

Company Report Asset Management Poland 15 October 2024

7F PAK

Must get worse before it gets better

We reinitiate our coverage for ZE PAK with a Hold recommendation and a 12M target price at PLN 17.4 per share (3% upside potential). Our conclusions are based on:

- Over the next years, the company plans to fundamentally transform its business model from lignite to gas capacities. We assume that the company will shut down 200 MW lignite units in the end of 2024 and 474 MW unit in the end of 2025. Lignite-fired power plants will drive company's results until the end of 2025 and we estimate adjusted EBITDA at PLN 69/-31mn in 2024/25e.
- The lignite capacities will be replaced in 2027e by a new gas unit in Adamów with a capacity of 561 MW. The project is supported by 17-year capacity remuneration mechanism from 2026e for the price of PLN 400.4/kW/year (PLN 197mn/year, inflation-indexed). Over the next years, this project will be a new core business but before that, we estimate that 2026e will be a year of transition with significantly lower revenues as ZE PAK will cease power generation in the end of 2025e. We estimate the value of this project at PLN 6.4/sh.
- We expect the **PV project in Przykona** (280 MW) to be ultimately realized by PAK-PCE as ZE PAK will be highly leveraged and, in our view, will not be able to close the financing for this project. We expect the project to be sold to PAK-PCE for ca. PLN 112mn (PLN 2.4/sh).
- The company also has 49.5% stake in PAK-PCE, which consists of onshore (297 MW), PV (82 MW) and biomass (105 MW) projects. We estimate that these projects together with the Przykona project could generate PLN 439mn of recurring EBITDA. We value the stake at PLN 11.6/sh.
- ZE PAK acquired 500 MW of onshore projects for EUR 110mn in June 2024. Given the significant capex required, ZE PAK would likely need a co-investor to develop the project. In our opinion, the value of the project is no less than ZE PAK's payments (PLN 5.2/sh).
- In our opinion, the probability of a successful realization of nuclear power plant remains limited due to capital intensity and complexity, hence we do not include it in our valuation.

ZE PAK: Key figures, 2021-2027e

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PLNmn	2021	2022	2023	2024e	2025e	2026e	2027e
Revenues	2,451	4,200	3,106	2,077	1,416	539	1,603
EBITDA	243	391	728	165	(31)	11	259
EBITDA adj.	269	373	970	69	(31)	11	259
Pretax income	(519)	318	682	130	(110)	(70)	77
Net Income	(317)	215	558	192	(103)	(25)	112
Net income adj.	(317)	215	558	131	(110)	(70)	62
EPS (PLN)	(6.24)	4.00	10.99	3.77	(2.03)	(0.49)	2.20
DPS	-	-	-	-	-	-	-
DY	-	-	-	-	-	-	-
P/E (x)	neg.	5.8	1.6	4.5	neg.	neg.	7.7
EV/EBITDA (x)	3.8	2.2	0.8	2.6	neg.	214.1	10.5

Source Company, Pekao Equity Research

Hold (reinitiation) **Target price PLN 17.4** Upside to TP 3% Price on 14 November 2024 PLN 16.88 **ESG** rating **Final ESG Score** Relative share price performance vs. WIG 140 130 120 110 100 90 80 ZE PAK -**UPCOMING EVENTS** 3Q'24 results 26 November STOCK DATA **ZEP PW** Bloomberg 15.2 Free float (%) Market capitalization (PLNmn) 858 Diluted no. of shares (mn) 50.8 Shareholders Zygmunt Solorz 65.96% OFE PZU 7.53% OFE Allianz 6.30% OFE NN 5.02% Other 15.19%

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Recent developments

Family succession dispute among majority shareholders

In recent weeks there has been an intense dispute between Zygmunt Solorz and his children over the succession to of Cyfrowy Polsat and other companies (including ZE PAK) owned by Zygmunt Solorz. Zygmunt Solorz began to question the right of his children to take over the companies. On 7th of October the Extraordinary General Meeting (EGM) of Shareholders of ZE PAK dismissed the members of the Supervisory Board: (i) Jarosław Grzesiak, (ii) Tobias Solorz and (iii) Piotr Żak. The dismissal is a result of family succession dispute.

Acquisition of companies developing wind projects of 500 MW (on 24th of June)

ZE PAK (99% of shares) together with PAK-PCE (1%), has acquired Energia Przykona and Neo Energia Przykona from Goalscreen Holdings Limited, which are developing an onshore wind power project in the Opole with a total connecting capacity of approximately 500 MW. Project was acquired for up to EUR 110mn depending on final parameters of the project. ZE PAK has also entered into agreements to develop the project to the ready-to-build phase for an amount of up to EUR 160mn. At the same time, ZE PAK and PAK-PCE signed a term sheet which gives PAK-PCE the right to increase its share in the project.

Publication of 2Q'24 results (on 24th of September)

2Q'24 Reported EBITDA amounted to PLN 93mn (vs. PLN 22mn expected by market consensus. Adjusted EBITDA in 2Q'24 was much lower that reported and amounted to PLN 28mn (vs. 269mn year ago and PLN -4mn in 1Q'24). There were two events that improved results: (i) PLN +31mn of a profit of associates, and (ii) PLN +34mn of provision reversal. We find 2Q'24 results of ZE PAK as positive. The company was able to achieve a relatively high power price of PLN 731 per MWh, which together with stable costs of CO2 (PLN 398 per ton) has contributed to a good overall financial performance. The outperformance of market consensus is primarily due to lower loss in generation segment and solid result in mining. Please note that average realized reported power price includes revenue from ancillary services that amounted of PLN 17mn. We believe that in the coming quarters additional revenues from ancillary services should not be as significant on a period-to-period basis but will still contribute positively to the results.



