KWB Konin.

<sup>14</sup> Only entities with the largest water demand were taken into account, i.e., ZE PAK SA and KWB Adamów and KWB Konin.

toxicological and ecotoxicological properties executed for the needs of registration of substances in accordance with the REACH regulation's requirements.

Chart 16: Percentage share of managed waste generated at the Company in 2022



The landfills operated by ZE PAK SA in 2022 were monitored in terms of groundwater, surface water and supernatant water quality, at a frequency specified in integrated permits and landfill operation manuals, i.e., one a quarter. Currently, ZE PAK SA owns 4 waste disposal sites, all of them under operation in 2020, i.e.,

- solid waste landfill for the Pątnów open pit (inert waste landfill),
- Zachodnia open pit furnace waste landfill with the so-called Wschodnia open pit evaporator and the solid waste landfill (landfill for non-hazardous and inert waste),
- northern combusted fuel waste storage site Pątnów open pit (landfill for non-hazardous and inert waste),
- open-pit combustion waste disposal site - Gosławice open pit together with the Linowiec evaporator (landfill for non-hazardous and inert waste).

Monitoring was carried out within a basic and supplementary monitoring network. Groundwater quality was monitored through a network of piezometric boreholes located in the vicinity of landfills. The quality of groundwater studied in piezometers and deep wells in 2022 ranged from Class I to V. Overlaying waters occurring at the landfills (used for hydrotransport of combustion waste) were characterised by high mineralisation, high electrolytic conductivity, high pH and total hardness. In addition, landfill monitoring involves an annual assessment of slope stability and subsidence extent. Most scarps monitored in 2022 turned out to be stable. ZE PAK SA is also conducting ongoing reclamation of non-operated waste landfill sections.

Table 41: Waste management – generated waste [306-3]

Waste streams (waste code)	UoM	2022	2021	2020
<b>Group</b>				
Ash-slag mixture (10 01 80)	tonnes	154 607.9	212 219.9	295 512.0
Furnace slag (10 01 02)	tonnes	207 872.0	416 621.9	454 688.4
Calcium-based reaction wastes from flue-gas desulphurisation in sludge form (10 01 07)	tonnes	96 244.4	148 191.3	123 368.35
Bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04) (10 01 01)	tonnes	-	2 824.4	2 245.3
Fly ash from peat and untreated wood (10 01 03)	tonnes	3628.0	14 242.9	14 395.4
Sludge from on-site effluent treatment other than those mentioned in 10 01 20 (10 01 21)	tonnes	131.6	398.5	760.1
Calcium-based reaction wastes from flue-gas desulphurisation in solid form (10 01 05)	tonnes	93 847.7	155 717.8	124 136.3



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

other non-hazardous waste	tonnes	7 814.9	5 913.6	25 780.8
hazardous waste	tonnes	134.6	88.7	119.2
<b>Total</b>	<b>tonnes</b>	<b>564 281.2</b>	<b>956 219.1</b>	<b>1 041 005.9</b>
<b>ZE PAK</b>				
Ash-slag mixture (10 01 80)	tonnes	59 500.3	212 220.0	295 512.0
Furnace slag (10 01 02)	tonnes	220 227.3	416 621.9	454 688.4
Calcium-based reaction wastes from flue-gas desulphurisation in sludge form (10 01 07)	tonnes	29 460.7	148 191.3	123 368.4
Bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04) (10 01 01)	tonnes	1 702.0	572.4	549.3
Fly ash from peat and untreated wood (10 01 03)	tonnes	13 706.2	14 242.9	14 395.4
Sludge from on-site effluent treatment other than those mentioned in 10 01 20 (10 01 21)	tonnes	131.6	398.5	760.1
Calcium-based reaction wastes from flue-gas desulphurisation in solid form (10 01 05)	tonnes	93 797.2	155 717.8	124 136.3
other non-hazardous waste	tonnes	7 794.1	4 235.6	21 624.4
hazardous waste	tonnes	50.6	3.5	4.4
<b>Total</b>	<b>tonnes</b>	<b>426 370.0</b>	<b>952 203.9</b>	<b>1 035 038.7</b>

### Noise

As part of the obligation to monitor noise emitted into the environment imposed by integrated permits on fuel combustion facilities, ZE PAK measured noise from the Adamów and Pątnów power plant areas in 2022. The results of conducted tests did not indicate overrun permissible values set out in the permits. Other systems covered by the obligation of noise monitoring were not measured, with the results from 2021 still valid.

### Inspections

In 2022, the Provincial Inspectorate for Environmental Protection in Poznań, Konin Branch conducted two inspections of ZE PAK SA Group's power plants. The scope of all inspections included verification of compliance with environmental protection regulations and administrative decisions.

The mines were inspected by the Provincial Inspectorate for Environmental Protection in Poznań, Konin Branch (inspection at the Tomisławice open pit in connection with a letter from the Greenpeace Polska Foundation), inspection by the Regional Mining Authority in Poznań (inspection covering the execution of reclamation and use of the Mining Plant Decommissioning Fund at PAK KWB Konin SA and PAK KWB Adamów SA) and the Marshal's Office of the Wielkopolskie Province (inspected conformity of reclamation execution with the terms of the Marshal's decision on waste processing). The inspection authorities did not find any deficiencies, and therefore no post-inspection orders were issued and no fines were imposed.

### Major industrial failure prevention programs

Programs for preventing major industrial failures at the Pątnów Power Plant were updated in 2022.

### Other

Administrative decisions on waste collection and generation are crucial due to the activities executed at **PAK Górnictwo sp. z o.o.** This mainly concerns waste generated in maintenance-renovation and maintenance-repair workshops, conveyor belt renovation halls, electric locomotive repair halls and the water bottling plant.

On the other hand, **PA – Volt SA** (electricity trading; office work), important from the perspective of the scale of revenue generated, should be considered irrelevant in terms of the entire Group's impact on the natural environment.

## Key indicators

Taking into account the changing legal and environmental environment, the rising price of CO<sub>2</sub> emission allowances, the tightening standards for the emissivity of other substances, the Company is already significantly reducing its carbon footprint. A significant decline in CO<sub>2</sub> relative to earlier years can be observed over the recent years.

Table 42: Key fuel consumption [302-1]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Non-renewable sources / total consumption of key non-renewable fuels</i>				
lignite	Mg	3 488 705	5 229 634	5 964 444
fuel oil	Mg	4 916	6 628	3 745
mazout	Mg	982	2 547	3 609
diesel oil	Mg	2 307	2 780	4 587
gasoline	Mg	48	43	34
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				
biomass	Mg	675 575	485 378	441 352
<b>ZE PAK</b>				
<i>a. Non-renewable sources / total consumption of key non-renewable fuels</i>				
lignite	Mg	3 488 705	2 858 832	3 380 884
fuel oil	Mg	4 793	6 628	3 745
mazout	Mg	982	2 547	3 609
diesel oil	Mg	52	49	40
gasoline	Mg	26	27	22
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				
biomass	Mg	316 205	485 378	441 352

Table 43: Electricity generation [302-1]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	MWh	3 326 893	4 534 739	5 069 745
	GJ	11 976 813	16 325 062	18 251 083
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				
biomass	MWh	552 724	374 659	368 695
	GJ	1 989 806	1 348 773	1 327 304
solar energy	MWh	79 778	3 609	-
	GJ	287 200	12 993	-
Total electricity	<b>MWh</b>	<b>3 959 394</b>	<b>4 913 008</b>	<b>5 438 441</b>
	<b>GJ</b>	<b>14 253 819</b>	<b>17 686 828</b>	<b>19 578 387</b>
% of RES energy	%	16.0%	7.7%	6.8%
<b>ZE PAK</b>				

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	MWh	2 207 961	4 534 739	2 700 501
	GJ	7 948 660	16 325 062	9 721 803
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				
biomass	MWh	236 767	374 659	368 695
	GJ	852 362	1 348 773	1 327 304
solar energy	MWh	-	-	-
	GJ	-	-	-
Total electricity	<b>MWh</b>	<b>2 444 728</b>	<b>4 909 399</b>	<b>3 069 196</b>
	<b>GJ</b>	<b>8 801 022</b>	<b>17 673 835</b>	<b>11 049 107</b>
% of RES energy	%	9.7%	7.6%	12.0%

Table 44: Thermal energy production [302-1]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	GJ	227 959	247 912	277 427
<i>b. Renewable sources (RES) / consumption of renewable fuels</i>				
biomass	GJ	1 008 649	1 089 931	978 830
Total thermal energy	<b>GJ</b>	<b>1 236 608</b>	<b>1 337 843</b>	<b>1 256 257</b>
% of RES energy	%	81.6%	81.5%	77.9%
<b>ZE PAK</b>				
<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	GJ	227 959	247 912	277 427
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				
biomass	GJ	590 616	1 089 931	978 830
Total thermal energy	<b>GJ</b>	<b>818 575</b>	<b>1 337 843</b>	<b>1 256 257</b>
% of RES energy	%	72.2%	81.5%	77.9%

Table 45: Total energy generation (electricity, thermal) 302-1]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	GJ	12 204 772	16 572 974	18 528 510
<i>b. Renewable (RES) sources</i>				
Biomass and sun	GJ	3 285 655	2 451 697	2 306 134
Total thermal energy	<b>GJ</b>	<b>15 490 427</b>	<b>19 024 671</b>	<b>20 834 644</b>
% of RES energy	%	21.2%	12.9%	11.1%
<b>ZE PAK</b>				
<i>a. Non-renewable sources</i>				
lignite/fuel oil/mazout	GJ	8 176 619	16 572 974	9 999 230
<i>b. Renewable (RES) sources / consumption of renewable fuels</i>				

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

biomass	GJ	1 442 978	2 438 704	2 306 134
<b>Total thermal energy</b>	<b>GJ</b>	<b>9 619 597</b>	<b>19 011 678</b>	<b>12 305 364</b>
% of RES energy	%	15.0%	12.8%	18.7%

Table 46: Electricity sales

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Own energy sales</i>				
black energy sales	MWh	2 981 579	4 039 419	4 540 237
	GJ	10 733 684	14 541 909	16 344 853
green energy sales	MWh	548 765	320 015	310 666
	GJ	1 975 552	1 152 055	1 118 398
Total own energy sales	MWh	3 530 344	4 359 434	4 850 903
	GJ	12 709 237	15 693 964	17 463 251
<i>b. Purchased energy sales</i>				
electricity sales	MWh	2 548 220	1 391 282	1 868 192
	GJ	9 173 591	5 008 614	6 725 490
<b>Total energy sales</b>	<b>MWh</b>	<b>6 078 563</b>	<b>5 750 716</b>	<b>6 719 095</b>
	<b>GJ</b>	<b>21 882 828</b>	<b>20 702 578</b>	<b>24 188 741</b>
<b>ZE PAK</b>				
<i>a. Own energy sales</i>				
black energy sales	MWh	2 981 579	4 039 419	2 353 370
	GJ	10 733 684	14 541 909	8 472 134
green energy sales	MWh	193 462	316 406	310 666
	GJ	696 465	1 139 062	1 118 398
Total own energy sales	MWh	3 175 041	4 355 825	2 664 037
	GJ	11 430 149	15 680 971	9 590 532
<i>b. Purchased energy sales</i>				
purchased electricity sales	MWh	871 971	860 586	367 958
	GJ	3 139 097	3 098 110	1 324 650
<b>Total energy sales</b>	<b>MWh</b>	<b>4 047 013</b>	<b>5 216 411</b>	<b>3 031 995</b>
	<b>GJ</b>	<b>14 569 247</b>	<b>18 779 081</b>	<b>10 915 181</b>

Table 47: Thermal energy sales

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. Own energy sales</i>				
<b>Total own energy sales</b>	<b>GJ</b>	<b>1 192 699</b>	<b>1 292 335</b>	<b>1 213 485</b>
<i>b. Purchased energy sales</i>				
<b>purchased electricity sales</b>	<b>GJ</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total energy sales</b>	<b>GJ</b>	<b>1 192 699</b>	<b>1 292 335</b>	<b>1 213 485</b>
<b>ZE PAK</b>				

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

<i>a. Own energy sales</i>				
<b>Total own energy sales</b>	<b>GJ</b>	<b>1 192 699</b>	<b>1 292 335</b>	<b>1 213 485</b>
<i>b. Purchased energy sales</i>				
<b>purchased electricity sales</b>	<b>GJ</b>		-	-
<b>Total energy sales</b>	<b>GJ</b>	<b>1 192 699</b>	<b>1 292 335</b>	<b>1 213 485</b>

