

ZMIENIAMY SIĘ  
DLA WAS

# 6M 2022 Results



**ZEPAK**  
Energia dla Ciebie

September 29, 2022



RAZEM TWORZYMYSZ LEPSZĄ PRZYSZŁOŚĆ

Jesteśmy członkiem:

 **PROGRAM / CZYSTA / POLSKA**

# ZE PAK Group – 6M 2022 summary

Key operational and financial data	6M 2022		Change y/y
Sale of electricity:	3.11	TWh	+19.16%
• Electricity from own production:	1.77	TWh	-4.84%
• Electricity from resale:	1.34	TWh	+78.67%
Achieved average electricity sale price <sup>(1)</sup>	543.85	PLN/MWh	+98.64%
Average purchase price of EUA	284.22	PLN/MWh	+158.01%
Sale revenues:	1 956	m PLN	+98.38%
EBITDA:	199	m PLN	+139.76%
Net result:	153	m PLN	+665.00%
CAPEX:	160	m PLN	-25.23%
Indebtedness:	1 024	m PLN	+293.85%
Cash <sup>(2)</sup>	927	m PLN	+990.59%
Net debt / EBITDA:	0.26	x	-73.79%

<sup>(1)</sup> Average price, calculated as electricity sales revenues (own production, from resale and system service) divided by sales volume.

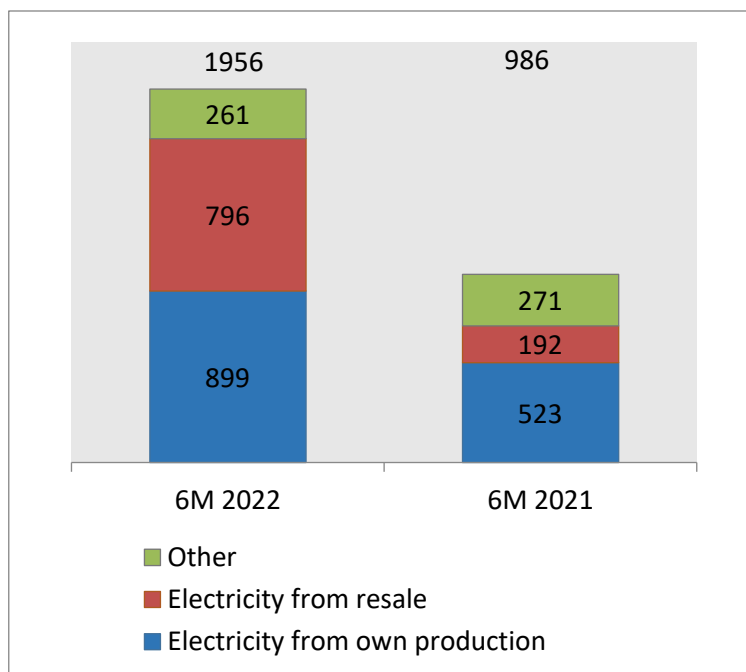
<sup>(2)</sup> Cash and cash equivalents and other financial short-term assets.

# ZE PAK Group – 2Q 2022 summary

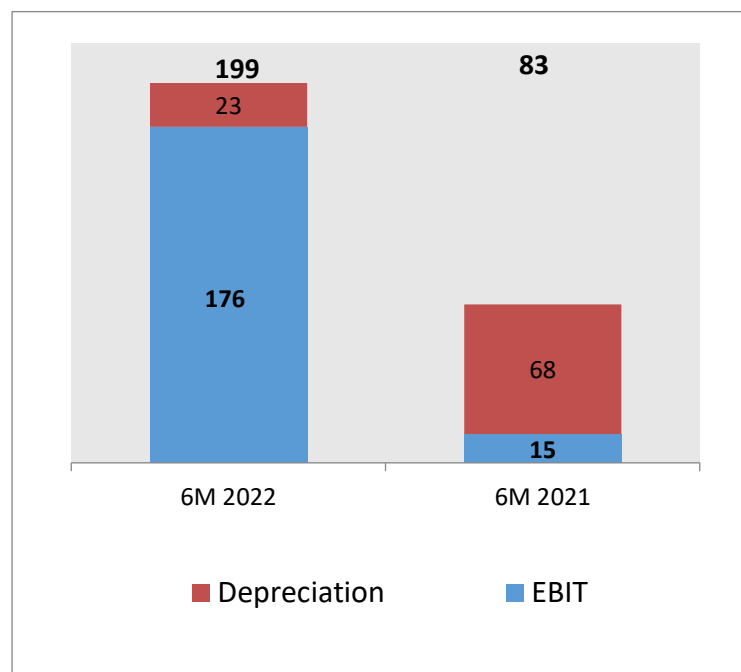
Key operational and financial data	2Q 2022		Change y/y
Sale of electricity:	1.50	TWh	+9.49%
• Electricity from own production:	0.84	TWh	-20.75%
• Electricity from resale:	0.66	TWh	+112.90%
Achieved average electricity sale price	553.72	PLN/MWh	+97.08%
Average purchase price of EUA	313.81	PLN/MWh	+170.27%
Sale revenues:	960	m PLN	+83.56%
EBITDA:	70	m PLN	+22.81%
Net result:	49	m PLN	+75.00%
CAPEX:	101	m PLN	-35.26%

# ZE PAK Group – 6M 2022 summary

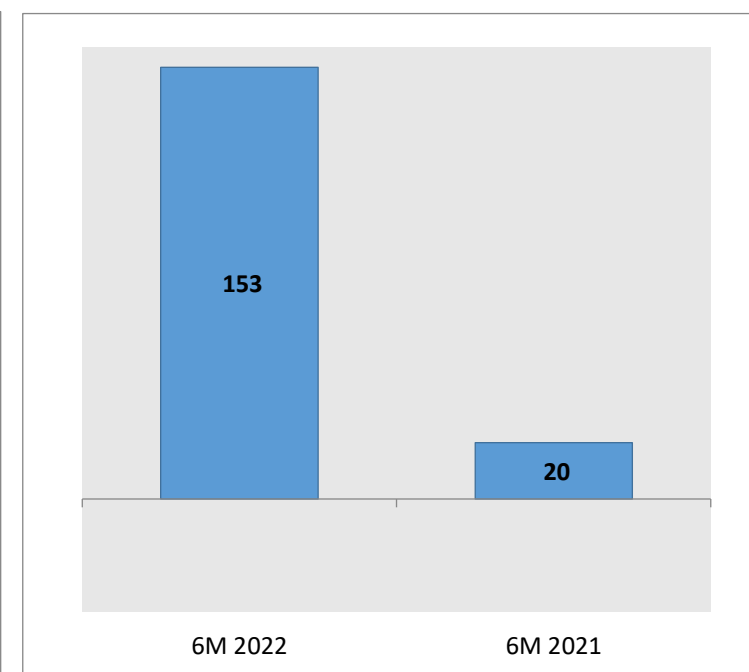
## REVENUES



## EBITDA



## NET RESULT



The increase in revenues in 6M 2022 compared to 6M 2021 is mainly due to the higher energy sales price achieved. The volume of energy sold also increased, however, it was a result of higher sales of energy from trade, the volume of energy from own production decreased in the period of 6M 2022 by about 5%.

The higher result at the level of EBITDA and net profit is due to a much better ratio of energy sales prices to purchase prices of carbon dioxide emission allowances than in the first half of 2021.

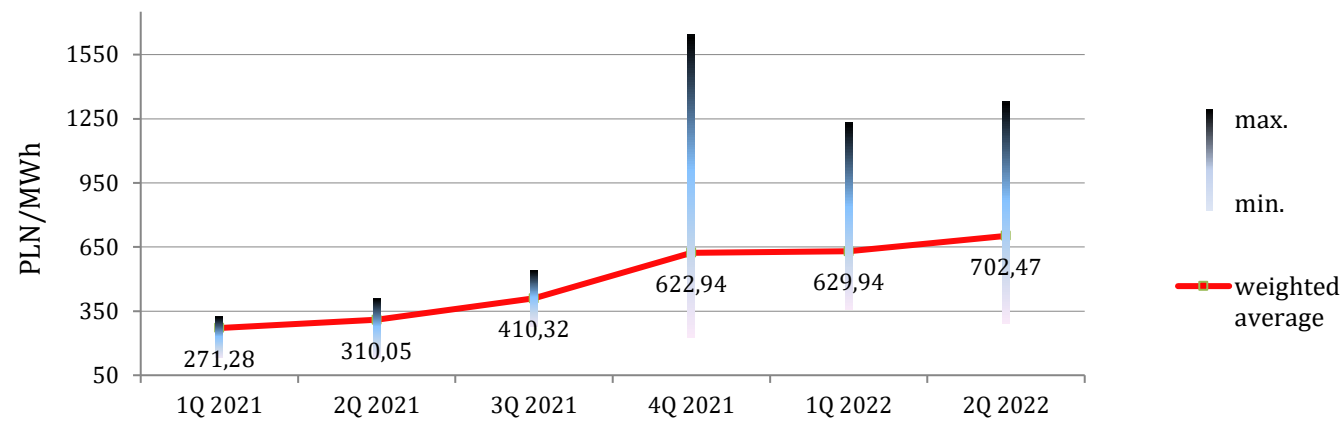
In the period of 6M 2022, there was a decrease in revenues obtained from the main sources of support (LTCs and the capacity market) compared to 6M 2021, amounting to PLN 32.5 million.