ZE PAK: 2Q'24 key	financials (PLN mn))
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P&L	2Q'23	3Q'23	4Q'23	1Q'24	2Q'24	Y/Y	Q/Q	Cons.	vs. Cons
Revenues	306	820	829	520	522	71%	0%	547	-5%
EBITDA	264	397	445	27	93	-65%	248%	22	317%
Generation	132	135	332	-91	-15	-111%	-84%		
Mining	131	190	220	124	72	-45%	-42%		
Other	1	72	-107	-7	36	n/a	n/a		
EBIT	248	413	419	23	89	-64%	285%	17	417%
Financial cost net	14	42	-41	-15	1	n/a	n/a		
Gross profit before tax	262	455	378	8	91	-65%	976%		
Tax & other	-64	-81	145	-13	20	n/a	n/a		
Net income	199	375	523	-5	110	-57%	n/a	12	790%
Debt									
Debt	43	40	40	33	33				
Net debt	-634	-1,189	-494	-643	-464				
Operational data	2Q'23	3Q'23	4Q'23	1Q'24	2Q'24	Y/Y	Q/Q	Cons.	vs. Cons
Generation									
Generation volume (TWh)	0.39	0.31	0.20	0.27	0.32	-18%	19%		
Power trading volume (TWh)	0.35	0.15	0.25	0.23	0.19	-46%	-17%		
Price of power (PLN/MWh)	1,072	1,392	1,388	696	731	-32%	5%		
CO2 emission (mnt)	0.50	0.43	0.29	0.35	0.40	-20%	14%		
Realized CO2 price (PLN/t)	369	394	297	406	398	8%	-2%		
CO2 cost per MWh	473	547	431	526	498	5%	-5%		
Emission factor (t/MWh)	1.28	1.39	1.45	1.30	1.25	-3%	-4%		
Spread (power price-CO2, PLN/MWh)	599	845	957	169	234	-61%	38%		
Mining									
Coal consumption (mnt)	0.49	0.42	0.31	0.36	0.39	-20%	8%		

Source: Company, Pekao Equity Research

Financial forecasts

We assume that company will shut down 200 MW lignite units in the end of 2024 and 474 MW unit in the end of 2025 (which is in line with company's statements) and as well mining will be discontinued. We believe that despite the derogation of the 550gr/kWh capacity market criterium to 2028, under current market conditions ZE PAK will not be able to fully cover variable costs of power generation. According to our estimates, power price needed to cover variable costs for ZE PAK is above PLN 489 per MWh (assuming average price of CO2 allowances of EUR 70 per ton and lignite cost of PLN 22.5/GJ, please note that lignite extraction cost for ZE PAK in last quarters according to our estimates exceeded PLN 30.0/GJ)

Economics of power generation per units and depending on a lignite price

200 MW	(i) 474 MW	(ii) 474 MW
30%	41%	41%
110	110	110
1.50	1.10	1.10
1.32	0.97	0.97
22.5	22.5	30.0
70.0	70.0	70.0
270	198	263
393	287	287
663	485	551
460	460	460
-203	-25	-91
	30% 110 1.50 1.32 22.5 70.0 270 393 663 460	30% 41% 110 110 1.50 1.10 1.32 0.97 22.5 22.5 70.0 70.0 270 198 393 287 663 485 460 460

Source: Pekao Equity Research

From 2025e, we also note that revenues will drop substantially as no longer there will be revenues from LTC contract and from sale of biomass (15% of total revenues in 1H'24). In 2024/25e, we estimate adjusted EBITDA of PLN 69/-31mn. We note that lignite closures involve reclamation of post-mining areas and the company estimates



the associated cost at PLN 622mn. We assume that company will be reclaiming postmining areas over the next years until the end of 2030.

As a commission of Adamów CCGT is planned by the company for the end of 1Q'27, we expect that 2026e will be a year of transition with significantly lower results and substantial drop of revenues and EBITDA of only PLN 11mn as the company's revenues will come mainly from power trading.

From the beginning of 2Q'27e, we assume that Adamów CCGT will be fully operational and will start generating revenues from two sources: (i) capacity market mechanism renumeration and (ii) power generation. The project is highly supported by secured 17-year capacity remuneration mechanism contract for a capacity of 493 MW from 2026e for the price of PLN 400.4/kW/year (price is inflation indexed) that translates into additional PLN 197mn a year. The price is higher than contracted in most years as seen below and should cover fixed costs (we assume fixed costs of ca. PLN 100mn/yr and maintenance capex of ca. PLN 50mn/yr). It should be noted that due to the later than originally assumed commissioning, ZE PAK will be obliged to pay fines for not being able to deliver capacity in 2026. At the same time, ZE PAK will not receive any remuneration from the power contract in 2026.

Capacity market results per delivery year

Delivery year	2021	2022	2023	2024	2025	2026	2027	2028
Price per kW/year (PLN)	240	198	203	260	173	400	406	245

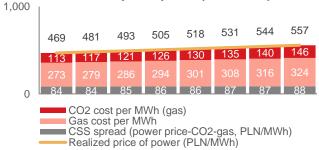
Source: ERO, Pekao Equity Research

Given current power prices, high prices of gas and relatively low prices of CO2 allow for positive spreads from gas-fired units. We estimate current clean spark spread for ca. PLN 85 per MWh (assuming 59% net efficiency of power generation). We assume that future spreads should not be much higher.