Table 48: CO<sub>2</sub> emissions at the ZE PAK SA Group (Scope 1, 2)\* [305-1, 305-2]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. fuel combustion emissions – energy generation (Scope 1) (1)</i>				
lignite (1.1)	thous. tonnes	3 382.3	4 799.4	5 453.2
fuel oil (1.2)	thous. tonnes	15.7	22.7	12.5
mazout (1.3)	thous. tonnes	3.0	8.0	11.4
meal (flue gas desulphurization system (IOS)) (1.4)	thous. tonnes	26.2	41.2	33.4
NOx emissions (flue gas denitrification system) (1.5)	thous. tonnes	0.4	0.7	0.4
<b>Total from non-renewable fuels</b> (1.1+1.2.+1.3+1.4+1.5)	thous. tonnes	<b>3 427.6</b>	<b>4 872.0</b>	<b>5 510.9</b>
<i>biomas (biogenic emissions) (1.6)**</i>	thous. tonnes	799.2	549.0	525.8
<b>Total (Scope 1)</b> (1.1+1.2.+1.3+1.4+1.5+1.6)	thous. tonnes	<b>4 226.8</b>	<b>5 421.0</b>	<b>6 036.7</b>
<i>b. fuel combustion emissions – processes other than energy generation (Scope 1) (1)</i>				
diesel oil (2.1)	thous. tonnes	7.4	8.9	14.6
gasoline (2.2)	thous. tonnes	0.1	0.1	0.1
<b>Total (Scope 1)</b> (2.1+2.2)	thous. tonnes	<b>7.5</b>	<b>9.0</b>	<b>14.7</b>
<b>Total direct emissions (Scope 1)</b> (1+2)	thous. tonnes	<b>4 234.3</b>	<b>5 430.0</b>	<b>6 051.4</b>
<i>c. emissions associated with generating purchased energy (Scope2) (3)</i>				
extra-organization purchased electricity (3.1)	thous. tonnes	1 804.1	971.1	1 304.0
<b>Total (Scope 2) (3)</b>	<b>thous. tonnes</b>	<b>1 804.1</b>	<b>971.1</b>	<b>1 304.0</b>
<b>Total (Scope 1+2)</b>	<b>thous. tonnes</b>	<b>6 038.5</b>	<b>6 401.1</b>	<b>7 355.4</b>
<i>including biogenic emissions**</i>	<i>thous. tonnes</i>	799.2	549.0	525.8
<b>Group</b>				
<i>a. fuel combustion emissions – energy generation (Scope 1) (1)</i>				
lignite (1.1)	thous. tonnes	3 382.3	4 799.4	3 068.9
fuel oil (1.2)	thous. tonnes	15.3	22.7	9.6
mazout (1.3)	thous. tonnes	3.0	8.0	11.4
meal (flue gas desulphurization system (IOS)) (1.4)	thous. tonnes	26.2	41.2	17.7

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

NOx emissions (flue gas denitrification system) (1.5)	thous. tonnes	0.3	0.7	0.4
<b>Total from non-renewable fuels</b> (1.1+1.2.+1.3+1.4+1.5)	thous. tonnes	<b>3 427.1</b>	<b>4 872.0</b>	<b>3 108.0</b>
<i>biomas (biogenic emissions) (1.6)**</i>	thous. tonnes	354.9	549.0	525.8
<b>Total (Scope 1)</b> (1.1+1.2.+1.3+1.4+1.5+1.6)	thous. tonnes	<b>3 782.0</b>	<b>5 421.0</b>	<b>3 633.8</b>
<i>b. fuel combustion emissions – processes other than energy generation (Scope 1) (1)</i>				
diesel oil (2.1)	thous. tonnes	0.2	0.2	0.1
gasoline (2.2)	thous. tonnes	0.1	0.1	0.1
<b>Total (Scope 1)</b> (2.1+2.2)	thous. tonnes	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Total direct emissions (Scope 1)</b> (1+2)	thous. tonnes	<b>3 782.3</b>	<b>5 421.3</b>	<b>3 634.0</b>
<i>c. emissions associated with generating purchased energy (Scope2) (3)</i>				
extra-organization purchased electricity (3.1)	thous. tonnes	617.4	600.7	256.8
<b>Total (Scope 2) (3)</b>	thous. tonnes	<b>617.4</b>	<b>600.7</b>	<b>256.8</b>
<b>Total (Scope 1+2)</b>	<b>thous. tonnes</b>	<b>4 399.6</b>	<b>6 021.9</b>	<b>3 890.9</b>
<i>including biogenic emissions**</i>	<i>thous. tonnes</i>	<i>354.9</i>	<i>549.0</i>	<i>525.8</i>

Table 49: Greenhouse gas emissions (eCO<sub>2</sub>) - (Scope 1, 2)\* [305-1, 305-2]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. fuel combustion emissions – energy generation (Scope 1) (1)</i>				
fuel combustion emissions (lignite, fuel oil, mazout, biomass)***	thous. tonnes	4 979.6	6 365.2	7 322.0
<i>b. fuel combustion emissions – processes other than energy generation (Scope 1) (1)</i>				
diesel oil (2.1)	thous. tonnes	7.4	8.9	14.7
gasoline (2.2)	thous. tonnes	0.1	0.1	0.1
<b>Total (Scope 1)</b> (2.1+2.2)	thous. tonnes	<b>7.5</b>	<b>9.0</b>	<b>14.8</b>
<b>Total direct emissions (Scope 1)</b> (1+2)	thous. tonnes	<b>4 987.2</b>	<b>6 374.3</b>	<b>7 336.8</b>
<i>c. emissions associated with generating purchased energy (Scope2) (3)</i>				
extra-organization purchased electricity (3.1)	thous. tonnes	2 145.2	1 171.2	1 562.4
<b>Total (Scope 2) (3)</b>	thous. tonnes	<b>2 145.2</b>	<b>1 171.2</b>	<b>1 562.4</b>
<b>Total (Scope 1+2)</b>	<b>thous. tonnes</b>	<b>7 132.3</b>	<b>7 545.5</b>	<b>8 899.2</b>
<i>including biogenic CO<sub>2</sub> emissions **</i>	<i>thous. tonnes</i>	<i>799.2</i>	<i>549.0</i>	<i>525.8</i>
<b>ZE PAK</b>				
<i>a. fuel combustion emissions – energy generation (Scope 1) (1)</i>				
fuel combustion emissions (lignite, fuel oil, mazout, biomass)***	thous. tonnes	4 472.9	6 365.2	3 633.8

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

<i>b. fuel combustion emissions – processes other than energy generation (Scope 1) (1)</i>				
diesel oil (2.1)	thous. tonnes	0.2	0.2	0.1
gasoline (2.2)	thous. tonnes	0.1	0.1	0.1
<b>Total (Scope 1)(2.1+2.2)</b>	<b>thous. tonnes</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>
<b>Total direct emissions (Scope 1)(1+2)</b>	<b>thous. tonnes</b>	<b>4 473.1</b>	<b>6 365.5</b>	<b>3 634.0</b>
<i>c. emissions associated with generating purchased energy (Scope2) (3)</i>				
extra-organization purchased electricity (3.1)	thous. tonnes	734.0	724.5	307.7
<b>Total (Scope 2) (3)</b>	<b>thous. tonnes</b>	<b>734.0</b>	<b>724.5</b>	<b>307.7</b>
<b>Total (Scope 1+2)</b>	<b>thous. tonnes</b>	<b>5 207.2</b>	<b>7 089.9</b>	<b>3 941.8</b>
<i>including biogenic CO2 emissions **</i>	<i>thous. tonnes</i>	<i>354.9</i>	<i>549.0</i>	<i>525.8</i>

Table 50: Other indirect eCO2 emissions – (Scope 3)\* [305-3]

Energy sources	UoM	2022	2021	2020
<b>Group</b>				
<i>a. emissions associated with lignite transport by third-party suppliers</i>				
rail transport	thous. tonnes	1.7	2.0	0.8
road transport	thous. tonnes	10.9 <sup>15</sup>	1.8	3.1
<i>b. business trips</i>	thous. tonnes	0.02960	n/a	n/a
<i>c. employee commuting to/from work</i>	thous. tonnes	4.3	n/a	n/a
<i>d. obtaining liquid fuels (Pb, ON) (WTT)</i>	thous. tonnes	1.7	2.0	3.3
<i>e. waste management</i>	thous. tonnes	3.8	3.0	12.5
<b>Total (Scope 3)</b>	<b>thous. tonnes</b>	<b>22.4</b>	<b>8.4</b>	<b>19.6</b>
<b>ZE PAK</b>				
<i>a. emissions associated with lignite transport by third-party suppliers</i>				
rail transport	thous. tonnes	1.7	1.6	0.7
road transport	thous. tonnes	10.9 <sup>16</sup>	1.8	3.2
<i>b. business trips</i>	thous. tonnes	0.0078	n/a	n/a
<i>c. employee commuting to/from work</i>	thous. tonnes	1.1	n/a	n/a

<sup>15</sup> Noticeable increase in the value results from obtaining and including in calculation for 2022 of previously not included information on biomass transport.

<sup>16</sup> Noticeable increase in the value results from obtaining and including in calculation for 2022 of previously not included information on biomass transport.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

d. obtaining liquid fuels (Pb, ON) (WTT)	thous. tonnes	0.06	0.06	0.05
e. waste management	thous. tonnes	3.7	2.2	10.5
<b>Total (Scope 3)</b>	<b>thous. tonnes</b>	<b>17.5</b>	<b>5.6</b>	<b>14.3</b>

\* Methodology for estimating the carbon footprint: in the case of **solid fuels for energy generation** (i.e., lignite, biomass), CO<sub>2</sub> emissions are determined based on a calculation method, i.e., the sum of daily emissions calculated as the product of daily fuel consumption, its current calorific value, the emission factor determined through chemical analysis of the fuel and the oxidation factor. An advantage of this method is its greater accuracy due to the calculation taking into account the actual parameters of the fuel originating from deposits exploited by ZE PAK.

In the case of **liquid fuels used for energy generation** (mazout, fuel oil), the emission factor is not determined based on chemical analysis results, but the factors according to NOBiZE guidelines are applied. In addition, emissions from the use of flue gas desulphurisation and denitrification systems (also calculated as the consumption of meal and urea solution, and the emission factors they adopted) are also added to the emissions. Emissions from fuels which are not used directly to generate electricity and heat, i.e., **for automotive fuels** (petrol, diesel), are calculated as the product of the consumption volume and the calorific value and emission factors according to the KOBiZE guidelines. (2020-21); as of 2022 onwards, calculations have been made using the conversion factors from the current version of the UK Government GHG Conversion Factors for Company Reporting.

Regarding indirect emissions, for purchased electricity, the emission factors published by KOBiZE were used. On the other hand, emissions related to the transport of lignite by third parties (subcontractors) were estimated based on the so-called transport operations (i.e., the product of the weight and the covered route, expressed in tonne-kilometres) and the applicable emission factor. In the case of rail transport, the emission factor was calculated based on the data from PKP Cargo's annual report, and in the case of road transport, the factor from the "UK Government GHG Conversion Factors for Company Reporting" (average truck, 100% loaded) was used.

For calculations related to the CO<sub>2</sub> equivalent (eCO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) were also included in the emission factors for purchased electricity as well as, for example, rail transport. NO<sub>x</sub> emissions were also included for electricity and heat production, enlarging the carbon footprint accordingly (Global Warming Potentials (GWP) values from the most recent IPCC Fifth Assessment Report, 2014 (AR5) were used).