# SELECTED ELECTRICITY MARKET DATA

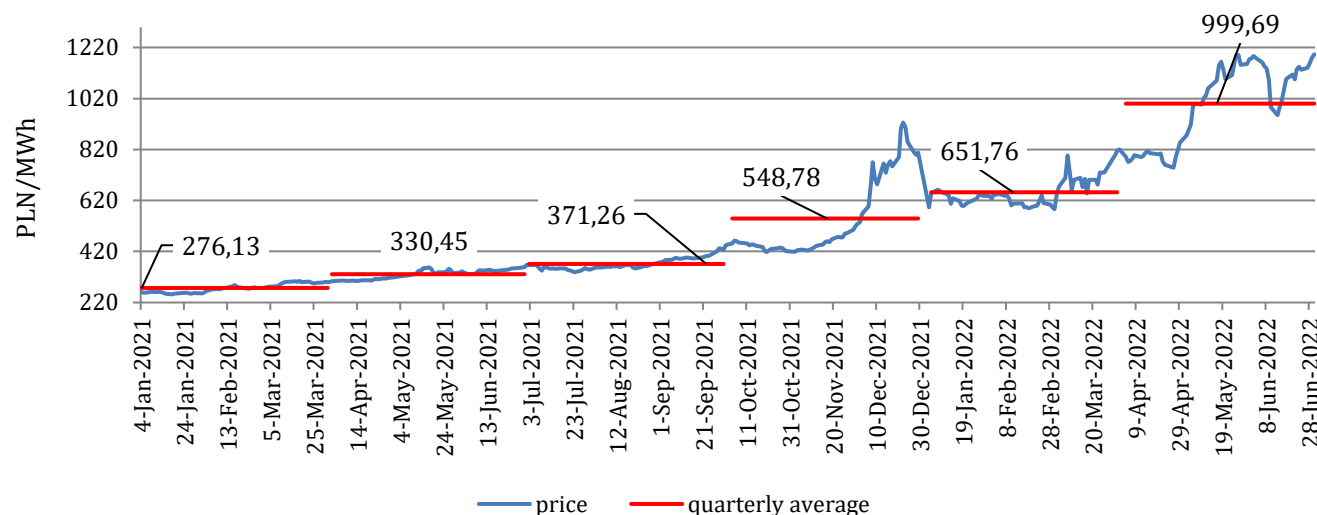
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# Electricity prices

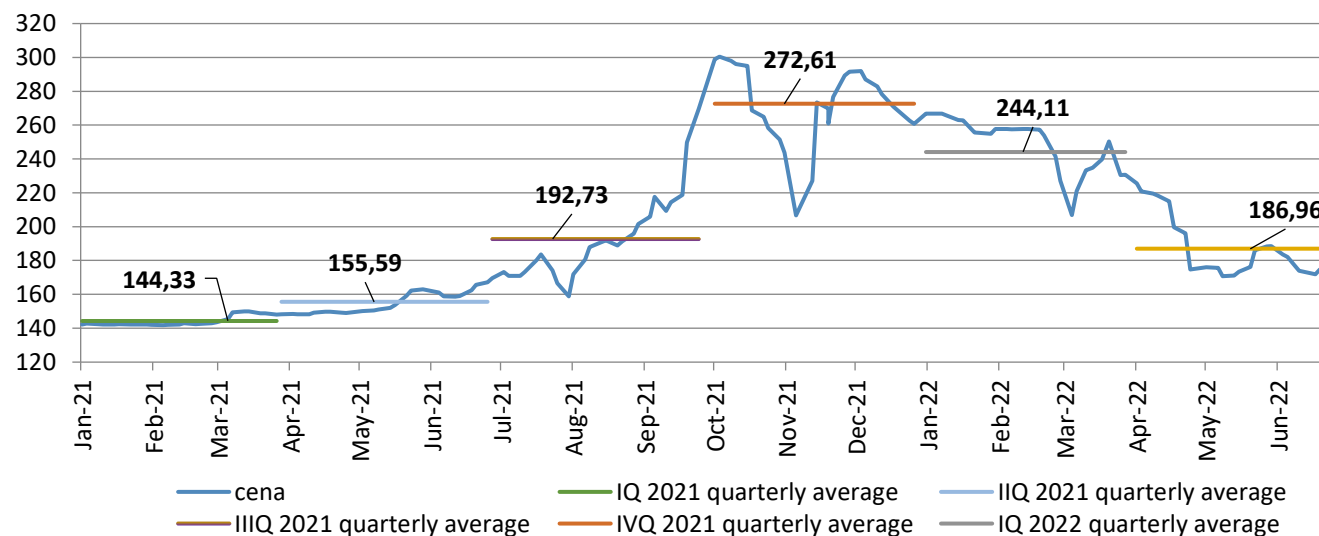
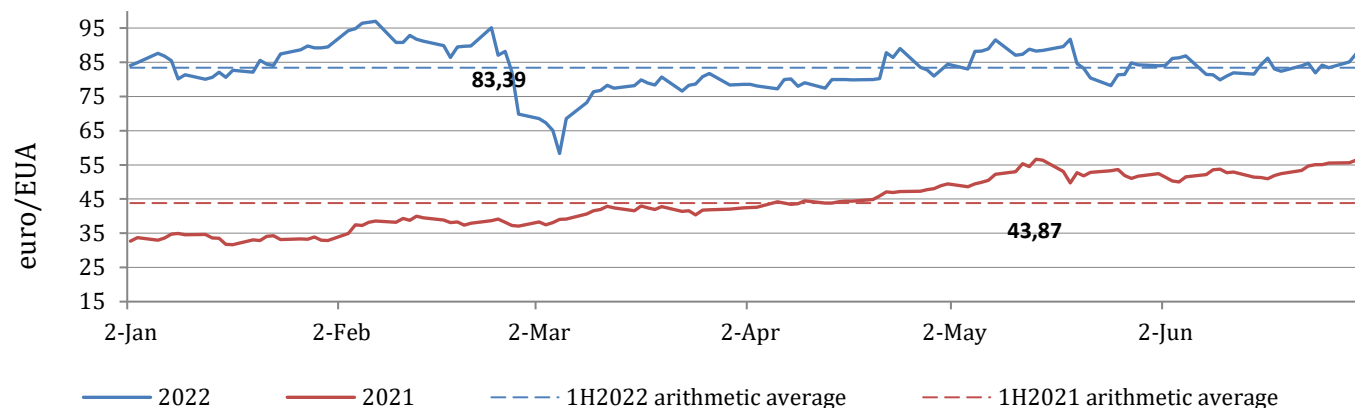


On the day-ahead market on TGE SA, the invariably weighted average price of the TGeBASE indices maintains a strong upward trend. The increases in the first half of 2022 were dictated by the high demand for energy in Poland and Western Europe and the unstable situation related to gas supplies in Europe and the increase in gas prices, as well as increases in coal prices. Factors related to market volatility have intensified after Russia's aggression in Ukraine. Planned repairs of generating units as well as unplanned shutdowns of power units, caused both by failures of generating units, but also by a deficit in coal supplies, also contributed to the price increases. The direction of cross-border electricity trade also continued to influence the level of prices. Poland was an energy exporter for the next quarter in a row.



As on the Day-Ahead and Intraday Markets (DAM & IDM), the factors related to market instability in the Commodity Forward Instruments Market (CFIM) have intensified after Russia's aggression against Ukraine. The development of the armed conflict in Ukraine will continue to have a significant impact on the Electricity Futures Markets in Poland and Europe (unstable gas and coal situation in Europe and thus strong price increases on the markets).

# EUA and green certificates



The prices of CO<sub>2</sub> emission allowances recorded at the beginning and at the end of the first half of the year were similar, but during this period there were significant fluctuations. Shortly after Russia's aggression against Ukraine, EUA prices reached their all-time high at a level close to EUR 96.50. Later, due to the unpredictable situation of the development of the armed conflict in Ukraine and the related consequences on the energy markets in the EU (the potential possibility of loosening the supply of units in the face of the energy crisis), EUA prices dropped dynamically to EUR 58. There was an equally dynamic increase in quotations in the following weeks.

From the beginning of the first half of 2022, the price of PMOZE\_A certificates of origin was in a downward trend. A significant drop in prices can be associated with the proposal of the Ministry of Climate and Environment, which plans in 2023 to significantly reduce the obligation to share green energy from redeemed certificates of origin, the so-called green certificates. This argues that the burden on end users is too high. The proposal of the Ministry of Climate and Environment reduces the quantitative share of the sum of electricity resulting from redeemed certificates of origin from 18.5% in 2022 to only 10% in 2023.