Economics of power generation for gas-fired unit

Unit	561 MW
Efficiency net (%)	59%
CO2 emission per 1 MWh of power	0.34
Gas usage (MWh per 1 MWh of power)	1.69
Cost of gas (EUR/MWh)	37.5
Cost of CO2 allowances (EUR/t)	70.0
Cost of gas (PLN/MWh)	102
Cost of CO2 allowances (EUR/t)	273
Variable cost per 1 MWh	376
Wholesale power price (PLN/MWh)	460
Clean spark spread (PLN/MWh)	84

Forecasted clean spark spread (PLN/MWh)



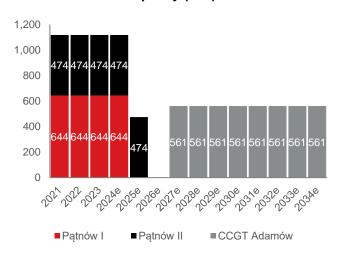
Source: Pekao Equity Research

Regarding a load factor for Adamów CCGT, we assume that gas-fired unit will be used fully utilized until the end of 2029e and from 2030e a load will start slowly dropping as more renewable power sources will be installed leading to a lower volume of generated power by gas-fired plants.

Lignite phase-out and investments in gas-fired unit in Adamów will totally change company's asset base and power mix as seen below.

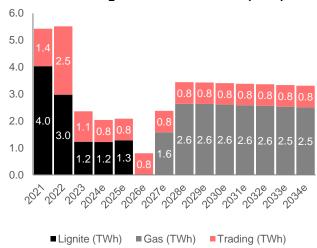


ZE PAK: Installed capacity (MW)



Source: Company, Pekao Equity Research

ZE PAK: Power generated and traded (TWh)



Source: Company, Pekao Equity Research

ZE PAK plans to realize PV project in Przykona (280 MW) that was carved-out of PAK-PCE at the time of sale to Cyfrowy Polsat. Project is also realized with intention to deliver part of generated power to Adamów CCGT. As now, the project has a grid connection permit and is awaiting building permission. Difficult market conditions for PV projects could force the company to reconsider the project. Due to (i) high planned leverage of ZE PAK (we believe that banks will not be willing to finance the project due to the significant leverage of the sponsor), (ii) high capex intensity of PV in Przykona (according to our estimation ca. PLN 800mn and (iii) PAK-PCE business profile, we believe that the project will be ultimately realized by PAK-PCE. We assume that the project will be sold to PAK-PCE for ca. PLN 112mn (PLN 0.4mn per MW).

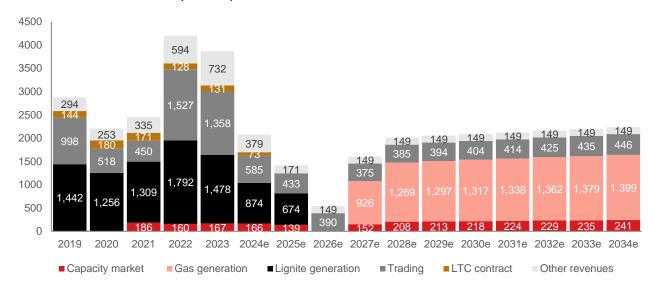
We do not include PAK-PCE's results in our financial forecasts as it is consolidated by equity method (49.5% stake, thus we only include a part of net profit in our forecasts). According to our estimates, PAK-PCE's power generation assets could generate recurring EBITDA of ca. PLN 439mn once they are fully developed. We value the stake separately, see next part of report for details.

In our opinion, the **probability of a successful realization of nuclear power plant remains limited** due to capital intensity and complexity of the project as well as ongoing problems with KHNP. At the end of June '24, according to Polityka Insight PGE and government officials reportedly informed ZE PAK that that project is on hold. That is why we do not include it in our valuation.

Taking above into consideration, we estimate EBITDA of PLN 259/347mn in 2027/28e and revenues of PLN 1,603/2,011mn.



ZE PAK: Revenues structure (PLNmn)



Source: Company, Pekao Equity Research

Before the company manages to transform toward gas capacities, new investments together with the settlement of CO2 obligation and the obligation to reclaim post-mining areas will significantly increase the net debt in 2025/26/27e to PLN 1.1/1.6/1.9bn (vs. PLN -0.4bn in the end of 2024e). Above mentioned factors would lead to exceptionally high levels of ND/EBITDA over 5,0x in the following years. In our opinion banks should conditionally accept high level of net debt, considering positive perspectives of the gas project. As long as the project offers banks the prospect of repayment (such as highly supported project by capacity market mechanism renumeration), high leverage should not be a significant problem.



ESG rating

Our methodology implies final ESG Score for ZE PAK at 0.91 and ESG Rating "C". According to our methodology, rating "C" have no impact on our cost of equity calculation.

ZE PAK: ESG rating summary

Financials	E	S	G
Score	0.75	1.20	1.08
Sector weight	60%	20%	20%
Final ESG Score		0.91	
ESG Rating		С	

Source: Pekao Equity Research

ZE PAK: ESG rating methodology

	score from:	to	Rating	WACC risk premium impact (% of RFR)
	1.5	2	Α	-15.00%
ESG Score	1	1.5	В	-7.50%
ESG Score	0.5	1	С	0%
	0	0.5	D	15.00%



Valuation summary

As each part of the business has different characteristics, we use the sum of the parts (SOTP) to value ZE PAK. Depending on the nature of assets, we choose to use:

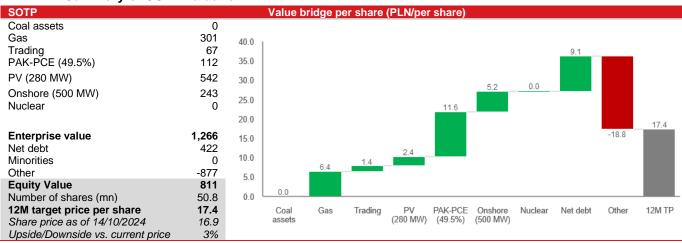
- 100% DCF model for: (i) coal assets, (ii) Adamów CCGT (Gas), (iii) power trading,
- EV/EBITDA multiples for 49.5% stake of PAK-PCE,
- acquisition value for onshore project in Opole (in part that was already paid).