**\*\*Comment:** CO<sub>2</sub> is undoubtedly generated as a biomass combustion product. Such emissions, however, unlike those from the fossil fuel combustion, do not increase the balance of CO<sub>2</sub> circulating in nature and which would mostly be gradually released into the atmosphere anyway through biomass putrefaction processes. Therefore, there are two practical approaches to carbon footprint estimations. According to the methodology for calculating and reporting the carbon footprint for **KOBiZE** and **ETS** purposes, which is the basis for the formal reporting of the ZE PAK Group's carbon footprint, biomass combustion is treated as zero-emission. In turn, according to the **GHG Protocol** methodology, CO<sub>2</sub> emissions from biomass combustion should be included in the carbon footprint. **In order to present a reliable and comprehensive picture of the environmental impact, ZE PAK Group publishes the carbon footprint taking into account both methods (methodological approaches).**

\*\*\*the carbon footprint resulting from nitrogen oxide (NO<sub>x</sub>) emissions was added to the CO<sub>2</sub> emissions disclosed previously, using a GWP conversion factor of 265 (IPCC Fifth Assessment Report, 2014 (AR5))

Chart 17: CO<sub>2</sub> emissions associated with energy generation in the Group, 2017-2022

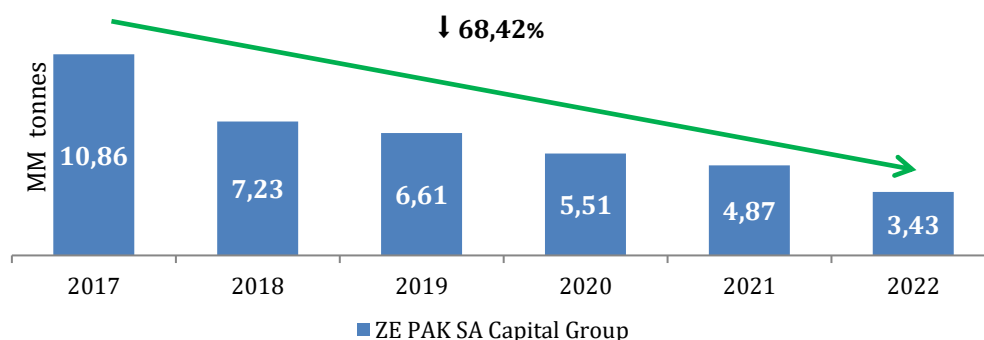




Table 51: CO<sub>2</sub> emissions related to energy generation

	2022	2021	2020
<b>Group</b>			
CO <sub>2</sub> emissions at the ZE PAK SA Group (MM tonnes)	3.43	4.87	5.51
CO <sub>2</sub> emissions in the ZE PAK SA Group per generation unit (thousand tonnes/TWh)	0.87	0.99	1.01
<b>ZE PAK</b>			
CO <sub>2</sub> emissions at ZE PAK SA (MM tonnes/TWh)	3.43	4.87	5.51
CO <sub>2</sub> emissions in ZE PAK SA per generation unit (MM tonnes/TWh)	0.96*	0.99	1.01

\* from the beginning of 2020 until the end of June 2022, CO<sub>2</sub> emissions are reported within the Company, as of July 2022, as a result of the transfer of the organised part of the Konin Power Plant enterprise (BiW) to PAK – PCE sp. z o.o., CO<sub>2</sub> emissions are reported separately for ZE PAK and BiW (a company indirectly owned by the Group through PAK – PCE), where a decrease in biomass-based electricity generation was recorded (hence a different indicator on CO<sub>2</sub> emissions per unit of production).

Chart 18: Total CO<sub>2</sub> emissions associated with energy generation in the Group and ZE PAK SA (MM tonnes) [305-4]

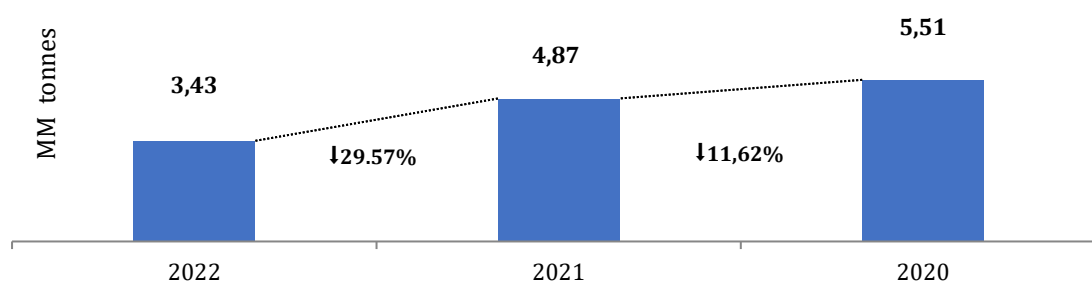
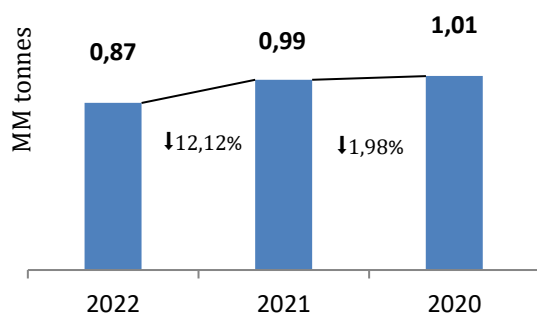
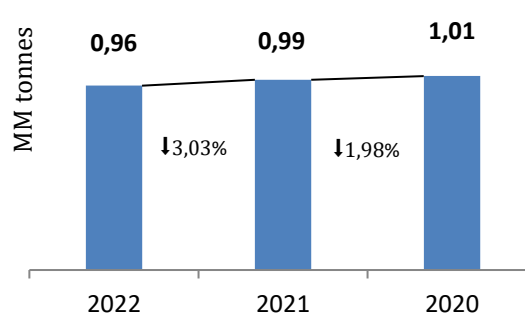


Chart 19: CO<sub>2</sub> emissions associated with energy generation in the Group and Company per generation unit [305-4]

### Group



### Company



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 52: SO<sub>2</sub>, NO<sub>x</sub> and dust atmospheric emissions [305-7]

	2022	2021	2020
<b>Group</b>			
SO <sub>2</sub> emissions in the ZE PAK SA Group (thous. tonnes)	0.93	1.53	2.66
SO <sub>2</sub> emissions in the ZE PAK SA Group per generation unit (thousand tonnes/TWh)	0.23	0.31	0.49
NO <sub>x</sub> emissions in the ZE PAK SA Group (thous. tonnes)	2.84	3.56	4.85
NO <sub>x</sub> emissions in the ZE PAK SA Group per generation unit (thousand tonnes/TWh)	0.72	0.73	0.89
Dust emissions in the ZE PAK SA Group (thous. tonnes)	0.29	0.37	0.63
Dust emissions in ZE PAK SA Group per generation unit (thousand tonnes/TWh)	0.07	0.08	0.12
<b>ZE PAK</b>			
SO <sub>2</sub> emissions in ZE PAK SA (thousand tonnes/TWh)	0.92	1.53	2.05
SO <sub>2</sub> emissions in ZE PAK SA per generation unit (thousand tonnes/TWh)	0.26	0.31	0.67
NO <sub>x</sub> emissions in ZE PAK SA (thousand tonnes/TWh)	2.61	3.56	3.34
NO <sub>x</sub> emissions in ZE PAK SA per generation unit (thousand tonnes/TWh)	0.73	0.73	1.09
Dust emissions in ZE PAK SA (thousand tonnes/TWh)	0.24	0.37	0.53
Dust emissions in ZE PAK SA per generation unit (thousand tonnes/TWh)	0.07	0.08	0.17

Chart 22: Total SO<sub>2</sub>, NO<sub>x</sub> and dust emissions to the atmosphere (thousand tonnes)

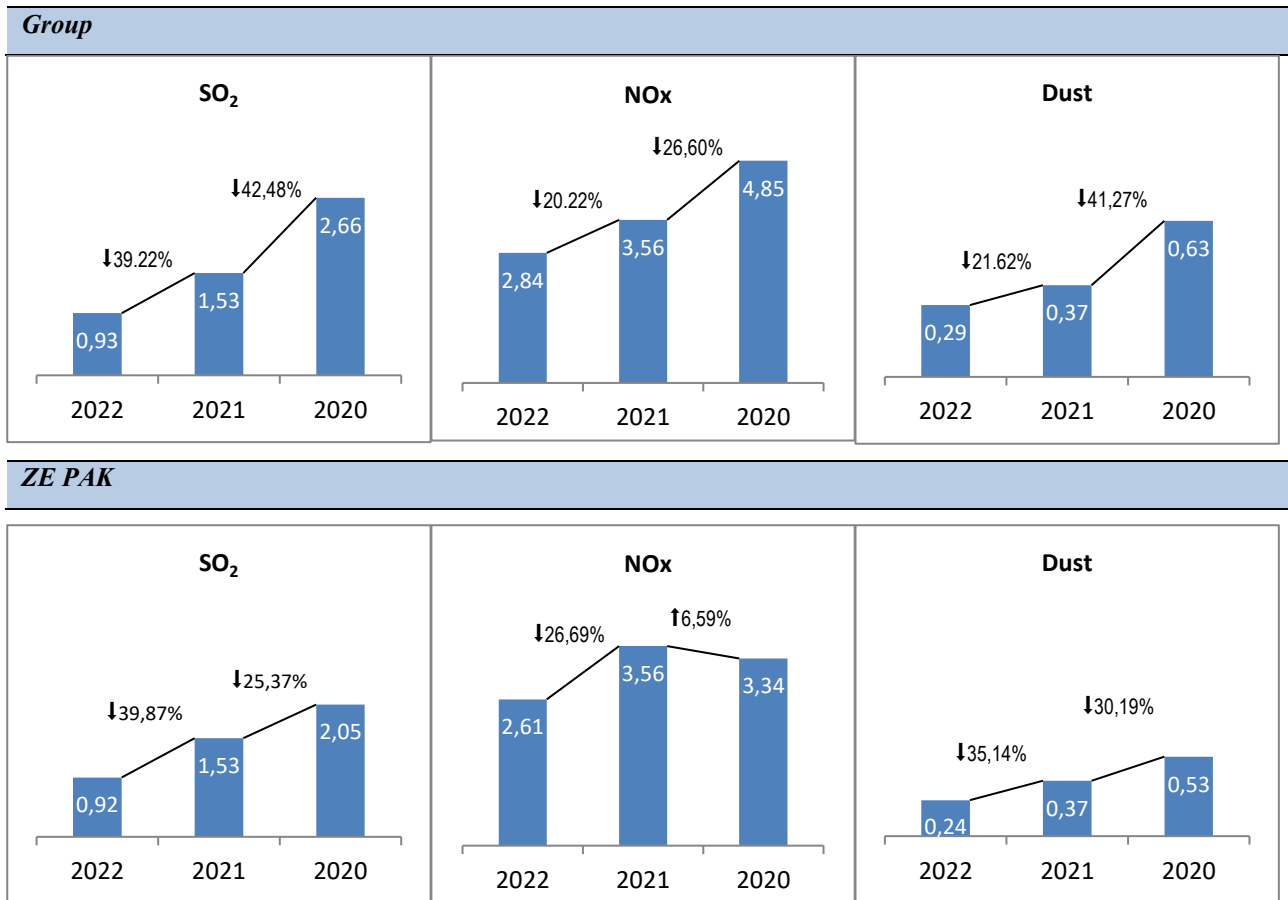


Chart 23: SO<sub>2</sub>, NO<sub>x</sub> and dust emissions to the atmosphere per generation unit (thousand tonnes/TWh)