# OPERATIONAL DATA

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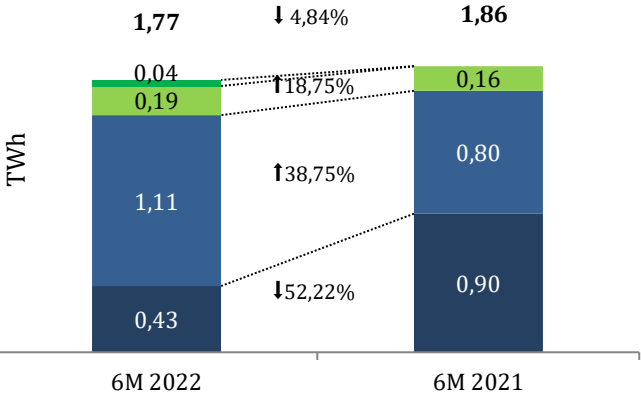




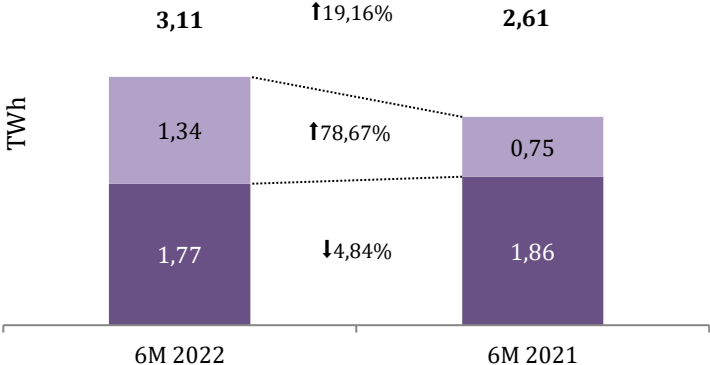
# Semi-annual net production and sale of electricity



## NET PRODUCTION

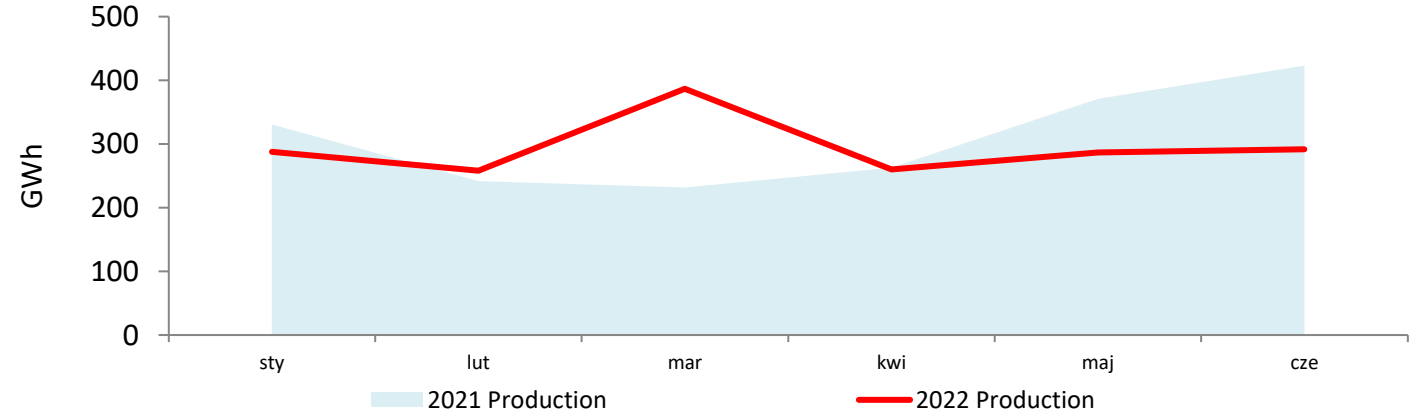


## SALE OF EELCTRICITY



■ Units 1,2 & 5 (PI) ■ Unit 9 (PII) ■ Konin biomass ■ Brudzew

■ Own production ■ Resale

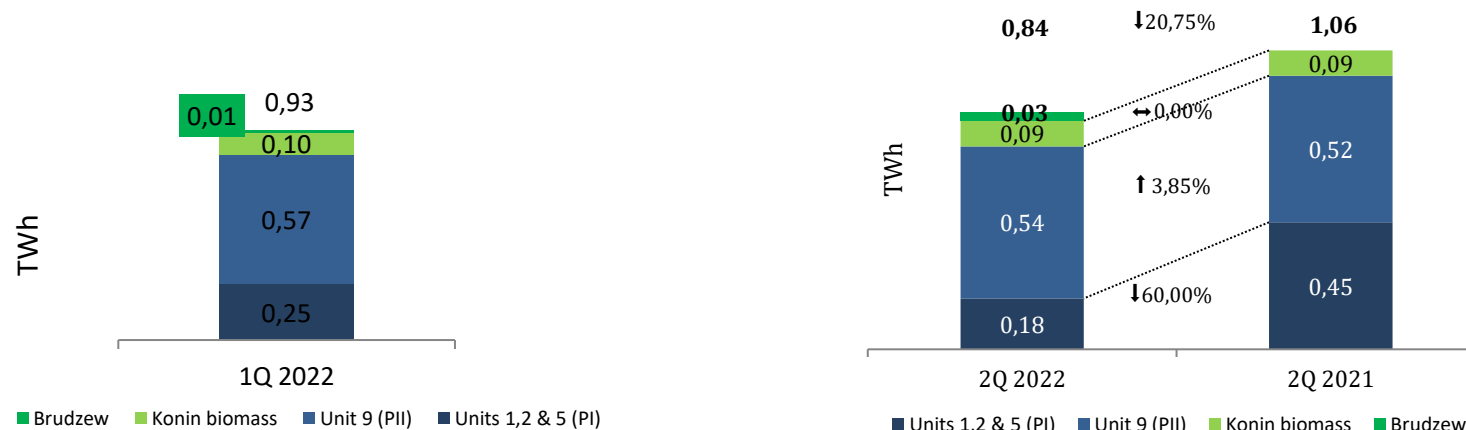


The increase in energy production in 6M 2022 compared to 6M 2021 relates to the production in the most efficient unit, i.e. a 474 MW unit. Production in less efficient coal units fell by 52%. Production from biomass at a comparable level. In 6M 2022, electricity production from a solar farm appears for the first time.

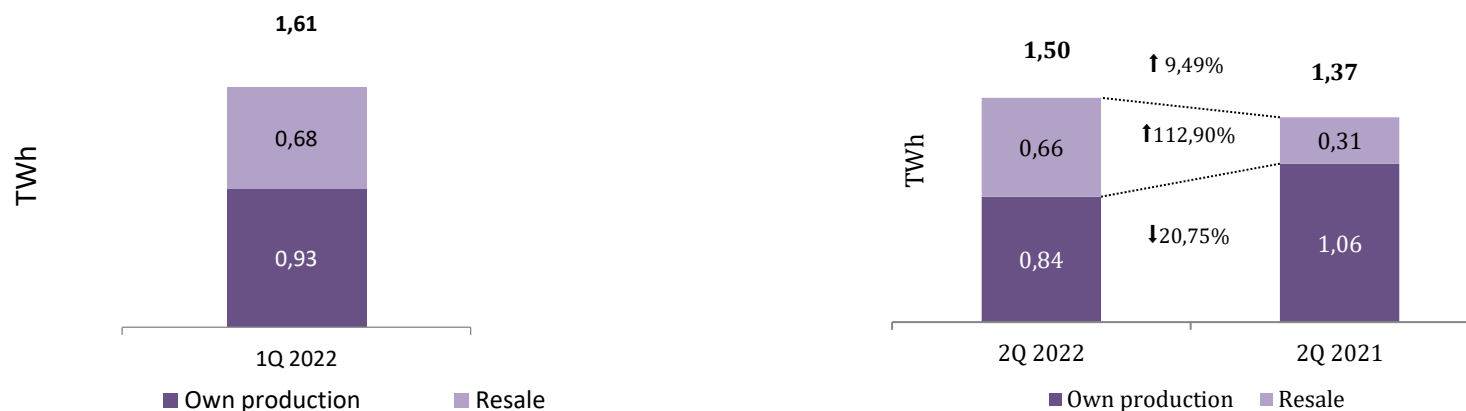
# Quarterly net production and sale of electricity

[TWh]

## NET PRODUCTION



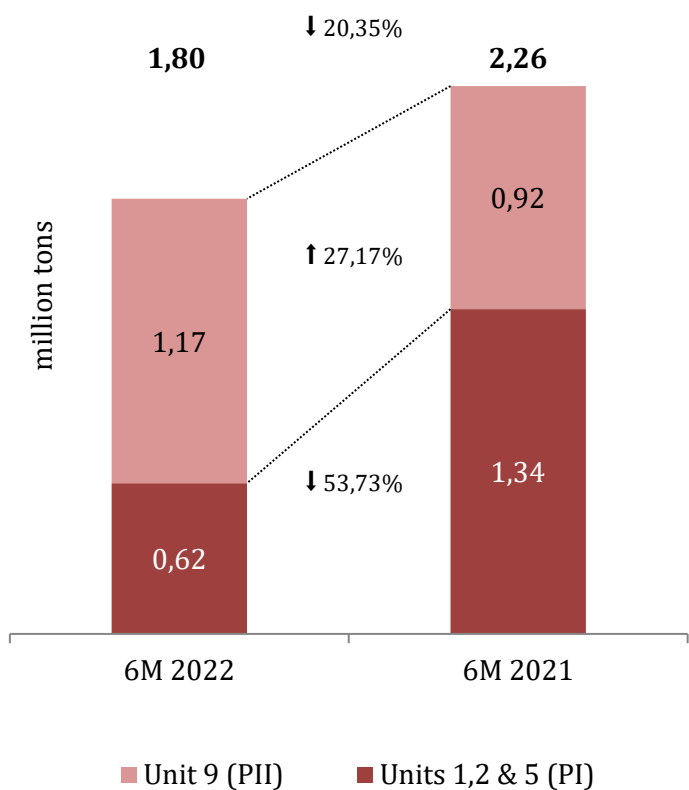
## SALE



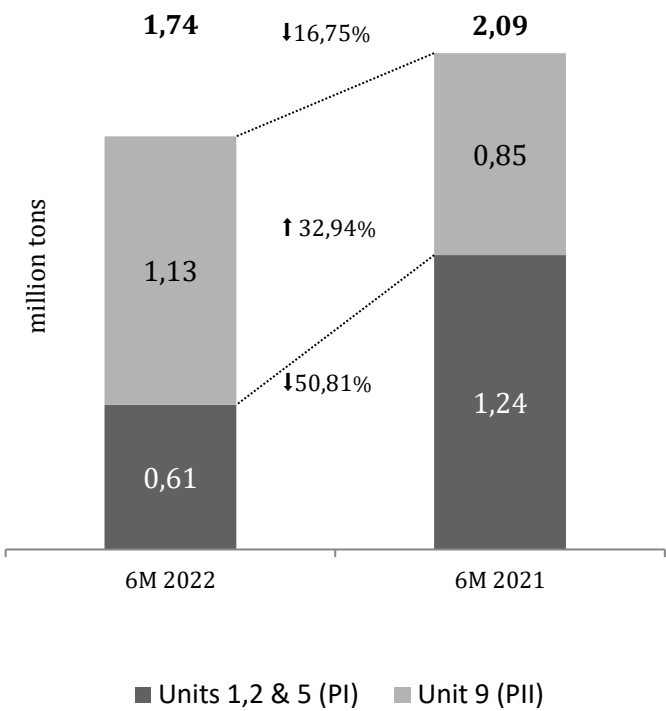
# Lignite consumption and CO<sub>2</sub> emission – 6M 2022