Our discounted cash flow (DCF) model is based on expected free cash flows discounted with weighted average cost of capital (WACC). In our cost of equity calculation, we use (i) 5.3% risk free rate (4.0% in terminal), (ii) 6.0% risk premium (5.0% in terminal) and (iii) 1.0 Beta, (iv) terminal growth rate (g) at 0%.

For PAK-PCE, we estimate recurring EBITDA for each generation asset. We assume capture price to be 20% lower for PV assets and 10% lower for onshore assets than base power price as assumed of PLN 460 per MWh for biomass power plant (most the already built farms have signed PPA and fPPA, so there are exposed to market price of power). We then use EV/EBITDA multiple to derive an enterprise value and we subtract net debt. We note that onshore farms Drzeżewo (138.6 MW), Dobra (7.8 MW) will be completed at the end of 2025e and as these projects will require capital expenditures to reach the operational stage, we also deduct the estimated cost of CAPEX associated with these projects (PLN 992/354 for onshore in 2024/25e and PLN). We assume that PV project in Przykona will be completed at the end of 2026e and CAPEX will amount of PLN 800mn. We believe that projects related to hydrogen nor create or destroy value given the uncertainty about the future scale of hydrogen use in the economy, thus we do not include it in our valuation.

Taking into consideration above assumptions, our model implies ZE PAK equity value at PLN 17.4 per share. This value includes value of 49.5% shares of PAK-PCE of PLN 11.6 per share. (3% upside potential).

ZE PAK – Summary of SOTP valuation





ZE PAK: WACC calculation

	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	Terminal
Risk free rate	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	4.0%
Equity risk premium	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
ESG	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cost of equity	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%	9.0%
Cost of debt	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	6.0%
After-tax cost of debt	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	4.9%
Equity weight	0.61	0.61	0.53	0.52	0.54	0.57	0.60	0.63	0.66	0.69	0.69
WACC	9.2%	9.2%	8.8%	8.7%	8.8%	9.0%	9.1%	9.3%	9.5%	9.6%	7.7%

Source: Pekao Equity Research

ZE PAK: DCF valuation of CCGT Adamów

(PLNmn)	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	Terminal
Revenues	-	-	1,078	1,477	1,510	1,536	1,561	1,591	1,614	1,640	1,640
EBIT	-	-	162	240	235	227	219	219	219	220	220
Taxes on EBIT	-	-	(31)	(46)	(45)	(43)	(42)	(42)	(42)	(42)	(42)
NOPAT	-	-	131	195	190	184	178	177	178	178	178
Depreciation and assets write-offs Capital expenditures FCFF	(1,400) (1,400)	(450) (450)	85 (185) 31	95 (47) 243	104 (48) 246	114 (49) 249	124 (51) 252	128 (52) 253	129 (53) 253	130 (55) 254	130 (130) 178
Terminal value growth Terminal value Discount factor Discounted free cash flow	0.92 (1,282)	0.84 (378)	0.77 24	0.71 172	<i>0.65</i> 161	<i>0.60</i> 149	<i>0.55</i> 138	0.50 127	<i>0.4</i> 6 116	<i>0.4</i> 2 106	0.00 2,313 0.39 967

CCGT project value 301

Number of shares (mn)	50.8
Value per share	5.9
12M target price per share	6.4

Source: Pekao Equity Research

ZE PAK: Valuation of 49.5% PAK-PCE share

Asset	Type	MW	Status	Load factor	Power price	EBITDA	EBITDA per MW
Miłosław (9,6 MW)	Onshore	10	Operating	30%	414	9	0.89
Kazimierz Biskupi (17,5 MW)	Onshore	18	Operating	30%	414	16	0.89
Człuchów (72,6 MW)	Onshore	73	Operating	30%	414	64	0.89
Przyrów (50,4 MW)	Onshore	50	Operating	30%	414	45	0.89
Drzeżewo (138.6 MW)	Onshore	139	Completion 4Q'25	30%	414	123	0.89
Dobra (7.8 MW)	Onshore	8	Completion 4Q'25	30%	414	7	0.89
Brudzew/Cambria (82.4 MW)	PV	82	Operating	12%	368	26	0.32
Przykona (260 MW)	PV	280	Development	12%	368	89	0.32
Biomasa (105 MW)	Biomass	105	Operating	70%	460	61	0.58

EBITDA recurring EV/EBITDA multiple	439 10.6x
Enterprise Value	4,645
Capex to be spent in 2025/26	1,150
Net debt	2,400
Equity value	1,095
ZEPAK Equity value	542
Number of shares (mn)	50.8
Value per share	10.7
12M target price per share	11.6



Sensitivity of valuation of CCGT Adamów to WACC and Clean Spark Spread

Sensitivity of valuation of PAK-PCE stake to EV/EBITDA multiple and average power price