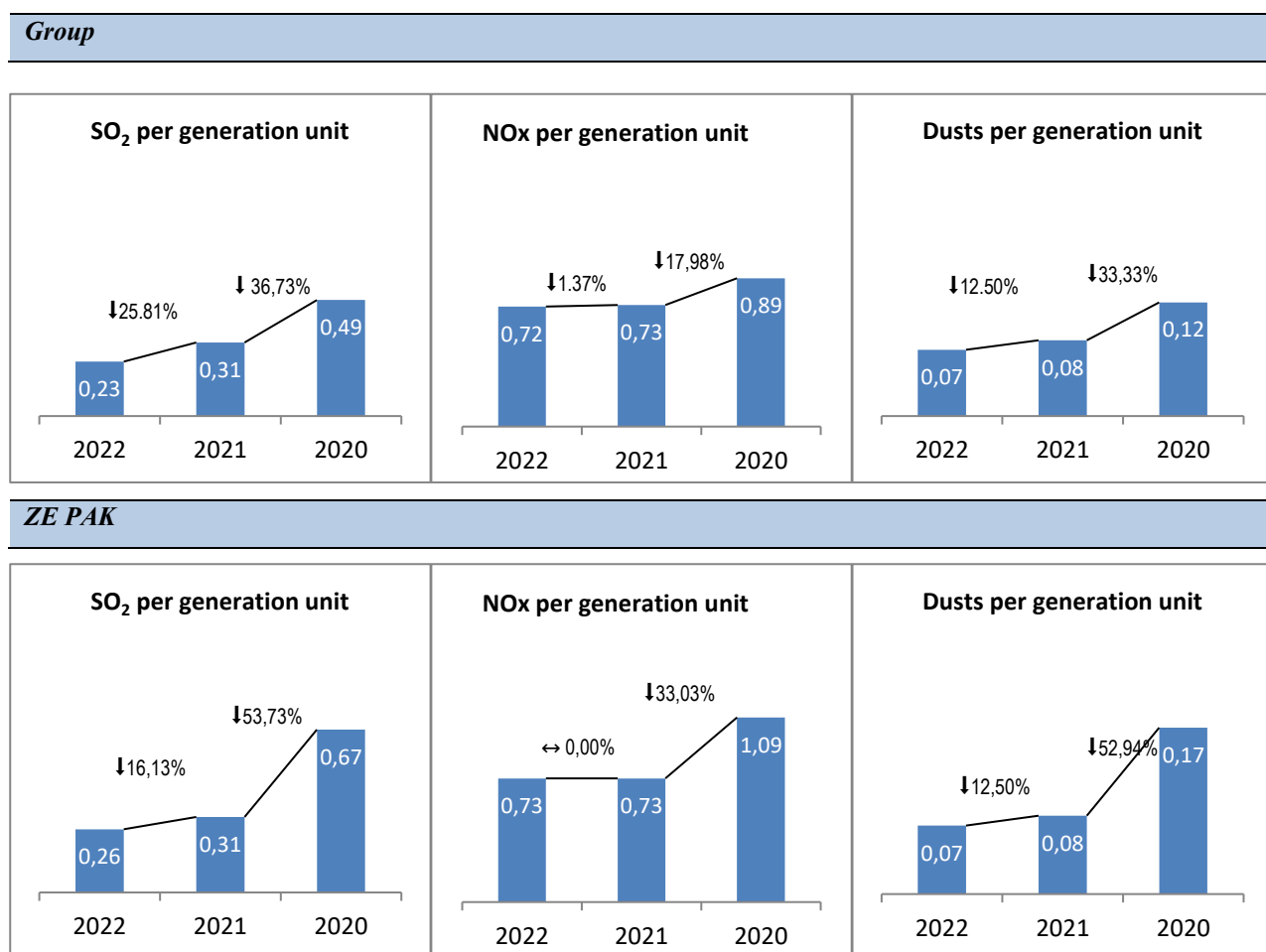


Table 53: Violation of environmental standards (%)

*Emission volume arising from overrun standards, relative to total emissions*

	2022	2021	2020
SO <sub>2</sub>	0.00	0.00	0.00
NO <sub>x</sub>	0.00	0.00	0.00
Dust	0.00	0.00	0.00

## 11.5. Issue of respecting human rights

### Management approach

When analysing issues related to respect for human rights, a few of those should be singled out, respect for which may be of particular importance in the case of large industrial enterprises, such as the ZE PAK SA Group, i.e.:

- **recognition of the existence of inalienable rights and dignity of the individual regardless of any differences that divide people** (*Art. 1 and Art. 2 of the Universal Declaration of Human Rights of 10 December 1948*) in the context of interpersonal relations and the prohibition of any form of discrimination
- **right to life, liberty and security of the person** (*Art. 3*) in the context of, among others, ensuring a high level of health and safety at work (cf: "OHS")
- **prohibition of humiliation** (*Art. 4*) in the context of the mobbing risk
- **right to ownership** (*Art. 17*) in the context of buying-out land from third parties (cf: "Property buy-out")
- **right to social security** (*Art. 22*)

- **right to equal pay for equal work and right to associated in trade unions** (*Art. 23*)
- **right to holidays and rest** (*Art. 24*).

In the dimension relating to the individual and ensuring respect for the individual (*Art. 1*), which means respect for diversity and simultaneous non-acceptance of any form of discrimination (*Art. 2*) or mobbing (*Art. 4*), in addition to respecting and enforcing the legal regulations that guarantee such respect (e.g., the Labour Code), ZE PAK SA has adopted a Code of Ethics, which is available to all employees at the Company's internal website. It not only guarantees the aforementioned rights of the individual, but is itself a tool to resolve potential conflicts. It contains a mechanism for both resolving doubts and reporting suspected potential behaviour that violates the Code of Ethics. It is worth mentioning that the Code of Ethics also stigmatises other behaviour that violates human rights, such as child labour, forced labour or slave labour.

At the same time, internal regulations at the ZE PAK SA Group guarantee respect for the right to social security (*Art. 22*), or the right to leave and rest (*Art. 24*). The Group scrupulously complies with obligations related to the payment of social insurance (ZUS) contributions or the recording of holidays due (*Art. 24*). It also actively supports employees' leisure and activities (e.g., by subsidising leisure and offering sports passes). These issues are formally regulated in the regulations of the Company Employee Benefit Fund (ZFSS).

The ZE PAK SA Group also provides procedural solutions for fair remuneration, i.e., analogous remuneration for analogous work regardless of non-substantive features that differentiate employees (*Art. 23*). Monitoring of pay levels and possible gender pay gaps has also been established. Nevertheless, one needs to be aware of the strong male dominance in mining occupations, as well as in jobs within the energy industry. As a result, there is a relatively small percentage of females among the employees of the ZE PAK SA Group and, furthermore, they dominate in certain areas (finances, human resources).

As mentioned previously, there are Employee Councils in ZE PAK SA Group companies meeting the statutory criteria, elected on the basis of the regulations in force in this respect. There are also a number of trade union organisations operating pursuant to the Trade Union Act. The management boards of the Group Companies communicate and consult decisions with employee representatives (Employee Councils, trade unions) on matters specified in the legislation. The management believes, freedom of association in trade unions and related rights are ensured (*Art. 23*).

It should be emphasised that suspected violations of any of the human rights, including rights not referred to herein, can and should be reported through the mechanisms provided for in the Code of Ethics.

Failure to respect human rights, including the aforementioned right to organise and strike, would not only imply a violation of national law (and consequent sanctions), but could also lead to an unnecessary escalation of employer-employee conflicts. Despite the existing differences of opinion, manifested, for example, by industrial disputes, the management of the ZE PAK SA Group appreciates the role of the trade unions. The theoretical exacerbation of disputes in the absence of dialogue, can lead to strike action and threaten the stability of generation processes. Trade union organisations, as well as the management, despite the disputes and the different assessment of the situation (e.g., in short- and long-term approaches), are constructively oriented and are aware of the economic consequences of a possible upset in the stability of energy supply. Such consequences could affect not only the Group, but also the country's energy system.

As for the risk of not respecting the rights of the individual, such cases may not only expose the ZE PAK SA Group to litigation and the need to pay compensation, but they are above all a real threat to the organisational culture, work atmosphere and, thus, its efficiency. They also involve the risk of losing valuable employees or, through discrimination, the inability to utilize their full potential (e.g., promoting of people with lower competences, while inhibiting the promotion of those discriminated against).

Any disrespect for human rights in the ZE PAK SA Group also means a measurable reputation risk, which in turn, when such phenomena escalate, may affect the loss of social consent to operate.

## Key indicators

*Table 54: Key indicators in the area of respect for human rights [406-1]*

	2022	2021	2020
Number of reported cases on suspected unethical behaviour, under mechanisms provided for by the Code of Ethics and related to violation of individual rights	0	0	0
Unionization rate	45.80	46.93%	47.05%

Number of disputes wherein trade union refer to the provisions of the act on the resolution of collective disputes	5	5	6
Number of days lost due to strike actions	0	0	0

## 11.6. Issues related to counteracting corruption

### Management approach

One of the objectives of the ZE PAK SA Group's Social Responsibility Strategy for 2017-2020 was to ensure a management system that included solutions related to the prevention of corruption and other unacceptable unethical phenomena. Their prevention is also an important objective of the new ZE PAK Group Sustainable Development Strategy for 2023-2027. Exposure to such risks depends, among other things, on the scale of investment project implemented and contracts performed, the effectiveness of the control system and the bar of social acceptance for undesirable behaviour in the organisation's culture. The risk of corrupt behaviour accompanies every enterprise, and instances of decision-making by corrupt employees lead, among other things, to suboptimal choices in purchasing processes, both in the sense of overpricing and, e.g., inadequate quality of products or services, untimely delivery or provision of services, or consent by a corrupt employee to other, inappropriate behaviour by the contractor (e.g., breaking regulations, failure to conduct warranty repairs, etc.). Of course, corruption and bribery can take a number of other forms and can also be related to the giving of benefits by an organisation's employees to officials for issuing a favourable decision, etc. As a consequence for the organisation, this can mean risks related to unjustified cost increases as well as, for example, huge image losses.

Bearing in mind the scale of the planned, and often already implemented investment projects aimed at making the transformation of the ZE PAK SA Group into a clean energy supplier a reality, the exposure to potential corruption risks will be greater in the coming years. At the same time, please note that, at the operational level, the business model to date has been subject to a relatively low risk of corrupt behaviour in relation to the scale of business conducted. Unlike many other electricity generators, the ZE PAK SA Group has based its operations on a strongly integrated business model, i.e., energy generation is primarily based on its own raw material resources. Thus, raw materials are sourced internally within the organisation (understood as a corporate group) and not from third parties. Currently, the exception is biomass, purchased from third-party suppliers. Also, maintenance work is, in many cases, conducted by entities within the ZE PAK SA Group. Consequently, outsourcing products and services is reduced to a minimum, which in turn contributes to a reduction in the risk, although, of course, it does not eliminate it. The corruption risk will grow, as indicated above, as the investment project is implemented.

Over the past few years, a number of steps have been taken to ensure effective control mechanisms on one hand and sensitise employees to symptoms of corruption and entrench in them the lack of acceptance of passivity towards such behaviour on the other. The Code of Ethics was adopted by ZE PAK SA as early as 2017, and in 2020 by other Group companies.

In turn, the internal control system "ZE PAK SA Internal Audit Regulations" establishes the principles for the organisation and operation of internal audit, which provides a systematic and methodical approach to assessing and improving the effectiveness of risk management, control and organisational management processes. These include the examination and evaluation of the activities of the ZE PAK SA Group organisational units and companies in terms of thrift, legality, purposefulness, reliability and transparency of documentation (processes). The objective of audit activities is to reveal unused economic reserves, detect irregularities and abuses in the activities of organisational units and identify the causes and effects of the irregularities found and the persons responsible for them, as well as to develop post-audit conclusions and recommendations. Irregularities and abuses also include any activities that may bear the hallmarks of bribery and corruption.

The internal audit system includes self-control of the correctness of work performed, functional control and institutional control (conducted precisely by the internal audit unit). Within the framework of institutional control, the internal audit unit checks the activities of the organisation as a whole, responding to the needs reported by the Management Board and the Supervisory Board in accordance with audit regulations (among other things, it assesses the coordination of activities between work positions and organisational units, evaluates the system for creating and circulating documentation and information, etc.) at intervals depending on the identified risk areas and the level of materiality of the risk, as well as the role of control in reducing it. In this context, the activities of the internal audit unit are complementary to the primary control and ongoing supervision and are intended to reveal weaknesses or gaps in the organisation and functioning of the internal control system. Audits are planned (in accordance with the annual plan approved by the Board of Directors), ad hoc (at the direction of the Board of Directors or the Supervisory Board) and follow-up.

Purchasing procedures applicable at ZE PAK SA Group described in management systems also regulate issues related to vendor selection. In the case of the generation segment, ZE PAK SA has implemented an Integrated Management System under which, in Sector 5.3 "Supporting the implementation of a product/service", among other things, two procedures 5.3 - 01 "Supplier assessment" and 5.3 - 02 "Identification and traceability" apply. A prerequisite for the selection of suppliers is that they must be specialised suppliers, meeting the agreed technical and commercial conditions and guaranteeing 100% reliability of supply. In addition, suppliers whose products directly determine the quality of electricity and heat are subject to qualification based on ongoing cooperation with suppliers, control of deliveries and periodic evaluation of them by, among other things, auditing them, as well as updates to the list of qualified suppliers. The management system also introduces "Vendor assessment sheets". In addition to obvious factors such as, for example, the quality of supplies, level and constancy of prices and payment terms, it takes into account, for example, timeliness or whether suppliers have certified management systems.