## LIGNITE CONSUMPTION



## CO<sub>2</sub> EMISSION

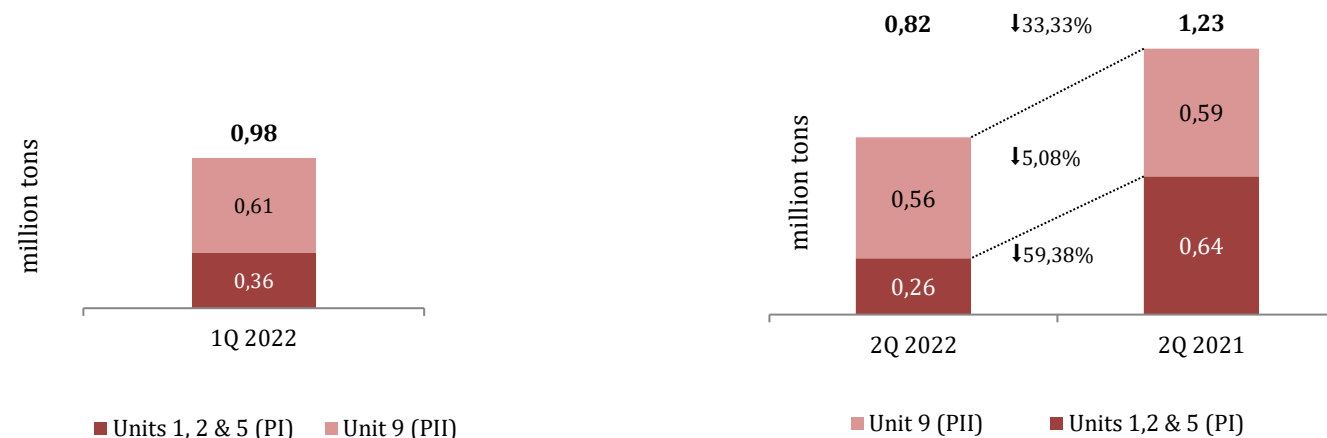


Data on coal consumption and CO<sub>2</sub> emissions in 6M 2022 show a decrease in coal consumption and lower CO<sub>2</sub> emissions caused by a lower level of electricity production from coal by 9.41%, which results from a greater share in the production of the more efficient Unit 9.

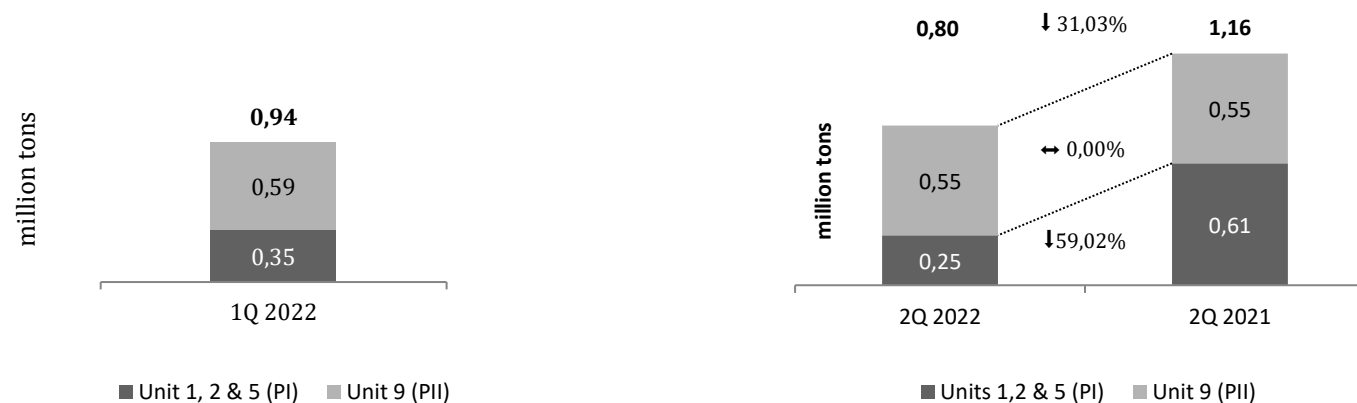
# Quarterly lignite consumption and CO<sub>2</sub> emission

[m tons]

## LIGNITE CONSUMPTION

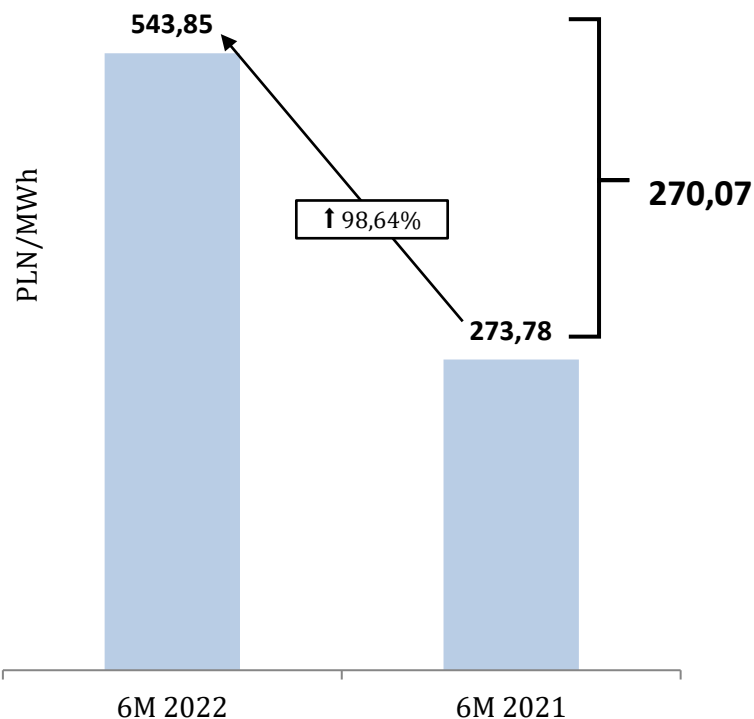


## CO<sub>2</sub> EMISSION

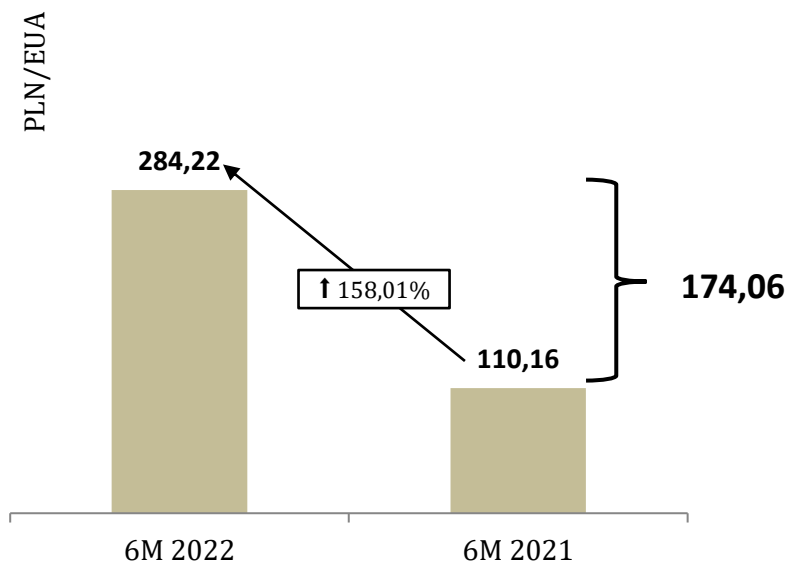


# Average prices of electricity and CO<sub>2</sub> emission allowances purchase – 6M 2022 [m tons]

Electricity price <sup>1)</sup>



Prices of CO<sub>2</sub> emission allowances purchase (EUA) <sup>2)</sup>

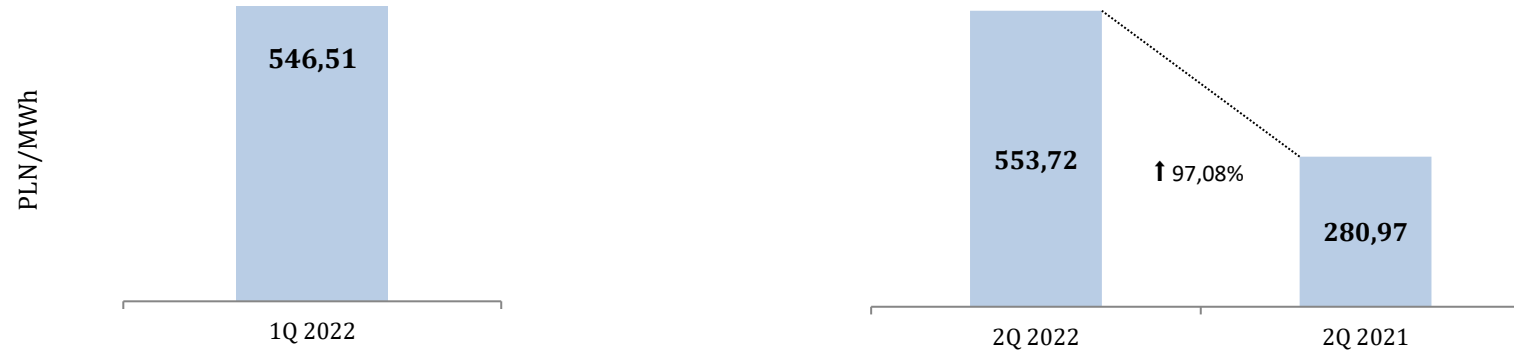


<sup>1)</sup> Average price calculated as revenues from sales of energy (own, from trading and system services) divided by the sales volume.