		Clean Spark Spread (PLN/MWh)									
		-15	-10	-5	0	5	10	15			
	1.5%	neg.	neg.	neg.	neg.	1.3	3.1	4.8			
<u>.</u>	1.0%	neg.	neg.	neg.	1.6	3.5	5.3	7.1			
(pp.)	0.5%	neg.	neg.	1.9	3.9	5.8	7.8	9.7			
WACC	0.0%	0.1	2.2	4.3	6.4	8.5	10.6	12.7			
S	-0.5%	2.6	4.9	7.1	9.4	11.6	13.9	16.1			
Ĭ Š	-1.0%	5.4	7.9	10.3	12.8	15.2	17.6	20.0			
	-1.5%	8.7	11.4	14.1	16.7	19.3	22.0	24.6			

		EV / EBITDA									
		9.1x	9.6x	10.1x	10.6x	11.1x	11.6x	12.1			
₹	346	0.9	3.0	5.2	7.3	9.4	11.5	13.6			
≥	371	2.2	4.3	6.5	8.7	10.9	13.1	15.3			
٤	396	3.4	5.7	7.9	10.2	12.4	14.7	17.0			
굽	421	4.6	7.0	9.3	11.6	14.0	16.3	18.6			
,	446	5.9	8.3	10.7	13.1	15.5	17.9	20.3			
×	471	7.1	9.6	12.1	14.5	17.0	19.5	21.9			
٩	496	8.4	10.9	13.4	16.0	18.5	21.0	23.6			
Power (PLN/MWh)	421 446 471	4.6 5.9 7.1	7.0 8.3 9.6	9.3 10.7 12.1	11.6 13.1 14.5	14.0 15.5 17.0	16.3 17.9 19.5	18. 20. 21.			

Source: Pekao Equity Research

Source: Pekao Equity Research

Peers' valuation

Peers for ZE PAK

			EV/EBITDA			P/E	
Company name	Ticker	2024e	2025e	2026e	2024e	2025e	2026e
RWE AG	RWE GR	6.5	7.7	7.7	11.6	15.9	14.3
ENEL SPA	ENEL IM	6.2	6.2	6.0	10.7	10.7	10.4
BKW AG	BKW SW	9.5	9.0	8.1	15.6	14.9	13.3
FORTUM OYJ	FORTUM FH	8.1	9.4	9.8	12.5	14.9	15.7
CEZ AS	CEZ CP	5.6	6.1	6.8	14.5	15.7	11.7
PGE SA	PGE PW	2.9	3.1	2.8	4.3	4.6	3.7
TAURON POLSKA ENERGIA SA	TPE PW	4.2	4.4	4.1	7.8	3.7	3.3
ENEA SA	ENA PW	2.0	2.6	2.5	1.9	3.0	3.3
ENGIE	ENGI FP	5.6	6.3	6.6	7.4	9.1	9.6
Median		5.6x	6.2x	6.6x	10.7x	10.7x	10.4x
ZE PAK		6.3x	neg.	neg.	4.5x	neg.	neg.
Premium/(discount)		11%	na	na	-58%	na	na
Implied value per share (PLN)		16.0	neg.	nea.	40.6	nea.	neg.

Source: Bloomberg, Pekao Equity Research

Peers for PAK-PCE

1 0010 101 1 7410 1 0 2		-	V/EDITDA	
Company nama	Ticker	2024e	V/EBITDA 2025e	2026e
Company name	rickei	20246	20206	20206
ALERION CLEANPOWER	ARN IM	11.6	11.3	6.9
AUDAX RENOVABLES SA	ADX SM	9.1	7.9	7.3
EDP RENOVAVEIS SA	EDPR PL	12.4	11.0	10.4
ERG SPA	ERG IM	9.5	8.9	8.5
GREENVOLT-ENERGIAS RENOVAVEI	GVOLT PL	12.5	10.8	7.6
NEOEN SA	NEOEN FP	18.9	16.3	14.9
ORSTED A/S	ORSTED DC	10.0	8.8	8.2
VOLTALIA SA- REGR	VLTSA FP	14.6	13.0	11.9
GRENERGY RENOVABLES	GRE SM	16.6	10.3	10.3
ENEFIT GREEN AS	EGR1T ET	11.3	12.2	12.2
SOLARIA ENERGIA Y MEDIO AMBI	SLR SM	12.5	12.0	10.8
POLENERGIA SA	PEP PW	9.8	12.8	16.3
SCATEC ASA	SCATC NO	8.2	8.4	8.3
ENDESA SA	ELE SM	6.1	6.0	5.9
Median		11.4x	10.9x	9.4x
Weight		33%	33%	33%
Implied EV/EBITDA for PAK-PCE		10.6x		

Source: Bloomberg, Pekao Equity Research



Risk factors

Risk of power price, gas, and CO2 prices. Lower electricity prices and higher gas and CO2 costs have a negative effect on the profitability of the gas unit. A sharp increase in the price of gas could even result in the CCGT Adamów not producing any power, with the only revenue coming from capacity market. Please note that clean spark spread is a crucial value driver of Adamów CCGT. Lower than assumed spread together with high capital intensity could significantly reduce present value of the project.

Risk of load factors for gas unit. Lower gas load factors from 2027e onwards will reduce the valuation and the gas segment. There is also load factor risk for lignite units, but we believe the company will close these units by the end of 2025, so the overall risk is relatively insignificant compared to other risks.

Faster than expected development of renewables and energy storages. Development of renewables could have an impact on gas load factors and reduce electricity prices, which in turn could reduce the profitability of gas capacity.

Risk of not closing the financing of the Adamów CCGT. As of the latest balance sheet date, ZE PAK had not yet raised external financing for the project. The scale of the investment makes it impossible to finance internally. External funding is critical to the success of the project.

Risk of rising construction costs and delays in commissioning. Rising costs could reduce the profitability of projects.