The ZE PAK SA company is responsible for purchases in the field of electricity generation and extraction for PAK KWB Konin SA and PAK KWB Adamów SA under liquidation. The purchasing process itself has been defined by ZE PAK SA in the Vendor Selection Rules. This process is supported by an electronic purchasing platform, which eliminates certain risks, e.g., it prevents viewing bids already submitted prior to the deadline. Thus, it eliminates the risk that a dishonest employee would pass on information about competing bids to a supplier who in the process of developing one. Please note that the purchasing process exercises the option of an electronic platform auction, which, conducted in real time, reduces the possibility of an unethical agreement with a potential supplier. Furthermore, employees do not have the opportunity to observe the auction, i.e., the bids submitted by individual bidders, until the auction closes. They are able to review them only after closing the tender process.

PAK Górnictwo sp. z o.o. and PAK Serwis sp. z o.o. make purchase for the maintenance and service segment based on their own regulations, which are similar in the design of the process itself. They apply the same tools, including the same electronic purchasing platform. Roughly speaking, the purchasing procedure is initiated by a business unit, which submits a specific purchasing need. After obtaining relevant approvals justifying the future purchase, a committee is set up to define the purchasing criteria. The committee then evaluates the bids collected and identifies a recommended supplier. This is followed up by negotiations. Finally, the accepted bid is forwarded for implementation. From the perspective of process transparency, it is important that information on planned purchases (i.e., requests for proposals and tenders) is published on both the electronic purchasing platform and the website, and the purchases themselves are generally open tenders.

Simultaneously, all areas, including the aforementioned purchasing, are subject to reviews by internal audit staff, also with regard to the potential occurrence of corrupt events. The audits can be planned as well as ad hoc. Employees of the internal audit unit have access to all information and reports necessary to perform audit activities in a reliable and objective manner. At the same time, the auditors are obliged to keep the audit manager informed about the course of the audit and any difficulties encountered during audit activities. The audit manager submits an assessment of meeting the audit objective to the Management Board or the Supervisory Board. The auditors are entitled to enter and access all facilities and premises of the audited entity; to review all recording and registration devices, as well as plans, reports, protocols and official memoranda, official correspondence and any other documents and materials related to the activities of the audited entity; to periodically assist in any activities related to the activities of the audited entity; to request the manager and other employees of the audited entity to provide explanations and information (oral and written) related to the subject of the audit; to request the manager of the audited entity to conduct a partial or complete stocktaking of specific assets within a specified period of time and to order relevant calculations, the preparation of lists, analytical statements, copies, extracts, etc.; to accept declarations from employees and other persons on matters related to the activities of the audited unit; to determine the actual state of affairs by means of measurements, situational sketches, photographs and recordings, etc.; to take the necessary actions in order to secure the evidence of the audited unit's activities; to approach the audit manager with a request to appoint experts and professionals in the event of a justified reason for an expert opinion; request the manager of the audited entity to provide all means necessary for the efficient conduct of the audit and for the operative implementation of the conclusions resulting from the inspection findings; to conduct audit activities at the time selected by the auditor and extend the subject of the inspection in justified cases without obtaining additional consent from the inspection manager. The manager of the inspected entity is obliged to provide the auditor with appropriate working conditions and administer any technical assistance necessary for the efficient conduct of the audit.

Should, during the course of the audit, circumstances be identified that pose a threat to human health and life, as well as circumstances that could result in damage to property, due to mismanagement, negligence or waste, or an act that may be considered a criminal offence, the auditor submits a written request to the head of the audited entity, who is obliged to immediately take appropriate action to eliminate the aforementioned phenomena. The auditor immediately notifies the audit manager and secures documents and objects constituting evidence of mismanagement or crime. Then, the audit manager, after receiving a legal opinion, decides to notify law enforcement authorities.

At the same time, anyone employed within the ZE PAK SA Group, should they suspect that they have witnessed unethical behaviour, including those bearing the hallmarks of corruption, not only has the opportunity but also the obligation to report it using via mechanisms provided for in the Code of Ethics and the whistleblowing procedure implemented at ZE PAK SA. For this purpose, the person may contact his/her superior or the person designated by the Management Board and acting as an Ethics Officer or may make an anonymous report to the e-mail addresses dedicated to such reports, indicated in the aforementioned Code of Ethics and Procedure. Such a report is analysed and the employee who provided the information, even if it is not confirmed but was provided in good faith, cannot face any consequences and will be protected from any retaliation.

In connection with the DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (EU) 2019/1937 of 23 October 2019 on the protection of persons who report breaches of Union law, the “Whistleblowing regulations” have been adopted at ZE PAK SA and the companies in the capital group employing more than 250 persons (PAK KWB “Konin”, PAK Górnictwo sp. z o.o. and PAK Serwis sp. z o.o.). Adopted regulations specify:

- internal procedure for reporting violations of the law,
- follow-up action procedure,
- whistleblower protection procedure.

The ZE PAK SA Internal Audit Department is responsible for the correct implementation and execution of the aforementioned procedures at ZE PAK SA and other companies of the capital group.

The regulations are publicly available at the ZE PAK SA Intranet site.

## Key indicators

Table 55: Key performance indicators in the area related to counteracting corruption [205-3]

	2022	2021	2020
Number of cases of suspected corruption behaviour reported to law enforcement authorities	0	0	0
Number of people convicted by a final judgement for a corruption offence	0	0	0

## 11.7. GRI content

<b>Declaration on the application of GRI Standards</b>	<i>The ZE PAK SA Group and ZE PAK SA made public the information quoted in this GRI content index for the period 1/1/2022 - 31/12/2022 with reference to GRI Standards</i>
<b>Used GRI 1 standard:</b>	<i>GRI 1: Foundation 2021</i>
<b>Applicable GRI sectoral standards:</b>	<i>No sectoral standards for the industry.</i>

GRI standard	Disclosure (indicator)	Page in document
GRI 2: General Disclosures 2021	<a href="#">2-2 Entities included in the organization’s sustainability reporting</a>	81
GRI 2: General Disclosures 2021	<a href="#">2-3 Reporting period, frequency and contact point</a>	81



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

GRI 2: General Disclosures 2021	<a href="#">2-5 External assurance</a>	81
GRI 2: General Disclosures 2021	<a href="#">2-6 Activities, value chain and other business relationships</a>	81
GRI 2: General Disclosures 2021	<a href="#">2-7 Employees</a>	105
GRI 203: Indirect Economic Impacts 2016	<a href="#">203-1 Investments in infrastructure and supported services</a>	85-87, 96
GRI 203: Indirect Economic Impacts 2016	<a href="#">203-2 Significant indirect economic impact</a>	97
GRI 205: Anti-corruption 2016	<a href="#">205-3 Confirmed corruption cases and actions taken</a>	139
GRI 302: Energy 2016	<a href="#">302-1 Energy consumption by an organization</a>	126-128
GRI 303: Water and Effluents 2018	<a href="#">303-1 Impact on water resources, as a common resource</a>	113, 119, 121
GRI 303: Water and Effluents 2018	<a href="#">303-3 Total water intake by source</a>	122-123
GRI 303: Water and Effluents 2018	<a href="#">303-4 Wastewater management</a>	123
GRI 303: Water and Effluents 2018	<a href="#">303-5 Water consumption</a>	124
GRI 304: Biodiversity 2016	<a href="#">304-1 Plants owned, rented, managed or adjacent to protected areas or areas of high value in terms of biodiversity, located outside of protected areas</a>	113
GRI 304: Biodiversity 2016	<a href="#">304-2 Significant impact of actions, products and services on biodiversity</a>	113
GRI 304: Biodiversity 2016	<a href="#">304-3 Protected or revitalized habitats</a>	113
GRI 304: Biodiversity 2016	<a href="#">304-4 Species includes in the red list of international union for conservation of nature and its resources, and in domestic lists of protected species with habitats in areas exposed to plant operations</a>	114-116
GRI 305: Emissions 2016	<a href="#">305-1 Direct greenhouse gas emissions (scope 1)</a>	129-131
GRI 305: Emissions 2016	<a href="#">305-2 Indirect greenhouse gas emissions (scope 2)</a>	129-131
GRI 305: Emissions 2016	<a href="#">305-3 Other greenhouse gas emissions (scope 3)</a>	131
GRI 305: Emissions 2016	<a href="#">305-4 Greenhouse gas emission intensity</a>	133
GRI 305: Emissions 2016	<a href="#">305-7 Emissions of nitrogen oxides, sulfur oxides and other significant emissions to the atmosphere</a>	134
GRI 306: Waste 2020	<a href="#">306-2 Total weight of waste by waste type and waste handling method</a>	124

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

GRI 306: Waste 2020	<a href="#">306-3 Significant spills</a>	125
GRI 401: Employment 2016	<a href="#">401-1 New employees and employment rotation</a>	107
GRI 403: Occupational Health and Safety 2018	<a href="#">403-1 Occupational health and safety management system (OHS)</a>	100-104
GRI 403: Occupational Health and Safety 2018	<a href="#">403-2 Hazard identification, risk assessment and incident analysis</a>	100-105
GRI 403: Occupational Health and Safety 2018	<a href="#">403-9 Accidents at work</a>	109
GRI 403: Occupational Health and Safety 2018	<a href="#">403-10 Occupational diseases</a>	109-110
GRI 405: Diversity and Equal Opportunity 2016	<a href="#">405-1 Diversity among management bodies and personnel</a>	108
GRI 406: Non-discrimination 2016	<a href="#">406-1 Discrimination incidents and corrective actions taken</a>	137
GRI 413: Local Communities 2016	<a href="#">413-1 Plants with implemented local community involvement programmes, impact assessments and development schemes</a>	94
GRI 413: Local Communities 2016	<a href="#">413-2 Plants with significant actual and potentially adverse impact on local communities</a>	91-94

## 11.8. Taxonomy

### **ZE PAK SA CAPITAL GROUP**

Information has been provided below in accordance with Art. 8 of EU Regulation 2020/852 (Taxonomy). The information relates to how and to what extent the ZE PAK Group's activities are related to business activities that qualify as environmentally sustainable (taxonomy-compliant activities). The key performance indicators have been prepared in accordance with the requirements set out in EU Delegated Regulation 2021/2178, to the best of our knowledge and with due diligence.

The assessment of business compliance with the taxonomy under individual key performance indicators was carried out based on the technical criteria set out in EU Delegated Acts 2021/2139 and 2022/1214.

Minimal warranties

ZE PAK Group complies with the minimum safeguards referred to in Art. 18 of EU Regulation 2020/852.

The assessment of the ZE PAK Group's compliance with the Minimum Safeguards was based on the recommendations of the *Final Report on Minimum Safeguards by Platform on Sustainable Finance* published in October 2022, which identifies the occurrence of at least one of two prerequisites within the four action areas as non-compliance with Minimum Safeguards:

- Human rights
- Corruption
- Taxes
- Fair competition

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 56: Percentage share of **turnover** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	comprehensive income	Share in revenues	Substantial contribution criteria					"Do not cause serious harm" criteria							2022	n-1				
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration					Minimal warranties	share of activities in line with taxonomy in revenues
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																					
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																					
Electricity generation using photovoltaic technology	4.1:	23 131 107	0.5	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	0.6			
Bioenergy-based electricity generation	4.8.	402 585 234	9.6	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	9.6			
Combined generation of heating/cooling energy and electricity from bioenergy	4.20.	65 242 418	1.6	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	1.6			
<b>Revenues from environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		490 958 759	11.7	11.7	0	0	0	0	0									11.7			
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																					
<b>A.2. Revenues from activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																		
<b>TOTAL (A.1 + A.2)</b>		490 958 759	11.7															11.7			
<b>B. ACTIVITY NOT-ELIGIBLE FOR TAXONOMY</b>																					
Revenues from activities not eligible for taxonomy		3 698 943 464	88.3																		
<b>TOTAL (A + B)</b>		4 189 902 223	100																		

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 56a: Activities related to nuclear energy and natural gas*

Row	Nuclear energy-related activity	
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
Natural gas-related activity		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 56b: Taxonomy-compliant economic activity (denominator)*

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	490 958 759	11.8	490 958 759	100	0	0
8	<b>Total applicable key performance indicator</b>	490 958 759	11.8	490 958 759	100	0	0

Table 56c: Taxonomy-compliant economic activity (numerator)

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	490 958 759	11.8	490 958 759	100	0	0
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	490 958 759	11.8	490 958 759	100	0	0

Table 56d: Economic activity eligible for taxonomy but not taxonomy-compliant

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
8	<b>Total amount and total share of taxonomy-eligible but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

*Table 56e: Economic activity not eligible for taxonomy*

Row	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	3 698 943 464	88.2
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	3 698 943 464	88.2



### *Accounting principles*

The calculation of the Key Performance Indicator for Turnover (KPI Turnover) was based on the ZE PAK Group's 2022 financial statement prepared in accordance with International Reporting Standards (IFRS). Net sales revenues from the a/m statement have been adopted as the indicator denominator.