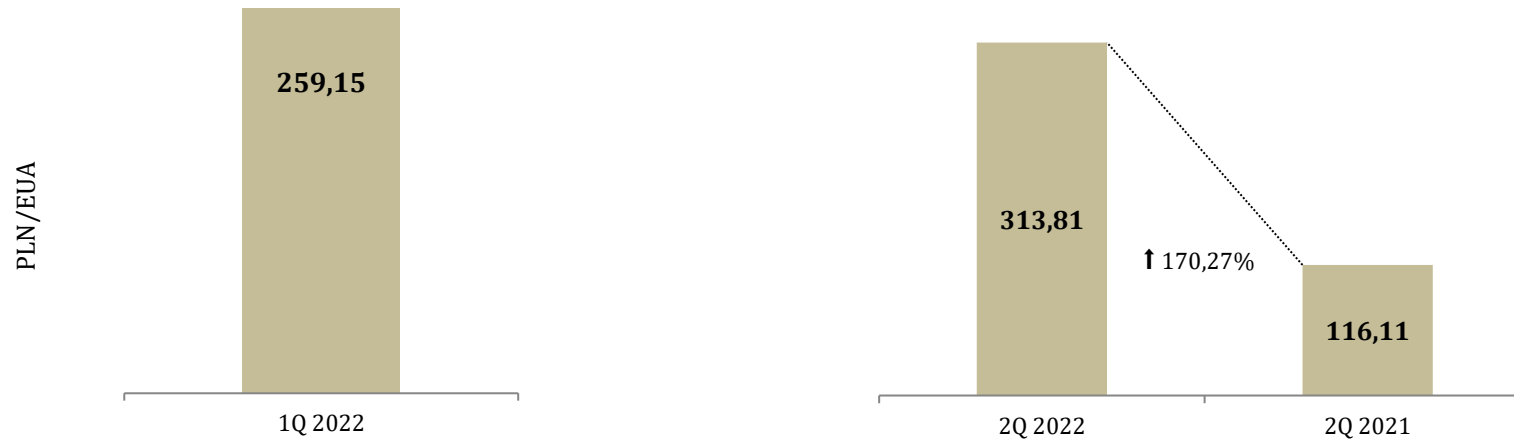
<sup>2)</sup> Average price is calculated as the purchase cost of emission allowances incurred to cover emission for the period divided by the volume of CO<sub>2</sub> emission.

# Quarterly average prices of electricity and CO<sub>2</sub> emission allowances purchase [m tons]

## Electricity price



## Prices of CO<sub>2</sub> emission allowances purchase (EUA)



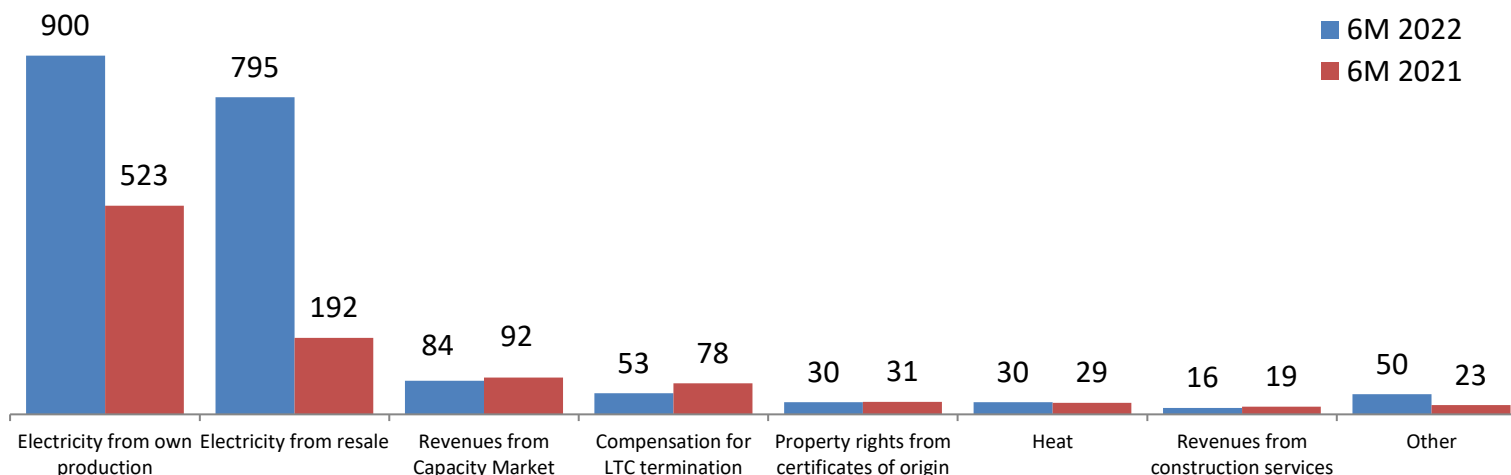
# FINANCIAL DATA

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# Revenues

[m PLN]



The increase in revenues from total sales of electricity was mainly influenced by the increase in the price by 98.64%, and the increase by 19.16% of the total volume of electricity sales. In the case of the sale of electricity from own production, a decrease in the volume was recorded by 4.84%, while the sale of purchased energy increased by 78.67%. The lower amount of coal available for mining in the mines contributed to the reduction in production.

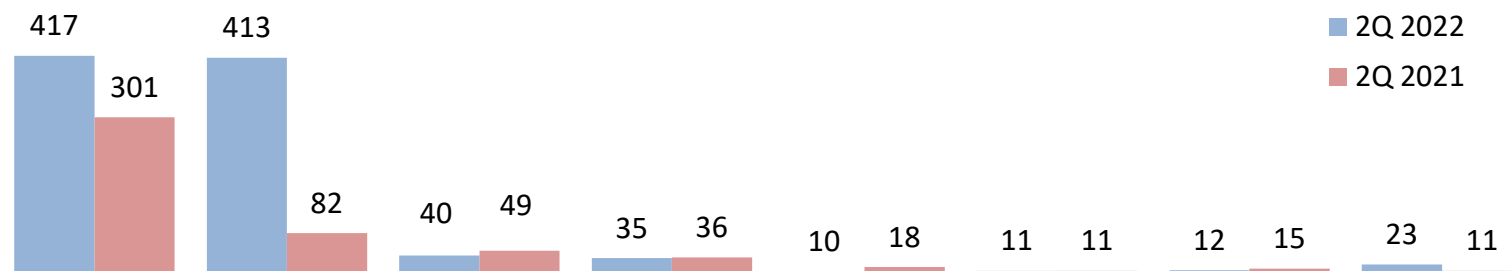
Lower revenues are due to the lower contracted price for 2022, as well as the lower revenue generated on the secondary market.

Lower LTC compensations as a result of the higher realized margin on the sale of energy from Unit 9 (Pątnów II).

The decrease in revenues from property rights was caused by the actual sale of rights at prices lower than the prices recorded in the month of their production.

The increase in revenues from the sale of heat resulted from a higher sales volume and price.

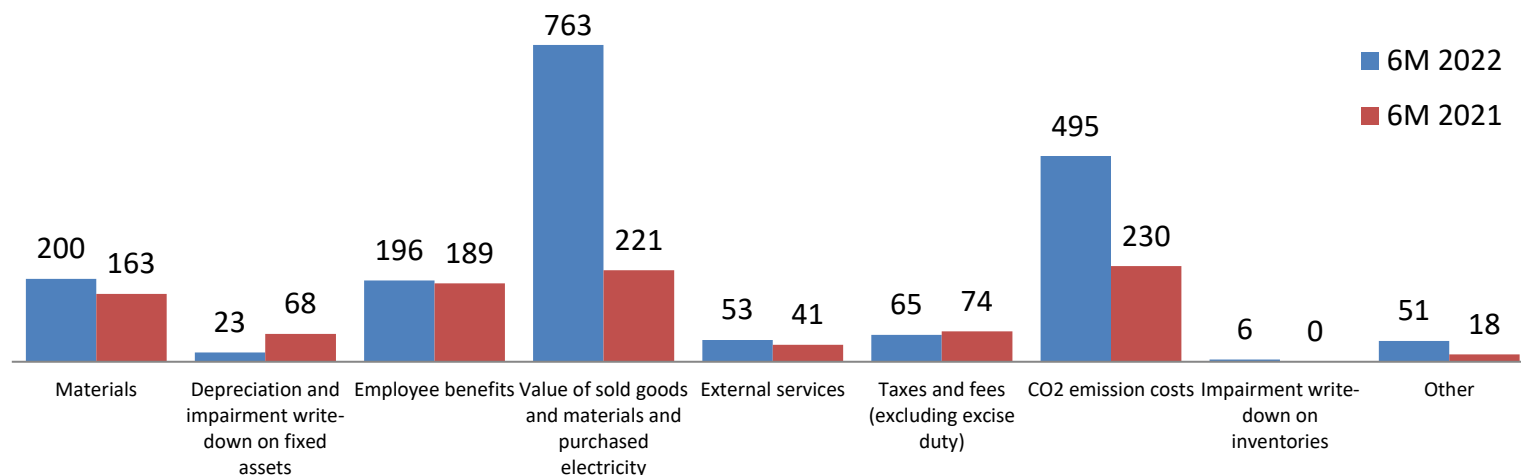
The lower scope of contract performance is responsible for the decline in revenues from construction contracts.