Regulatory risk. Power market participants operate in a regulatory environment that is constantly changing. Issues relating to the operation of the capacity market and the balancing market are important factors that can affect financial performance.

Currency risk. ZE PAK operates on the territory of Poland, where it incurs costs and generates revenues in PLN, but the transactions related to the purchase of emission allowances are settled in EUR. Depreciation of PLN could increase CO2 allowance costs quoted in PLN and ultimately reduce profitability. The risk in the short term is to a large extent mitigated by the use of hedging instruments by the company.

Higher than expected cost of reclamation. ZE PAK is responsible for reclaiming areas where lignite has been mined and continuously reclaims the unexploited parts of the landfills. On the end of 2Q'24 company reported reclamation provisions that amount of PLN 622mn that will have to be cover in coming years.

Majority shareholder risk. The controlling shareholder may make decisions that could be unfavorable to minority shareholders. These include not paying dividends, engaging in related party transactions, and undertaking risky strategic decisions.



Key financial data

P&L (PLNmn)	2021	2022	2023	2024e	2025e	2026e	2027e
Revenues	2,451	4,200	3,106	2,077	1,416	539	1,603
EBITDA	243	391	728	165	(31)	11	259
EBITDA adj.	269	373	970	69	(31)	11	259
EBIT Financial Income/(Cost)&Other	(513)	351	689	145	(56)	(20)	166
Pretax Profit	(6) (519)	(33) 318	(7) 682	45 130	(47) (110)	(29) (70)	(40) 77
Income Tax	201	(103)	(124)	130	(110)	(10)	(15)
Net Income	(317)	215	558	192	(103)	(25)	112
Net income adj.	(317)	215	558	131	(110)	(70)	62
EPS (PLN)	(6.24)	4.00	10.99	3.77	(2.03)	(0.49)	2.20
Balance Sheet (PLNmn)	2021	2022	2023	2024e	2025e	2026e	2027e
Current assets	2,038	2,561	1,998	1,724	1,383	1,148	1,298
Cash and equivalents	507	1,463	534	427	216	156	95
Other Current Assets	1,531	1,098	1,464	1,297	1,168	993	1,203
Fixed assets	1,274	1,979	1,592	1,902	3,277	3,773	3,922
Tangible Assets	1,182	1,727	330	929	2,298	2,748	2,848
Other Fixed Assets	91	252	1,262	973	979	1,024	1,074
Total assets	3,312	4,539	3,590	3,626	4,661	4,921	5,220
Short-term liabilities Short-term debt	1,993 209	2,126 495	1,099	974	812	648	730 95
Other Current Liabilities	209 1,784	495 1,631	1,095	974	812	648	95 635
Long-term liabilities	795	1,031 1,199	579	548	1,848	2,298	2,403
Long-term debt	291	677	36	5	1,305	1,755	1,860
Other Long - Term liabilities	504	522	544	544	544	544	544
Stockholders` Equity	525	724	1,912	2,103	2,000	1,975	2,087
Minorities	(0)	491		-			
Total Equity & Liabilities	3,312	4,539	3,590	3,626	4,661	4,921	5,220
Net debt	(7)	(291)	(494)	(422)	1,089	1,599	1,860
Cash Flow (PLNmn)	2021	2022	2023	2024e	2025e	2026e	2027e
Cash Flow (PLNmn) Net Profit	2021 -317	2022 215	2023 558	2024e 192	2025e -103	2026e -25	2027e 112
Net Profit Depreciation and Amortization Other (incl. WC)	-317 119 205	215 49 238	558 38 -918	192 39 335	-103 42 -39	-25 7 -35	112 93 -273
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows	-317 119 205 7	215 49 238 503	558 38 -918 -322	192 39 335 566	-103 42 -39 -100	-25 7 -35 -52	112 93 -273 -68
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures	-317 119 205 7 -410	215 49 238 503 -602	558 38 -918 -322 -576	192 39 335 566 -638	-103 42 -39 -100 -1,411	-25 7 -35 -52 -457	112 93 -273 -68 -193
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other	-317 119 205 7 -410 18	215 49 238 503 -602 -49	558 38 -918 -322 -576 87	192 39 335 566 -638 0	-103 42 -39 -100 -1,411 0	-25 7 -35 -52 -457 0	112 93 -273 -68 -193 0
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities	-317 119 205 7 -410 18 -391	215 49 238 503 -602 -49 -651	558 38 -918 -322 -576 87 -489	192 39 335 566 -638 0 -638	-103 42 -39 -100 -1,411 0 -1,411	-25 7 -35 -52 -457 0 -457	112 93 -273 -68 -193 0 -193
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid	-317 119 205 7 -410 18 -391	215 49 238 503 -602 -49 -651	558 38 -918 -322 -576 87 -489	192 39 335 566 -638 0 -638	-103 42 -39 -100 -1,411 0 -1,411	-25 7 -35 -52 -457 0 -457	112 93 -273 -68 -193 0 -193
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other	-317 119 205 7 -410 18 -391	215 49 238 503 -602 -49 -651 0	558 38 -918 -322 -576 87 -489	192 39 335 566 -638 0 -638 0	-103 42 -39 -100 -1,411 0 -1,411 0 1300	-25 7 -35 -52 -457 0 -457 0 450	112 93 -273 -68 -193 0 -193 0 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid	-317 119 205 7 -410 18 -391 0 393	215 49 238 503 -602 -49 -651	558 38 -918 - 322 -576 87 - 489 0 -1	192 39 335 566 -638 0 -638	-103 42 -39 -100 -1,411 0 -1,411	-25 7 -35 -52 -457 0 -457	112 93 -273 -68 -193 0 -193