Revenues from taxonomy-compliant activities have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in the ZE PAK Group's consolidated financial statement on activities identified as taxonomy-compliant has been allocated to the numerator of the key performance indicator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

Individual revenue categories for the ZE PAK Group have been analysed in terms of taxonomy eligibility. This process involved an analysis of the activities eligible for taxonomy and identified in the Regulation (EU) 2021/2139 and Regulation (EU) 2022/1214. Based on the conducted analysis, three types of taxonomy-eligible activities have been identified:

- 
- |       |  |
|-------|--|
| 4.1.  | Electricity generation using photovoltaic technology                         |
| 4.8.  | Bioenergy-based electricity generation                                       |
| 4.20. | Combined generation of heating/cooling energy and electricity from bioenergy |
- 

Individual activities identified above have been analysed in terms of the technical criteria set out for each activity in Regulation (EU) 2021/2139. The analysis was conducted by a project team that included representatives of the companies. The requirements of individual technical criteria have been consulted and confirmed with persons in the individual companies having relevant knowledge to confirm whether the technical criterion was met.

As a result of the analysis, it was found that all three identified eligible activities comply with the taxonomy. All activities involve the energy generation from renewable sources.

To avoid double counting, individual revenue amounts have been allocated to a single activity. After assigning to a given activities, they were not included in further analyses.

Contribution to meeting numerous objectives, disaggregation of key performance indicators

Not applicable. No turnover from activities contributing to meeting more than one environmental objective was identified. The key performance indicator was not disaggregated.

### *Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK Group own consumption purposes.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 57: Percentage share of **capital expenditure** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	Absolute capital expenditure	Percentage share in capital expenditure	Substantial contribution criteria					"Do not cause serious harm" criteria							2022	n-1	category (supporting activity)	category (activity for transition)
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Minimal warranties	share of activities in line with taxonomy in capital expenditure		
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																			
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																			
Electricity generation using photovoltaic technology	4.1.	1 737 936	0.3	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	0.3	
Bioenergy-based electricity generation	4.8.	56 834 858	10.1	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	10.1	
Wind-based electricity generation	4.3	355 929 565	63.5	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	63.5	
Hydrogen storage	4.12.	126 948 035	0.9	50	50	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	0.9	E
Hydrogen production	3.10.	5 229 144	22.6	50	50	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	22.6	
<b>Capital expenditure related to environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		546 679 537	97.5	85.7	11.8	0	0	0	0									97.5	
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																			
<b>A.2. Capital expenditure related to of activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																
<b>TOTAL (A.1 + A.2)</b>		546 679 537	97.5															97.5	0.9

**B. ACTIVITY NOT-ELIGIBLE FOR TAXONOMY**

Capital expenditure related to activities not eligible for taxonomy	14 137 014	2.5
<b>TOTAL (A + B)</b>	560 816 551	100

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 57a: Activities related to nuclear energy and natural gas*

Row	<b>Nuclear energy-related activity</b>	
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
<b>Natural gas-related activity</b>		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 67b: Taxonomy-compliant economic activity (denominator)*

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	546 679 537	97.5	480590948.5	85.7	66088589.5	11.8
8	<b>Total applicable key performance indicator</b>	546 679 537	97.5	480590948.5	85.7	66088589.5	11.8

Table 57c: Taxonomy-compliant economic activity (numerator)

	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	546 679 537	97.5	480590948.5	85.7	66088589.5	11.8
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	546 679 537	97.5	480 590 948.5	85.7	6 6088 589.5	11.8

Table 57d: Economic activity eligible for taxonomy but not taxonomy-compliant

	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
8	<b>Total amount and total share of taxonomy-eligible but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

*Table 57e: Economic activity not eligible for taxonomy*

	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	14 137 014	2.5
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	14 137 014	2.5

### *Accounting principles*

The basis for calculating KPI Capex was the ZE PAK Group's consolidated financial statement for the year concluded on 31 December 2022 – the adopted numerator were costs settled based on:

- a) IAS 16 Property, plant and equipment, cl. 73(e) pt. (i) and (iii);
- b) IAS 38 Intangible assets, cl. 118(e) pt. (i);
- c) IAS 40 Investment property, cl. 76(a) and (b) (in the case of a fair value model);
- d) IAS 40 Investment property, cl. 79(d) pt. (i) and (iii) (in the case of a model based on acquisition price or generation cost);
- e) IAS 41 Agriculture, cl. 50(b) and (e);
- f) IFRS 16 Lease, cl. 73(h).

Taxonomy-compliant capital expenditure have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in the ZE PAK Group's consolidated financial statement on activities identified as taxonomy-compliant has been allocated to the numerator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

The individual categories of ZE PAK Group's capital expenditures have been analysed pursuant to the provisions of Regulation (EU) 2021/2178, Annex I, para. 1.1.2.2., to determine whether they meet one of the following conditions:

- a. they concern assets or processes related to taxonomy-compliant economic activities
- b. are part of a plan to expand a taxonomy-compliant economic activity or to enable a taxonomy-eligible economic activity becoming taxonomy-compliant ("capital expenditure plan")
- c. concern the purchase of taxonomy-compliant economic activity outputs and individual measures enabling the targeted activity to become low-carbon or enabling it to reduce greenhouse gas emissions, in particular the activities listed in cl. 7.3 to 7.6 of Annex I to the Climate Delegated Act, as well as other economic activities listed in the delegated acts adopted pursuant to Art. 10(3), Art. 11(3), Art. 12(2), Art. 13(2), Art. 14(2) or Art. 15(2) of Regulation (EU) 2020/852, and provided that those measures are implemented and triggered within 18 months.

5 taxonomy-compliant activities were identified based on the conducted analysis:

---

- 4.1. Electricity generation using photovoltaic technology
  - 4.8. Bioenergy-based electricity generation
  - 4.3. Wind-based electricity generation
  - 4.12. Hydrogen storage
  - 3.10. Hydrogen production
- 

The expenditures related to activities 4.1., 4.8. are associated with compliant activity conducted by the ZE PAK Group, which are recognized under KPI Turnover, and have therefore been considered compliant, according to condition a) indicated above.

The expenditures related to activities 4.3., 4.12., 3.10., are associated with compliant activity that the ZE PAK Group conducts but on which it does not yet generate revenue. Investment task are currently being conducted within these activities; therefore, they have not been shown under KPI Turnover, but have been recognized as taxonomy-compliant and assigned to the numerator of the key performance indicator, according to condition a) indicated above

Contribution to multiple objectives, disaggregation of key performance indicators

Based on the assessment of compliance, it was determined that two activities: 3.10. and 4.12. contribute significantly to two environmental objectives:

- climate change mitigation
- climate change adaptation

Both activities were assumed to contribute equally to the implementation of both objectives and therefore the capital expenditure associated with these activities was allocated 50% to each.

The key performance indicator was not disaggregated.

*Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK Group own consumption purposes.



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 58: Percentage share of **operating cost** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	Absolute operating expenses	Percentage share in operating expenses	Substantial contribution criteria						"Do not cause serious harm" criteria						2022	n-1		
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration				
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																			
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																			
Electricity generation using photovoltaic technology	4.1.	991 877	0.2	100	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	0.2		
Bioenergy-based electricity generation	4.8.	64 607 595	12.3	100	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	12.3		
Wind-based electricity generation	4.3.	9 150 295	1.7	100	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	1.7		
Combined generation of heating/cooling energy and electricity from bioenergy	4.20.	12 459 619	2.4	100	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	2.4		
Hydrogen production	3.10.	6 986 302	1.3	50	50	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	1.3		
<b>Operating expenses related to environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		94 195 687	17.9	17.25	0.65	0	0	0	0								17.9		
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																			
<b>A.2. Operating expenses related to activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																
<b>TOTAL (A.1 + A.2)</b>		94 195 687	17.9														17.9		
<b>B. ACTIVITY NOT-ELIGIBLE FOR TAXONOMY</b>																			
Operating expenses related to activities not eligible for taxonomy		430 313 455	82.1																
<b>TOTAL (A + B)</b>		524 509 142	100																

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 58a: Activities related to nuclear energy and natural gas*

<b>Nuclear energy-related activity</b>		
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
<b>Natural gas-related activity</b>		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 58b: Taxonomy-compliant economic activity (denominator)*

	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	94 195 687	17.9	90 702 536	17.25	3 493 151	0.65
8	<b>Total applicable key performance indicator</b>	94 195 687	17.9	90 702 536	17.25	3493151	0.65

Table 58c: Taxonomy-compliant economic activity (numerator)

	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	94 195 687	17.9	90 702 536	17.25	3 493 151	0.65
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	94 195 687	17.9	90 702 536	17.25	3 493 151	0.65

Table 58d: Economic activity eligible for taxonomy but not taxonomy-compliant

	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
8	<b>Total amount and total share of taxonomy-eligible but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

*Table 58e: Economic activity not eligible for taxonomy*

	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	430 313 455	82.1
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	430 313 455	82.1

### *Accounting principles*

The basis for calculating the Opex KPI denominator pursuant to the provisions of Annex No. 1 to Regulation 2021/2178 was extracting direct, non-capitalised expenses, based on the consolidated financial statement of the ZE PAK Group for the year concluded 31 December 2022 from the overheads of the ZE PAK Group related to:

- research & development work,
- building renovation activities,
- short-term lease,
- maintenance and repairs, and
- any other direct expenses related to day-to-day servicing of tangible fixed assets by a company or third party commissioned which activities necessary to ensure the continued and efficient operation of those assets under an outsourcing contract

Taxonomy-compliant capital expenditure have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in the ZE PAK Group's consolidated financial statement on activities identified as taxonomy-compliant has been allocated to the numerator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

Individual ZE PAK Group's operating expense categories recognized in the denominator of the key performance indicator have been analysed in accordance with the provisions of Regulation (EU) 2021/2178 to determine whether they meet one of the following conditions:

- a. concern assets or processes associated with a taxonomy-compliant economic activity, including training and other needs related to adapting human resources, and direct non-capitalised costs that represent research and development
- b. are part of a plan to expand a taxonomy-compliant economic activity or to enable a taxonomy-eligible economic activity becoming taxonomy-compliant ("capital expenditure plan"), in accordance with the conditions set out in paragraph two of this cl. 1.1.2.2;
- c. concern the purchase of taxonomy-compliant economic activity outputs and individual measures enabling the targeted activity to become low-carbon or enabling it to reduce greenhouse gas emissions, in particular the activities listed in cl. 7.3 to 7.6 of Annex I to the Climate Delegated Act, as well as other economic activities listed in the delegated acts adopted pursuant to Art. 10(3), Art. 11(3), Art. 12(2), Art. 13(2), Art. 14(2) or Art. 15(2) of Regulation (EU) 2020/852, and provided that those measures are implemented and triggered within 18 months.

4 taxonomy-compliant activities were identified based on the conducted analysis:

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- 4.1. Electricity generation using photovoltaic technology
  - 4.8. Bioenergy-based electricity generation
  - 4.3. Wind-based electricity generation
  - 4.20 Combined generation of heating/cooling energy and electricity from bioenergy
  - 3.10. Hydrogen production
- 

The expenses related to activities 4.1., 4.8. and 4.20. are associated with compliant activity conducted by the ZE PAK Group, which are recognized under KPI Turnover, and have therefore been considered compliant, according to condition a) indicated above.

The expenses related to activities 4.3. and 3.10., are associated with compliant activity that the ZE PAK Group conducts but on which it does not yet generate revenue. Investment task are currently being conducted within these activities; therefore, they have not been shown under KPI Turnover, but have been recognized as taxonomy-compliant and assigned to the numerator of the key performance indicator, according to condition a) indicated above

Contribution to multiple objectives, disaggregation of key performance indicators

It was determined based on the conducted assessment that activity 3.10 significantly contributes to two environmental objectives:

- climate change mitigation
- climate change adaptation

It was assumed that the contribution was equal in relation to both objectives, therefore the operating expenses associated with these activities were allocated 50% to each.

The key performance indicator was not disaggregated.

*Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK Group own consumption purposes.