# Costs by type

[m PLN]



Higher material costs mean higher biomass costs and higher energy costs in mines.

Lower depreciation as a result of impairment write-offs made at the end of 2021.

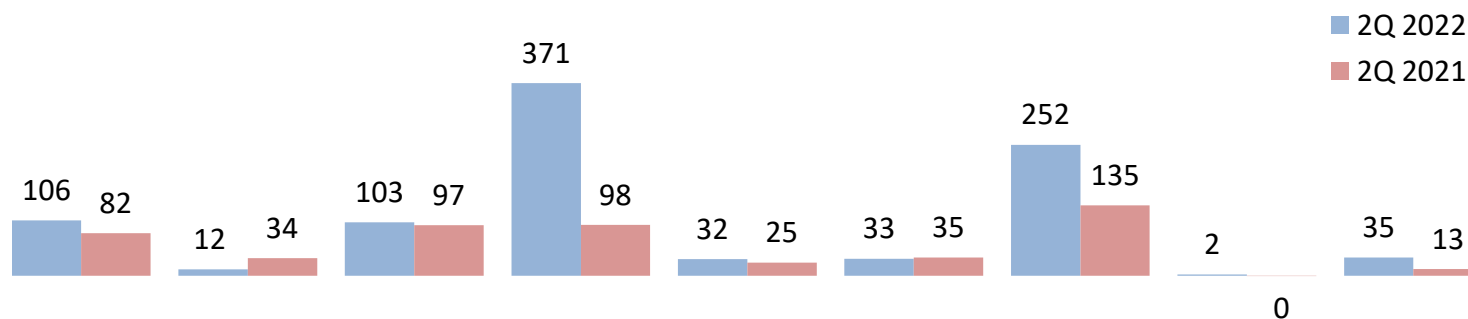
Higher costs of employee benefits as a result of higher salaries.

Higher value of goods and materials sold associated with more electricity purchased and intended for trading.

Higher external services are mainly the result of the increase in the costs of services on the market.

The lower taxes are mainly the result of lower property taxes and fees for excluding land from agricultural or forestry production in mines.

Higher costs of CO2 emissions due to the increase in the price for EUA.



# EBITDA 6M 2022

[m PLN]



	6M 2022	6M 2021
<b>Sale revenues</b>	<b>1 956</b>	<b>986</b>
Change %	98,38%	
Costs of goods sold	(1 746)	(931)
<b>Gross profit</b>	<b>210</b>	<b>55</b>
Margin %	10,74%	5,58%
Other operating revenues	41	28
Selling and distribution expenses	(6)	(3)
Administrative expenses	(62)	(53)
Other operating expenses	(7)	(12)
<b>EBITDA<sup>(1)</sup></b>	<b>199</b>	<b>83</b>
Margin %	10,17%	8,42%

<sup>(1)</sup> **EBITDA** higher by PLN 116 million (+138,92%) -> after bringing to comparability **higher by PLN 147 million (+176,76%)**

comparable EBITDA for 6M 2022 amounted PLN 230 million -> PLN 199 million is the result of the creation of a provision for an unprofitable electricity sales contract in the second half of 2022 due to the increase in biomass costs

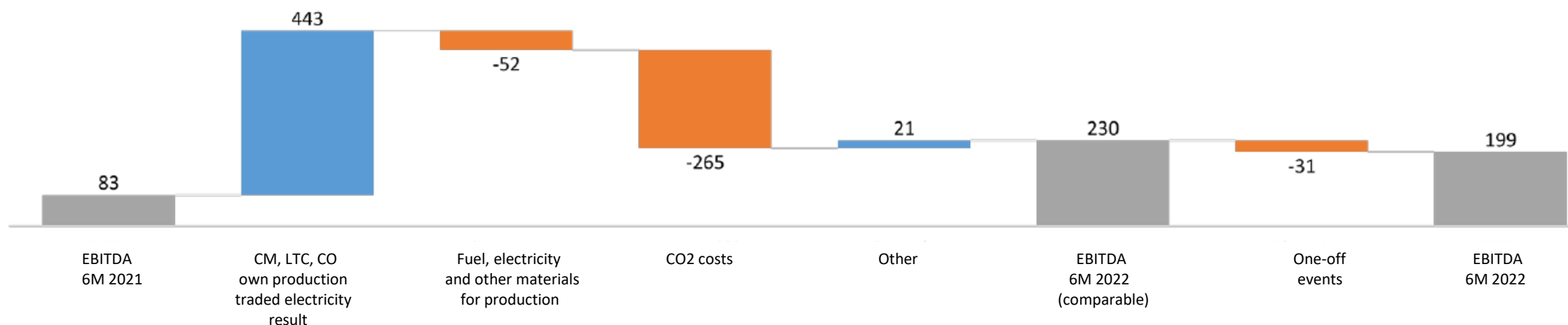
(+443) higher revenues from own energy, higher revenues from system services, higher revenues from purchased energy, higher revenues from heat, lower revenues from LTCs, lower revenues from the Capacity Market, lower revenues from property rights,

(-52) higher biomass costs, higher energy costs (in mines), higher purchased coal costs, higher costs of other fuels and materials (mazout, heating oil, sorbent, other chemical materials for production),

(-265) higher CO<sub>2</sub> emission costs

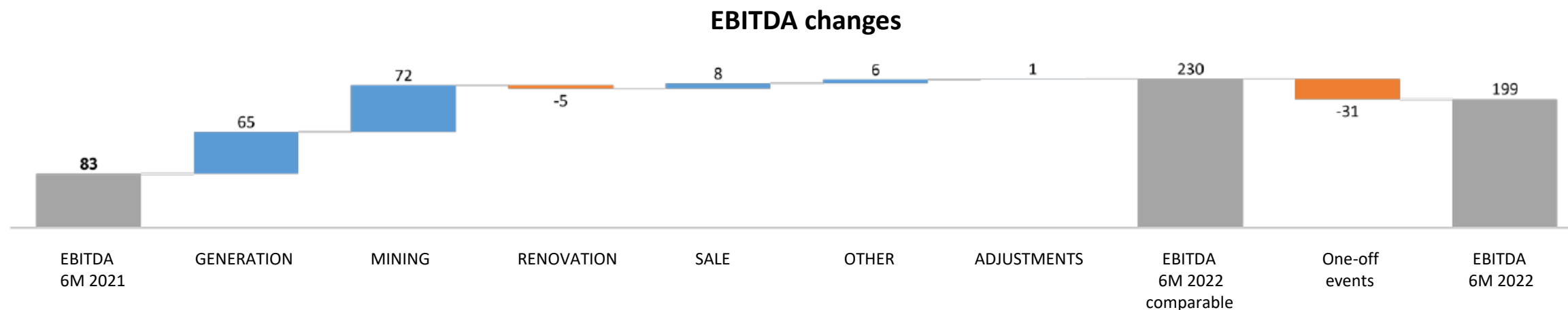
(+21) higher other revenues, higher result on other operating activities, lower costs of other materials, lower taxes and fees, higher salary costs, higher external services, higher other costs.

## EBITDA changes



# EBITDA 6M 2022 by segments

[m PLN]



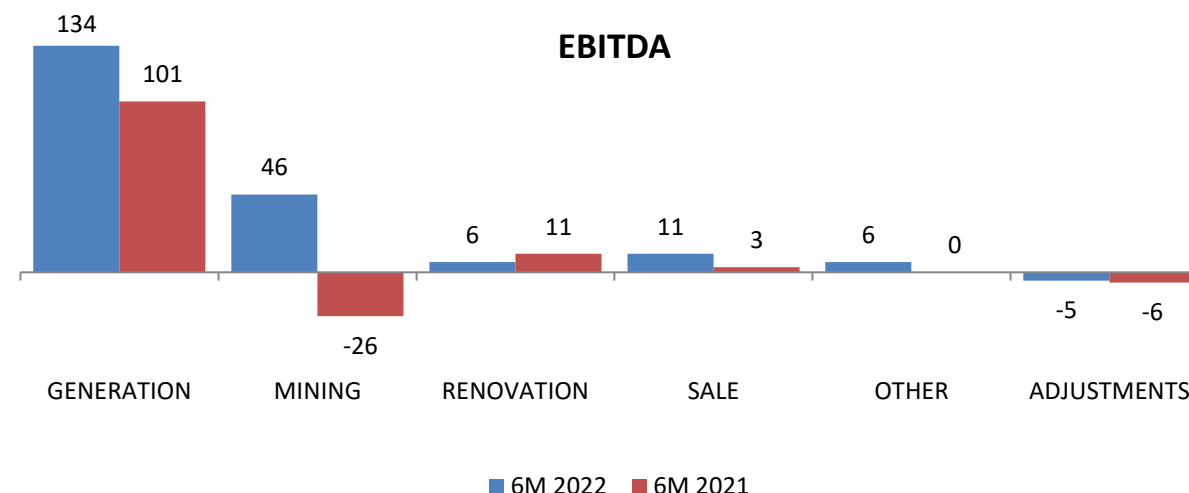
## Main reasons for EBITDA changes in segments:

### Generation:

- higher revenues from own energy, higher revenues from system services, higher results from purchased energy, higher revenues from heat, lower revenues from LTCs, lower revenues from the capacity market, lower revenues from property rights,
- higher coal costs, higher biomass costs, higher costs of other fuels and materials (mazout, heating oil, sorbent, other chemical materials for production),
- higher costs of carbon dioxide emission allowances,
- positive result on other operating activities, higher costs of employee benefits.