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash	-317 119 205 7 -410 18 -391 0 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104	558 38 -918 -322 -576 87 -489 0 -1 -1	192 39 335 566 -638 0 -638 0 -35 -35	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300	-25 7 -35 -52 -457 0 -457 0 450 450	112 93 -273 -68 -193 0 -193 0 200 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities	-317 119 205 7 -410 18 -391 0 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104	558 38 -918 -322 -576 87 -489 0 -1	192 39 335 566 -638 0 -638 0 -35 -35	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300	-25 7 -35 - 52 -457 0 - 457 0 450	112 93 -273 -68 -193 0 -193 0 200 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period	-317 119 205 7 -410 18 -391 0 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104	558 38 -918 -322 -576 87 -489 0 -1 -1	192 39 335 566 -638 0 -638 0 -35 -35	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300	-25 7 -35 -52 -457 0 -457 0 450 450	112 93 -273 -68 -193 0 -193 0 200 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash	-317 119 205 7 -410 18 -391 0 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104	558 38 -918 -322 -576 87 -489 0 -1 -1	192 39 335 566 -638 0 -638 0 -35 -35	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300	-25 7 -35 -52 -457 0 -457 0 450 450	112 93 -273 -68 -193 0 -193 0 200 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA	-317 119 205 7 -410 18 -391 0 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534	192 39 335 566 -638 0 -638 0 -35 -35 -107 427	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450	112 93 -273 -68 -193 0 -193 0 200 200
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT	-317 119 205 7 -410 18 -391 0 393 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit	-317 119 205 7 -410 18 -391 0 393 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT	-317 119 205 7 -410 18 -391 0 393 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit	-317 119 205 7 -410 18 -391 0 393 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS	-317 119 205 7 -410 18 -391 0 393 393 393	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins	-317 119 205 7 -410 18 -391 0 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 23.5% 22.2%	192 39 335 566 -638 0 - 638 0 -35 - 35 -107 427 -33% -77% -66% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216	-25 7 -35 -52 -457 0 -457 0 450 450 450 156	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4%
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins EBITDA margin EBIT margin Net income margin	-317 119 205 7 -410 18 -391 0 393 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463 71% 61% n/a n/a n/a 1,204 956 1,463	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 23.5% 22.2% 18.0%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216 -32% n/a n/a n/a n/a -4.0% -7.3%	-25 7 -35 -52 -457 0 -457 0 450 450 450 -60 156 -62% n/a n/a n/a n/a -/a -/a -/a -/a -/a -/a -/a -/a -/a -	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4% 7.0%
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins EBITDA margin EBIT margin	-317 119 205 7 -410 18 -391 0 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463 71% 61% n/a n/a n/a	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 23.5% 22.2%	192 39 335 566 -638 0 - 638 0 -35 - 35 -107 427 -33% -77% -66% -66%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216 -32% n/a n/a n/a n/a -4.0%	-25 7 -35 -52 -457 0 -457 0 450 450 156 -62% n/a n/a n/a n/a 0.7%	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4%
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins EBITDA margin EBIT margin Net income margin ROE Balance sheet ratios	-317 119 205 7 -410 18 -391 0 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463 71% 61% n/a n/a n/a 1,2 9.3% 8.4% 5.1% 34.5%	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 23.5% 22.2% 18.0%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66% -66% 8.0% 7.0% 9.2% 9.6%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216 -32% n/a n/a n/a n/a -2.2% -4.0% -7.3% -5.0%	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156 -62% n/a n/a n/a n/a -6.6% -1.3%	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4% 7.0%
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins EBITDA margin EBIT margin Net income margin ROE Balance sheet ratios BVPS (PLN)	-317 119 205 7 -410 18 -391 0 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463 71% 61% n/a n/a n/a 1,463 9.3% 8.4% 5.1% 34.5%	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 23.5% 22.2% 18.0% 42.4%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66% -66% 8.0% 7.0% 9.2% 9.6%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216 -32% n/a n/a n/a n/a -4.0% -7.3% -5.0%	-25 7 -35 -52 -457 0 -457 0 450 450 450 156 -62% n/a n/a n/a n/a n/a -6.7% -4.6% -1.3%	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4% 7.0% 5.5%
Net Profit Depreciation and Amortization Other (incl. WC) Operating Cash Flows Capital Expenditures Other Cash Flows from Investing Activities Dividends paid Other Cash Flows from Financing Activities Change in Cash Cash at the end of period Y/Y growth ratios Revenues EBITDA EBIT Net profit EPS Margins EBITDA margin EBIT margin Net income margin ROE Balance sheet ratios	-317 119 205 7 -410 18 -391 0 393 393 9 507	215 49 238 503 -602 -49 -651 0 1104 1,104 956 1,463 71% 61% n/a n/a n/a 1,2 9.3% 8.4% 5.1% 34.5%	558 38 -918 -322 -576 87 -489 0 -1 -1 -812 534 -26% 86% 96% 159% 175% 22.2% 18.0% 42.4%	192 39 335 566 -638 0 -638 0 -35 -35 -107 427 -33% -77% -79% -66% -66% 8.0% 7.0% 9.2% 9.6%	-103 42 -39 -100 -1,411 0 -1,411 0 1300 1,300 -211 216 -32% n/a n/a n/a n/a -2.2% -4.0% -7.3% -5.0%	-25 7 -35 -52 -457 0 -457 0 450 450 -60 156 -62% n/a n/a n/a n/a -6.6% -1.3%	112 93 -273 -68 -193 0 -193 0 200 200 -61 95 197% n/a n/a n/a 16.2% 10.4% 7.0% 5.5%