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**ZE PAK S.A.**

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Information has been provided below in accordance with Art. 8 of EU Regulation 2020/852 (Taxonomy). The information relates to how and to what extent the ZE PAK Group's activities are related to business activities that qualify as environmentally sustainable (taxonomy-compliant activities). The key performance indicators have been prepared in accordance with the requirements set out in EU Delegated Regulation 2021/2178, to the best of our knowledge and with due diligence.

The assessment of business compliance with the taxonomy under individual key performance indicators was carried out based on the technical criteria set out in EU Delegated Acts 2021/2139 and 2022/1214.

*Minimal warranties*

ZE PAK complies with the minimum safeguards referred to in Art. 18 of EU Regulation 2020/852.

The assessment of ZE PAK's compliance with the Minimum Safeguards was based on the recommendations of the *Final Report on Minimum Safeguards by Platform on Sustainable Finance* published in October 2022, which identifies the occurrence of at least one of two prerequisites within the four action areas as non-compliance with Minimum Safeguards:

- Human rights
- Corruption
- Taxes
- Fair competition



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 59: Percentage share of **turnover** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	Comprehensive revenues	Share in revenues	Substantial contribution criteria							“Do not cause serious harm” criteria							2022	n-1	Category (supporting activity)	Category (transition-related activity)
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Minimal warranties	Share of activities in line with taxonomy in revenues	Share of activities in line with taxonomy in revenues			
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																					
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																					
Bioenergy-based electricity generation	4.8.	128 772 566	5	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	5			
Combined generation of heating/cooling energy and electricity from bioenergy	4.20.	24 879 950	1	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	1			
<b>Revenues from environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		157 497 110	6	6	0	0	0	0	0									6			
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																					
<b>A.2. Revenues from activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																		
<b>TOTAL (A.1 + A.2)</b>		157 497 110	6															6			

**B. ACTIVITY NOT-ELIGIBLE FOR TAXONOMY**

Revenues from activities not eligible for taxonomy	2 621 456 106	94
<b>TOTAL (A + B)</b>	2 778 953 216	100

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 59a: Activities related to nuclear energy and natural gas*

Row	Nuclear energy-related activity	
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
Natural gas-related activity		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 59b: Taxonomy-compliant economic activity (denominator)*

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	157 497 110	6	157 497 110	100	0	0
8	<b>Total applicable key performance indicator</b>	157 497 110	6	157 497 110	100	0	0

Table 59c: Taxonomy-compliant economic activity (numerator)

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	157 497 110	6	157 497 110	100	0	0
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	157 497 110	6	157 497 110	100	0	0

Table 59d: Economic activity eligible for taxonomy but not taxonomy-compliant

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

8	<b>Total amount and total share of economic activity types eligible for taxonomy but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
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*Table 59e: Economic activity not eligible for taxonomy*

Row	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	2 621 456 106	94
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	2 621 456 106	94

### *Accounting principles*

The calculation of the Key Performance Indicator for Turnover (KPI Turnover) was based on ZE PAK's 2022 financial statement prepared in accordance with International Reporting Standards (IFRS). Net sales revenues from the a/m statement have been adopted as the indicator denominator.

Revenues from taxonomy-compliant activities have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in ZE PAK's financial statement on activities identified as taxonomy-compliant has been allocated to the numerator of the key performance indicator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

Individual revenue categories for ZE PAK have been analysed in terms of taxonomy eligibility. This process involved an analysis of the activities eligible for taxonomy and identified in the Regulation (EU) 2021/2139 and Regulation (EU) 2022/1214. Based on the conducted analysis, two types of taxonomy-eligible activities have been identified:

4.8. Bioenergy-based electricity generation

4.20. Combined generation of heating/cooling energy and electricity from bioenergy

Individual activities identified above have been analysed in terms of the technical criteria set out for each activity in Regulation (EU) 2021/2139. The analysis has been conducted by a project team that included representatives of individual entities. The requirements of individual technical criteria have been consulted and confirmed with persons in individual entities having relevant knowledge to confirm whether the technical criterion was met.

As a result of the analysis, it was found that all two identified eligible activities comply with the taxonomy. All activities involve the energy generation from renewable sources.

To avoid double counting, individual revenue amounts have been allocated to a single activity. After assigning to a given activities, they were not included in further analyses.

Contribution to multiple objectives, disaggregation of key performance indicators.

Not applicable. No turnover from activities contributing to meeting more than one environmental objective was identified. The key performance indicator was not disaggregated.

### *Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK's own consumption purposes.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 60: Percentage share of **capital expenditure** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	Absolute capital expenditure	Percentage share in capital expenditure	Substantial contribution criteria						"Do not cause serious harm" criteria						2022	n-1		
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Minimal warranties	share of activities in line with taxonomy in capital expenditure	share of activities in line with taxonomy in expenditure	category (supporting activity)
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																			
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																			
Bioenergy-based electricity generation	4.8	39 862 544.89	74	100	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	74		
<b>Capital expenditure related to environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		39 862 544.89	74	74	0	0	0	0	0								74		
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																			
<b>A.2. Capital expenditure related to of activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																
<b>TOTAL (A.1 + A.2)</b>		39 862 544.89	74														74		

Capital expenditure related to activities not eligible for taxonomy	14 107 013.68	26
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<b>TOTAL (A + B)</b>	53 969 558.57	100
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ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 60a: Activities related to nuclear energy and natural gas*

Row	Nuclear energy-related activity	
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
Natural gas-related activity		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 60b: Taxonomy-compliant economic activity (denominator)*

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	39 862 544.89	74	39 862 544.89	100	0	0
8	<b>Total applicable key performance indicator</b>	39 862 544.89	74	39 862 544.89	100	0	0

Table 60c: Taxonomy-compliant economic activity (numerator)

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	39 862 544.89	74	39 862 544.89	100	0	0
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	39 862 544.89	74	39 862 544.89	100	0	0

Table 60d: Economic activity eligible for taxonomy but not taxonomy-compliant

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
8	<b>Total amount and total share of activity types eligible to taxonomy but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

*Table 60e: Economic activity not eligible for taxonomy*

Row	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

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7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	14 107 013.68	26
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	14 107 013.68	26

### *Accounting principles*

The basis for calculating KPI Capex was the ZE PAK's financial statement for the year concluded on 31 December 2022 – the adopted numerator were costs settled based on:

- a) IAS 16 Property, plant and equipment, cl. 73(e) pt. (i) and (iii);
- b) IAS 38 Intangible assets, cl. 118(e) pt. (i);
- c) IAS 40 Investment property, cl. 76(a) and (b) (in the case of a fair value model);
- d) IAS 40 Investment property, cl. 79(d) pt. (i) and (iii) (in the case of a model based on acquisition price or generation cost);
- e) IAS 41 Agriculture, cl. 50(b) and (e);
- f) IFRS 16 Lease, cl. 73(h).

Taxonomy-compliant capital expenditure have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in ZE PAK's financial statement on activities identified as taxonomy-compliant has been allocated to the numerator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

The individual categories of ZE PAK's capital expenditures have been analysed pursuant to the provisions of Regulation (EU) 2021/2178, Annex I, para. 1.1.2.2., to determine whether they meet one of the following conditions:

- d. they concern assets or processes related to taxonomy-compliant economic activities
- e. are part of a plan to expand a taxonomy-compliant economic activity or to enable a taxonomy-eligible economic activity becoming taxonomy-compliant ("capital expenditure plan")
- f. concern the purchase of taxonomy-compliant economic activity outputs and individual measures enabling the targeted activity to become low-carbon or enabling it to reduce greenhouse gas emissions, in particular the activities listed in cl. 7.3 to 7.6 of Annex I to the Climate Delegated Act, as well as other economic activities listed in the delegated acts adopted pursuant to Art. 10(3), Art. 11(3), Art. 12(2), Art. 13(2), Art. 14(2) or Art. 15(2) of Regulation (EU) 2020/852, and provided that those measures are implemented and triggered within 18 months.

2 taxonomy-compliant activities were identified based on the conducted analysis:

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- 4.1. Electricity generation using photovoltaic technology
  - 4.8. Bioenergy-based electricity generation
- 

The expenditures related to activities 4.1., 4.8. are associated with compliant activity conducted by ZE PAK, which are recognized under KPI Turnover, and have therefore been considered compliant, according to condition a) indicated above.

Contribution to multiple objectives, disaggregation of key performance indicators

Not applicable. No capital expenditure associated with activities contributing to meeting more than one environmental objective was identified. The key performance indicator was not disaggregated.

### *Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK's own consumption purposes.

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

Table 61: Percentage share of **operating cost** on products and services associated with taxonomy-compliant economic activity in 2022

Economic activity	Code	Absolute operating expenses	Percentage share in operating expenses	Substantial contribution criteria					"Do not cause serious harm" criteria							2022	n-1				
				Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use and preservation of water and marine resources	Transition to circular economy	Preventing and controlling pollution	Biodiversity and ecosystem protection and restoration					Minimal warranties	share of taxonomy-compliant activities in operating expenses
<b>A. ACTIVITY ELIGIBLE FOR TAXONOMY</b>																					
<b>A.1. Environmentally sustainable activities (taxonomy-compliant)</b>																					
Bioenergy-based electricity generation	4.8.	30 033 438	10	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	10			
Combined generation of heating/cooling energy and electricity from bioenergy	4.20.	6 587 394	2	100	0	0	0	0	0	0	Y	Y	Y	Y	Y	Y	Y	2			
<b>Operating expenses related to environmentally sustainable activities (taxonomy-compliant) (A.1)</b>		36 620 831	12	12	0	0	0	0	0									12			
<b>A.2. Activity eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>																					
<b>A.2. Operating expenses related to activities eligible for taxonomy but not environmentally sustainable (taxonomy non-compliant)</b>		0	0																		
<b>TOTAL (A.1 + A.2)</b>		36 620 831	12															12			

**B. ACTIVITY NOT-ELIGIBLE FOR TAXONOMY**

Operating expenses related to activities not eligible for taxonomy	273 354 794	88
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<b>TOTAL (A + B)</b>	309 975 625	100
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ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

*Table 61a: Activities related to nuclear energy and natural gas*

Row	Nuclear energy-related activity	
1	The company researches, develops, demonstrates and deploys innovative electricity generation systems that generate energy under nuclear processes with minimum fuel-cycle waste, finances such activity or is exposed to it.	NO
2	The company constructs and safely operates new nuclear facilities to generate electricity or process heat, including for the purposes of a district heating system or industrial processes, such as hydrogen production, and also modernizes them in terms of safety, using best available technologies, finances such activity or is exposed to it.	NO
3	The company conducts safe operation of existing nuclear facilities generating electricity or process heat, including for the purposes of a district heating system or industrial process, such as hydrogen production from nuclear energy, and also modernizes them in terms of safety, finances such activity or is exposed to it.	NO
Natural gas-related activity		
1	The company reconstructs or operates electricity generation systems that use gaseous fossil fuels, finances such activity or is exposed to it.	NO
2	The company reconstructs, modernizes or operates systems for combined heating/cooling and electricity generation using gaseous fossil fuels, finances such activity or is exposed to it.	NO
3	The company constructs, modernizes or operates systems that generate thermal/cooling energy using gaseous fossil fuels, finances such activity or is exposed to it.	NO

*Table 61b: Taxonomy-compliant economic activity (denominator)*

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	36 620 831	12	36 620 831	100	0	0
8	<b>Total applicable key performance indicator</b>	36 620 831	12	36 620 831	100	0	0

Table 61c: Taxonomy-compliant economic activity (numerator)

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of taxonomy-compliant economic activity, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of taxonomy-compliant economic activity, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of taxonomy-compliant economic activity, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of taxonomy-compliant economic activity, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0



ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

5	Amount and share of taxonomy-compliant economic activity, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
6	Amount and share of taxonomy-compliant economic activity, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the numerator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the numerator of the applicable key performance indicator</b>	36 620 831	12	36 620 831	100	0	0
8	<b>Total amount and total share of taxonomy-compliant economic activity types in the numerator of the applicable key performance indicator</b>	36 620 831	12	36 620 831	100	0	0

Table 61d: Economic activity eligible for taxonomy but not taxonomy-compliant

Row	Economic activity types	Amount and share (information to be disclosed in monetary amounts and percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		Amount	%	Amount	%	Amount	%
1	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
2	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
3	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
4	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
5	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