### Mining:

- higher revenues from the sale of coal, higher revenues from the sale of redundant property, lower costs of taxes and fees, lower other costs, higher electricity costs, higher costs of substitute coal, higher costs of employee benefits, higher costs of external services



# Consolidated profit and loss account for 6M 2022

## by segments



m PLN	Generation	Mining	Renovation	Sale	Other	Consolidation adjustments	Total
Sale revenues from external customers	1 342	1	24	585	5	-	1 956
<i>External sale revenues %</i>	94,37%	0,37%	28,57%	100,00%	7,04%	0,00%	100,00%
Sale revenues between segments	80	269	60	-	66	(475)	-
<b>Sale revenue</b>	<b>1 422</b>	<b>270</b>	<b>84</b>	<b>585</b>	<b>71</b>	<b>(475)</b>	<b>1 956</b>
Cost of goods sold	(1 287)	(227)	(73)	(568)	(63)	473	(1 746)
<b>Gross profit (loss)</b>	<b>135</b>	<b>43</b>	<b>10</b>	<b>17</b>	<b>8</b>	<b>(2)</b>	<b>210</b>
<i>Margin %</i>	9,49%	15,93%	11,90%	2,91%	11,27%	0,42%	10,74%
<b>EBITDA</b>	<b>134</b>	<b>46</b>	<b>6</b>	<b>11</b>	<b>6</b>	<b>(5)</b>	<b>199</b>
<i>Margin %</i>	9,42%	17,04%	7,14%	1,88%	8,45%	1,05%	10,17%
<b>EBIT</b>	<b>117</b>	<b>44</b>	<b>5</b>	<b>11</b>	<b>4</b>	<b>(5)</b>	<b>176</b>
<i>Margin %</i>	8,23%	16,30%	5,95%	1,88%	5,63%	1,05%	9,00%
<b>Net profit (loss)</b>	<b>105</b>	<b>37</b>	<b>4</b>	<b>9</b>	<b>2</b>	<b>(4)</b>	<b>153</b>
<i>Margin %</i>	7,38%	13,70%	4,76%	1,54%	2,82%	0,84%	7,82%

# EBITDA 2Q 2022

[m PLN]



	2Q 2022	2Q 2021
<b>Sale revenues</b>	<b>960</b>	<b>523</b>
Change %	83,56%	
Costs of goods sold	(887)	(482)
<b>Gross profit</b>	<b>73</b>	<b>41</b>
Margin %	7,60%	7,84%
Other operating revenues	18	21
Selling and distribution expenses	(3)	(1)
Administrative expenses	(32)	(26)
Other operating expenses	1	(11)
<b>EBITDA<sup>(1)</sup></b>	<b>70</b>	<b>57</b>
Margin %	7,29%	10,90%

<sup>(1)</sup> **EBITDA** higher by PLN 13 million (+21,40%) -> after bringing to comparability higher by PLN **44 million (+76,19%)**

comparable EBITDA for 2Q 2022 amounted PLN 101 million -> PLN 70 million is a result of the creation of a provision for an unprofitable electricity sales contract in the second half of 2022 due to the increase in biomass costs

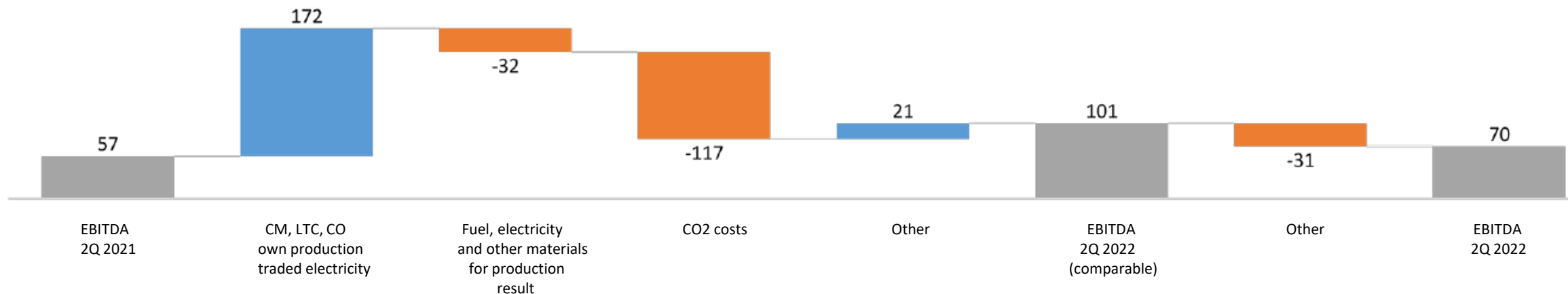
(+172) higher revenues from own energy, higher revenues from system services, higher revenues from purchased energy, higher revenues from heat, lower revenues from LTCs, lower revenues from the Capacity Market, lower revenues from property rights,

(-32) higher biomass costs, higher energy costs (in mines), higher purchased coal costs, higher costs of other fuels and materials (mazout, heating oil, sorbent, other chemical materials for production),

(-117) higher CO<sub>2</sub> emission costs,

(+21) higher other revenues, higher result on other operating activities, lower costs of other materials, lower taxes and fees, higher salary costs, higher external services, higher other costs,

## EBITDA changes

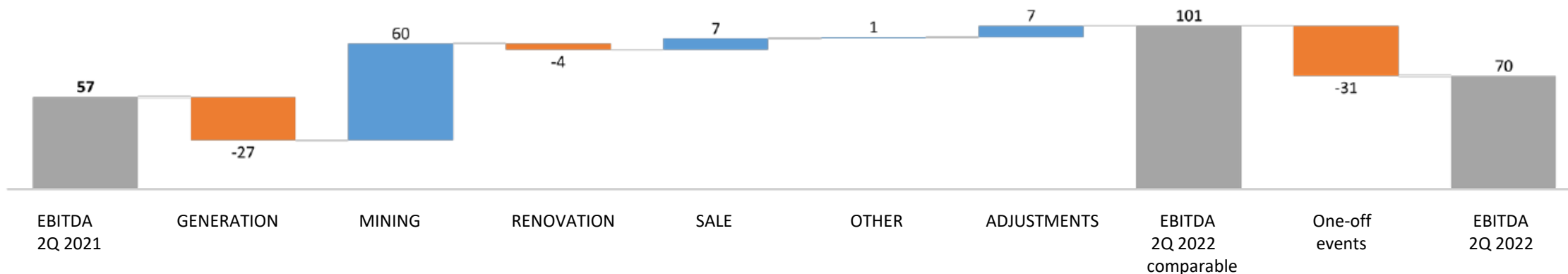


# EBITDA 2Q 2022 by segments

[m PLN]



## EBITDA changes



## Main reasons for EBITDA changes in segments:

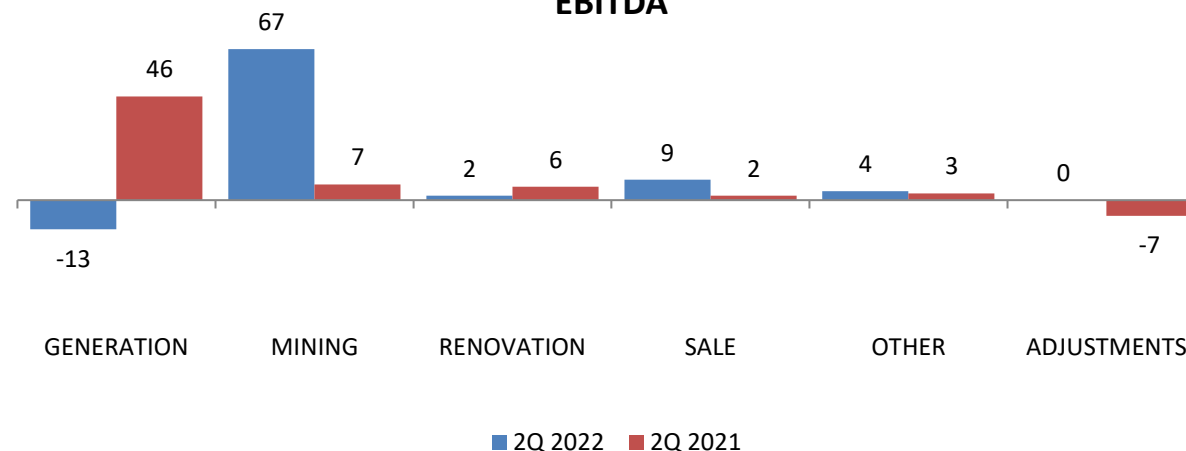
### Generation:

- higher revenues from own energy, higher revenues from system services, higher results from purchased energy, higher revenues from heat, lower revenues from LTCs, lower revenues from the capacity market, lower revenues from property rights,
- higher coal costs, higher biomass costs, higher costs of other fuels and materials (mazout, heating oil, sorbent, other chemical materials for production),
- higher costs of carbon dioxide emission allowances,
- positive result on other operating activities, higher costs of employee benefits.