Summary of key financial data

Table with key financials	2021	2022	2023	2024e	2025e	2026e	2027e
EPS GAAP	(6.24)	4.00	10.99	3.77	(2.03)	(0.49)	2.20
Revenue	2,451	4,200	3,106	2,077	1,416	539	1,603
EBIT	(513)	351	689	145	(56)	4	166
EBITDA	243	391	728	165	(31)	11	259
Net income GAAP	(317)	215	558	192	(103)	(25)	112
Net debt	(7)	(291)	(494)	(422)	1,089	1,599	1,860
BPS	10.3	14.2	37.6	41.4	39.4	38.9	41.1
DPS	-	-	-	-	-	-	-
Return on Equity %	-43.0%	34.5%	42.4%	9.6%	-5.0%	-1.3%	5.5%
Return on Assets %	-10.3%	5.5%	13.7%	5.3%	-2.5%	-0.5%	2.2%
Depreciation	756	40	39	20	25	7	93
Amortization	0	0	0	0	0	0	0
Free Cash Flow	9	956	(812)	(107)	(211)	(60)	(61)
CAPEX	(410)	(602)	(576)	(638)	(1,411)	(457)	(193)



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THE CONTENTS OF THIS REPORT HAVE NOT BEEN REVIEWED BY ANY OF THE COMPANIES MENTIONED HEREIN.



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Analyst	Position	Financial instrument	Number of instruments	Exposure (long/short)	Average transactions price	Transactions dates
Andrzej Kędzierski	Expert, Analyst	ZE PAK	n.a.	n.a.	n.a.	n.a.

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METHODS USED TO FORMULATE OUR RECOMMENDATIONS:

Our company valuations are based on two valuation methods selected from among the following: discount model, multiples-based model or asset-based valuation method.

Discount models are characterized by simultaneous and comprehensive consideration of key determinants of intrinsic value, e.g. operating cash flow, capex, cost of capital (WACC). They are theoretically appealing and provide a direct computation of intrinsic value. However, discount model valuations are highly sensitive to changes in assumptions, particularly the risk free rate and terminal growth rate. Moreover, projections cannot be stated with certainty; unforeseen future events can cause income or earnings projections to be invalid.

Multiples-based models are based on the analysis of the valuation multipliers of a given company in relation to other similar companies in the industry. Among strengths of multiplier models we can highlight their simplicity, as they are easy to compute as well as to understand. Moreover, only the key statistics for investors are chosen for valuation. On the other hand, multiples are based on historic data or near-term forecasts. Valuations based on multiples will therefore fail to capture differences in projected performance over the longer term. Finally, it may be problematic to select a suitable peer group.

Asset-based models can be used even if a company has a brief record of earnings or its future existence is uncertain. However, it may be challenging to determine market value of some assets, particularly intangibles. Additionally, asset-based models do not take into account future changes in financial results, nor do they include non-balance sheet items, such as know-how.

Valuation models are dependent on macroeconomic factors, such as interest rates, exchange rates, raw materials, and on assumptions about the economy. Furthermore, market sentiment affects the valuation of companies. The valuation is also based on expectations that might change rapidly and without notice, depending on developments specific to individual industries. Our recommendations and target prices derived from the models might therefore change accordingly.

The investment ratings generally relate to a 12-month horizon. They are, however, also subject to market conditions and can only represent a snapshot. The ratings may in fact be achieved more quickly or slowly than expected, or need to be revised upward or downward. In the tables and charts throughout this report, we designate the years with an "E" to denote that the figures presented are forecasts and estimates.

Definition of ratings used in our publications:

We currently use a three-tier recommendation system for the stocks in our formal coverage: Buy, Hold, or Sell (see definitions below):

A Buy is applied when the expected total return over the next twelve months is higher than 15%.

A Hold is applied when the expected total return over the next twelve months is within the range of 0% to 15%.



A **Sell** is applied when the stock's expected total return over the next twelve months is negative.

We employ three further categorizations for stocks in our coverage:

Restricted: A rating and/or financial forecasts and/or target price is not disclosed owing to compliance or other regulatory considerations such as blackout period or conflict of interest.

Coverage in transition: Due to changes in the research team, the disclosure of a stock's rating and/or target price and/or financial information are temporarily suspended. The stock remains in the research universe and disclosures of relevant information will be resumed in due course.

Under review: A rating and/or financial forecasts and/or target price is at the moment under revision of an analyst and the previous rating and/or financial forecasts and/or target price should not be relied on.

Not rated: We do not issue company-specific recommendations and we do not plan to issue them in the foreseeable future.

EXPLANATION OF THE PROFESSIONAL TERMINOLOGY USED IN THE REPORT:

P/E – "Price/Earnings" is the ratio of the financial instrument price to the net financial result for the issuer of the financial instrument.

P/B - "Price/Book Value" is the ratio of the price of the financial instrument to the issuer's equity capital.

EPS – "Earnings per Share", i.e. net profit per share.

BVPS - "Book Value per Share".

FWD – "Forward" - stands for the ratio (eg. P/E) calculated on the basis of the expected results.

DPS - "Dividend per Share".

DY - "Dividend Yield", a ratio calculated as dividends per share divided by the current share price.

EBIT - "Earnings Before Interest and Taxes".

EBITDA - "Enterprise Value / Earnings Before Interest, Taxes, Depreciation and Amortization".

EV/EBITDA – "Enterprise Value / Earnings Before Interest, Taxes, Depreciation and Amortization" is the company's market capitalization (price x number of shares) increased by the value of net financial debt and the value of minority shareholders divided by the operating result increased by the value of the company's asset depreciation.

AGM - Annual General Meeting