6	Amount and share of economic activity eligible for taxonomy but not compliant with taxonomy, referred to in section 4.31 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0	0	0	0	0
7	<b>Amount and share of other taxonomy-eligible but not taxonomy-compliant economic activity types, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0
8	<b>Total amount and total share of taxonomy-eligible but not taxonomy-compliant economic activity types in the denominator of the applicable key performance indicator</b>	0	0	0	0	0	0

*Table 61e: Economic activity not eligible for taxonomy*

Row	Economic activity types	Amount	Percentage share
1	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.26 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
2	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.27 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
3	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.28 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
4	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.29 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
5	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.30 of Annexes I and II to the Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.	0	0
6	Amount and share of economic activity referred to in row 1 template 1, which is an economic activity not eligible for taxonomy pursuant to section 4.31 of Annexes I and II to the	0	0

ZE PAK SA CAPITAL GROUP  
MANAGEMENT BOARD'S REPORT ON THE CAPITAL GROUP'S ACTIVITIES IN 2022

	Delegated Regulation (EU) 2021/2139 in the denominator of their key performance indicators.		
7	<b>Amount and share of other economic activity types not eligible for taxonomy, not referred to in rows 1-6 above in the denominator of the applicable key performance indicator</b>	273 354 794	88
8	<b>Total amount and total share of economic activity types not eligible for taxonomy in the denominator of the applicable key performance indicator</b>	273 354 794	88

### *Accounting principles*

The basis to calculate the KPI Opex denominator pursuant to the provisions of Annex No. 1 to Regulation (EU) 2021/2178 was extracting direct, non-capitalised expenses, based on ZE PAK's financial statement of for the year concluded 31 December 2022 from the overheads of the ZE PAK related to

- research & development work,
- building renovation activities,
- short-term lease,
- maintenance and repairs, and
- any other direct expenses related to day-to-day servicing of tangible fixed assets by a company or third party commissioned which activities necessary to ensure the continued and efficient operation of those assets under an outsourcing contract

Taxonomy-compliant capital expenditure have been identified based on the assessment of conformity with Regulation (EU) 2020/852. The amount reported in ZE PAK's financial statement on activities identified as taxonomy-compliant has been allocated to the numerator.

### *Information on assessing the conformity with Regulation (EU) 2020/852*

The individual categories of ZE PAK's operating expenses included in the denominator of the key performance indicator have been analysed in accordance with the provisions of EU Regulation 2021/2178 to determine whether they meet one of the following conditions:

- d. concern assets or processes associated with a taxonomy-compliant economic activity, including training and other needs related to adapting human resources, and direct non-capitalised costs that represent research and development
- e. are part of a plan to expand a taxonomy-compliant economic activity or to enable a taxonomy-eligible economic activity becoming taxonomy-compliant ("capital expenditure plan"), in accordance with the conditions set out in paragraph two of this cl. 1.1.2.2;
- f. concern the purchase of taxonomy-compliant economic activity outputs and individual measures enabling the targeted activity to become low-carbon or enabling it to reduce greenhouse gas emissions, in particular the activities listed in cl. 7.3 to 7.6 of Annex I to the Climate Delegated Act, as well as other economic activities listed in the delegated acts adopted pursuant to Art. 10(3), Art. 11(3), Art. 12(2), Art. 13(2), Art. 14(2) or Art. 15(2) of Regulation (EU) 2020/852, and provided that those measures are implemented and triggered within 18 months.

2 taxonomy-compliant activities were identified based on the conducted analysis:

- 
- |      |  |
|------|--|
| 4.8. | Bioenergy-based electricity generation                                       |
| 4.20 | Combined generation of heating/cooling energy and electricity from bioenergy |
- 

The expenses related to activities 4.8., 4.20. are associated with compliant activity conducted by ZE PAK, which are recognized under KPI Turnover, and have therefore been considered compliant, according to condition a) indicated above.

Contribution to multiple objectives, disaggregation of key performance indicators

Not applicable. No operating expenses related to activities contributing to meeting more than one environmental objective was identified. The key performance indicator was not disaggregated.

### *Context-related information*

No taxonomy-compliant economic activity shown in the key performance indicator numerator is conducted for ZE PAK's own consumption purposes.

## 12. OTHER INFORMATION

### 12.1. Significant legal proceedings

In 2021 ZE PAK SA and companies consolidated within the Group were not a party in pending court proceedings, a body competent for arbitration proceedings or a public administration body, whose single or total value would exceed 10% of the equity of ZE PAK S.A., except the ones specified below.

#### ***Proceedings related to the environmental decision issued with respect to PAK KWB Konin SA concerning the Tomisławice lignite deposit***

PAK KWB Konin SA is a party in the administrative proceedings related to the environmental decision regarding the lignite deposit in Tomisławice. On 7 August 2007, the Head of the Wierzbinek Commune issued an environmental decision regarding the lignite open pit. On 5 December 2008, this decision was contested by nine natural persons supported by the Greenpeace foundation due to alleged gross infringement of legal regulations. On 25 March 2009, the Self-government Appeal Court dismissed to overrule the environmental decision. The plaintiffs applied for a judicial review. On 4 May 2009, after the judicial review, the Self-government Appeal Court sustained its previous decision. The plaintiffs again appealed against the environmental decision. On 5 May 2010, the Provincial Administrative Court in Poznań decided that the environmental decision, pursuant to which the license for the extraction of lignite at the Tomisławice deposit was granted, was a gross breach of legal regulations. PAK KWB Konin SA and the Self-government Appeal Court submitted an appeal against this judgement. On 21 March 2012, the Supreme Administrative Court revoked the contested decision of the Provincial Administrative Court in Poznań and referred the case to judicial review. On 6 November 2012, the Provincial Administrative Court in Poznań announced the decision revoking the decision of the Self-government Appeal Court of 25 March 2009 on dismissing the statement of invalidity of the environmental decision issued on 7 August 2007 by the Head of the Wierzbinek Commune, related to the extraction of lignite from the Tomisławice open cast by PAK KWB Konin S.A. On 7 January 2013, PAK KWB Konin S.A. submitted a cassation appeal against the described judgement.

After examination during a hearing on 7 October 2014, the Supreme Administrative Court dismissed PAK KWB Konin SA's cassation appeal against the judgement of the Provincial Administrative Court in Poznań of 6 November 2012 revoking the decision of the Self-government Appeal Court in Konin of 25 March 2009 dismissing the statement of invalidity of the environmental decision issued on 7 August 2007 by the Head of the Wierzbinek Commune, related to the extraction of lignite from the Tomisławice open cast.

Dismissal of the cassation appeal by PAK KWB Konin SA means that the judgement of the Provincial Administrative Court in Poznań of 6 November 2012 became legally binding, and the case regarding the statement of invalidity of the environmental decision will be examined again by the Self-government Appeal Court. On 18 January 2019, the Self-government Appeal Court in Konin issued a decision refusing to deem the environmental decision issued on 7 August 2007 by the Head of the Wierzbinek Commune and associated with the operation of the lignite open pit in Tomisławice as invalid.

On 19 June 2020, the Company was informed that a closed-door hearing at the Provincial Administrative Court in Poznań resulted in a judgement dismissing the appeal against the decision of the Self-government Appeal Court in Konin regarding the refusal to deem the environmental decision issued on 7 August 2007 by the Head of the Wierzbinek Commune and associated with the operation of the lignite open pit in Tomisławice as invalid.

Therefore, the judgement of the Provincial Administrative Court in Poznań, dated 18 June 2020 means that the environmental decision issued by the Head of the Wierzbinek Commune on 7 August 2007 still remains in legal circulation.

The Greenpeace Poland Foundation, based in Warsaw, and Jozef Imbierski filed a cassation appeal with the Supreme Administrative Court against the judgement of the Provincial Administrative Court in Poznań dated 18 June 2020. On 26 October 2020, PAK KWB SA Konin submitted a response to the cassation appeal, filing for dismissal.

Other legal proceedings were described in the consolidated financial statement of the Group in section 34.1.

### 12.2. Major achievements in the field of research and development

In September 2020, the ZE PAK SA Capital Group commenced work on an innovative design of a Polish Hydrogen Bus prototype, the objective of which was to develop from scratch a design of a new eco-friendly bus powered by hydrogen

cells. Completed conceptual work, technical analyses on the selection of main bus components (hydrogen cells, cylinders, batteries and drive) and calculations to ensure the highest total energy efficiency of the designed bus were followed by engineering a new design, taking into account trends in terms of ergonomics and modern appearance, dedicated to hydrogen-powered buses was designed and commencing work on the construction of the bus prototype, which lasted from April to October 2021. Bus tests started after completing construction, and on 20 April 2022, an EU approval was obtained for the manufactured city bus. An official premiere and presentation of the bus named NesoBus took place on 30 May 2022. In the following months, the NesoBus was tested with the participation of several passengers on bus routes in numerous cities by municipal transport companies.

In August 2022, after obtaining a construction permit, work began on the construction of a hydrogen cell bus factory in the Economic Activity Zone in Świdnik. The planned construction work completion and project commissioning date was set at Q3 2023.

The ZE PAK SA Group is also working on a single-family house autonomous power supply. This project involves developing a concept and technical selection of equipment for a self-sufficient stand-alone system supplying electricity, heat, domestic hot water to single-family houses with low energy consumption and passive houses based on own renewable energy sources using hydrogen as an energy storage and carrier. The initial operation phase of the assembled stand-alone power system designed for single-family houses is currently in progress. In June 2022, the company commissioned developing a demonstrator design for the project "Stand-alone single-family supply with electricity and heat, based on own renewable energy sources, using hydrogen as an energy carrier and storage". This project will constitute ground for the construction of a single-family dwelling model in the form of a container building, which can be moved to different locations to demonstrate the stand-alone supply system for a single-family house. A demonstrator concept has been developed. The next step will involve developing technical designs of the demonstrator.

Development work to increase competitiveness in the city bus market is currently in progress. The scope of work includes the construction of a prototype with a central engine, outward opening doors and a modified driver's cab. Advanced driver assistance systems will be introduced, including pedestrian and cyclist detection, driver drowsiness warning and traffic sign recognition. This will make it more responsive to the requirements of future users.

Construction of the prototype will begin in the new factory. Approval is also expected to be extended to include new regulations on vehicle safety and cybersecurity.

### **12.3. Information on selecting an auditing company to examine the annual consolidated financial statement**

According to a statement of the Supervisory Board, the audit firm conducting the audit of the annual consolidated financial statement was selected pursuant to the regulations, including those concerning the selection and procedure for the selection of an audit firm. The audit firm and the members of the audit team fulfil the requirements for the development of an impartial and independent audit report regarding the annual consolidated financial statement, in accordance with applicable regulations, professional standards and ethics. Applicable regulation associated with the rotation of the audit firm, key expert auditor and mandatory grace periods are observed. The Company has a policy in place on audit firm selection and a policy on the provision of additional non-audit services to the issuer by the audit firm, an affiliate of the audit firm or a member of its network, including services conditionally exempted from the prohibition to be provided by the audit firm.

### **12.4. Information on financial statement audit**

The audit firm auditing the financial statement and consolidated financial statement is PricewaterhouseCoopers Polska Spółka z ograniczoną odpowiedzialnością Audyt sp.k. The contract for the audit of the Company's financial statement and the Group's consolidated financial statement, together with the verification consolidated statements tagging with XBRL tags in accordance with ESEF requirements, was concluded on 10 August 2020 for a period of three years. In addition to the aforementioned services, PricewaterhouseCoopers Polska Spółka z ograniczoną odpowiedzialnością Audyt sp.k. provided assurance services to the Company in 2021 and 2022 in connection with the remuneration report.

May 2022 also saw the signing of a contract for the verification of the financial ratio - covenant audit in relation to the loan agreement between ZE PAK SA and Bank Polska Kasa Opieki SA dated 29 January 2021.

Information regarding the remuneration for the audit firm was presented in section 38 of the Group's consolidated financial statement for 2022.

## 12.5. Financial projections

The Capital Group did not publish financial forecasts for 2022 and it will not present financial forecasts for 2023.

*All other information the disclosure of which is required by regulations and that have not been disclosed in this management board's report of operations do not concern the Group.*

Konin, 27 April 2023

SIGNATURES:

Piotr Woźny  
President of the Management Board .....

Zygmunt Artwik  
Vice-President of the Management Board .....

Andrzej Janiszowski  
Vice-President of the Management Board .....

Maciej Nietopiel  
Vice President of the Management Board .....

Katarzyna Sobierajska  
Vice President of the Management Board .....