### Mining:

- higher revenues from the sale of coal, higher revenues from the sale of redundant property, lower costs of taxes and fees, lower other costs, higher electricity costs, higher costs of substitute coal, higher costs of employee benefits, higher costs of external services

## EBITDA



# Consolidated profit and loss account for 2Q 2022

## by segments



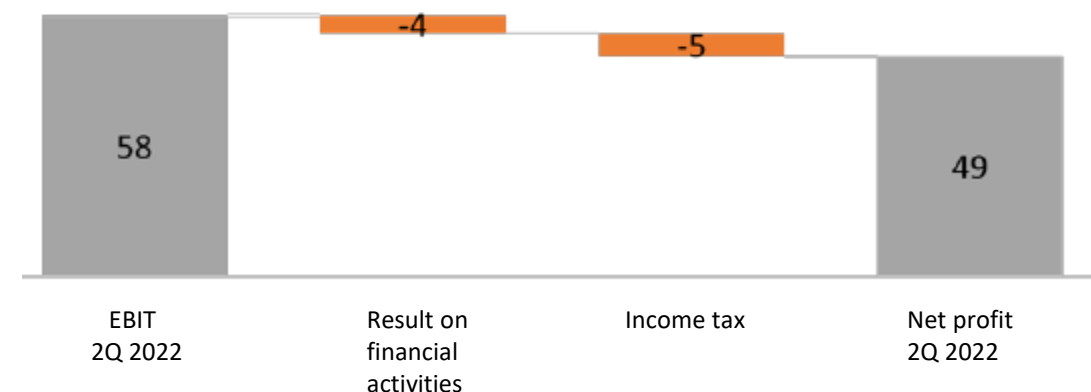
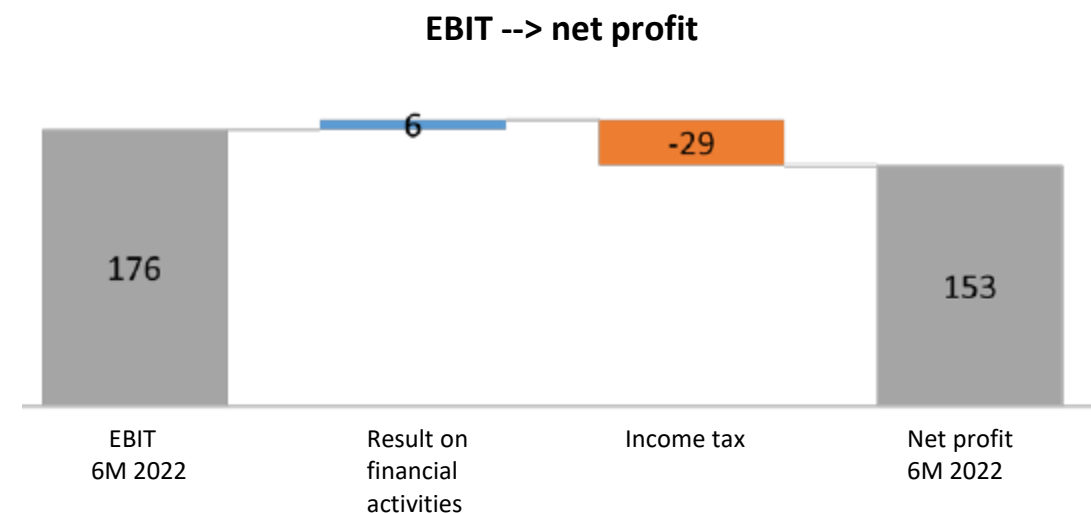
m PLN	Generation	Mining	Renovation	Sale	Other	Consolidation adjustments	Total
Sale revenues from external customers	664	0	17	275	4	0	960
<i>External sale revenues %</i>	<i>94,32%</i>	<i>0,00%</i>	<i>36,17%</i>	<i>100,00%</i>	<i>11,76%</i>	<i>0,00%</i>	<i>100,00%</i>
Sale revenues between segments	40	175	30	-	30	(275)	
<b>Sale revenue</b>	<b>704</b>	<b>175</b>	<b>47</b>	<b>275</b>	<b>34</b>	<b>(275)</b>	<b>960</b>
Cost of goods sold	(721)	(109)	(42)	(263)	(30)	278	(887)
<b>Gross profit (loss)</b>	<b>(17)</b>	<b>67</b>	<b>4</b>	<b>11</b>	<b>5</b>	<b>3</b>	<b>72</b>
<i>Margin %</i>	<i>(2,41)%</i>	<i>38,29%</i>	<i>8,51%</i>	<i>4,00%</i>	<i>14,71%</i>	<i>(1,09)%</i>	<i>7,50%</i>
<b>EBITDA</b>	<b>(13)</b>	<b>67</b>	<b>2</b>	<b>9</b>	<b>4</b>	<b>-</b>	<b>70</b>
<i>Margin %</i>	<i>(1,85)%</i>	<i>38,29%</i>	<i>4,26%</i>	<i>3,27%</i>	<i>11,76%</i>	<i>0,00%</i>	<i>7,29%</i>
<b>EBIT</b>	<b>(22)</b>	<b>66</b>	<b>2</b>	<b>9</b>	<b>3</b>	<b>-</b>	<b>58</b>
<i>Margin %</i>	<i>(3,13)%</i>	<i>37,71%</i>	<i>4,26%</i>	<i>3,27%</i>	<i>8,82%</i>	<i>0,00%</i>	<i>6,04%</i>
<b>Net profit (loss)</b>	<b>(23)</b>	<b>62</b>	<b>1</b>	<b>7</b>	<b>2</b>	<b>-</b>	<b>49</b>
<i>Margin %</i>	<i>(3,27)%</i>	<i>35,43%</i>	<i>2,13%</i>	<i>2,55%</i>	<i>5,88%</i>	<i>0,00%</i>	<i>5,10%</i>

# Financial activities, taxation and net result

[m PLN]

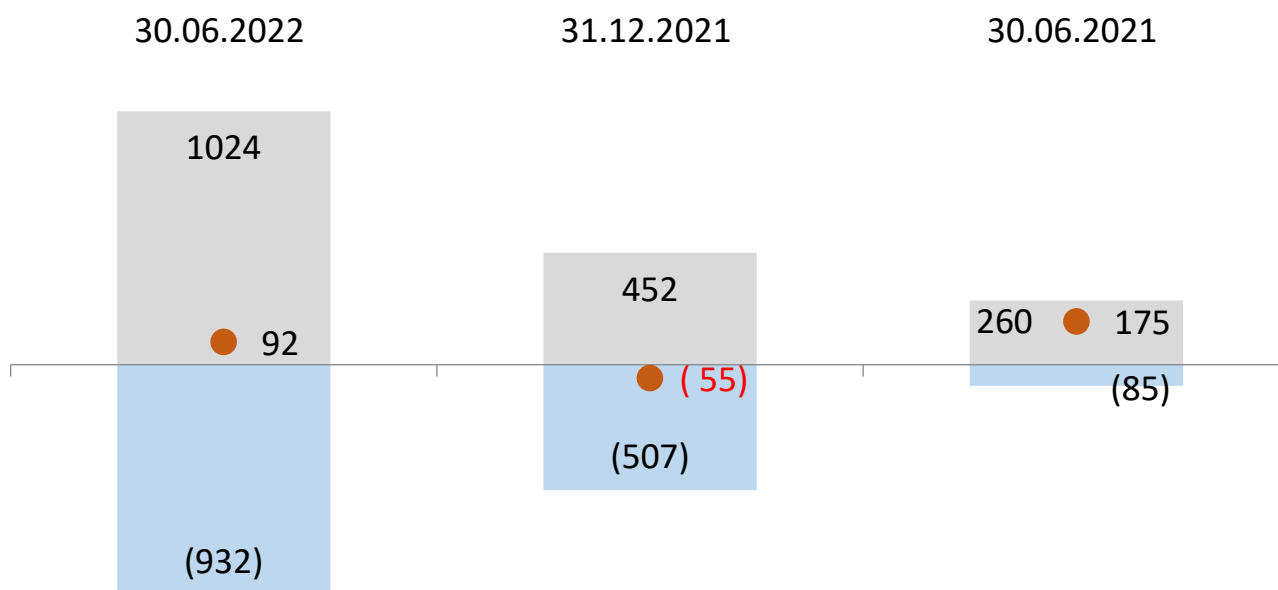
	6M 2022	6M 2021	2Q 2022	2Q 2021
<b>EBIT</b>	<b>176</b>	<b>16</b>	<b>58</b>	<b>24</b>
Financial income <sup>(1)</sup>	30	1	14	(1)
Financial costs <sup>(2)</sup>	(25)	(6)	(17)	(3)
<b>Gross profit / (loss)</b>	<b>181</b>	<b>10</b>	<b>55</b>	<b>20</b>
Income tax (tax overload) <sup>(3)</sup>	(29)	10	(5)	8
<i>Effective tax rate</i>	<i>16,02%</i>	<i>(100,00)%</i>	<i>9,09%</i>	<i>(40,00)%</i>
<b>Net profit / (loss) for the period</b>	<b>153</b>	<b>20</b>	<b>49</b>	<b>28</b>
<i>Margin %</i>	<i>7,82%</i>	<i>2,03%</i>	<i>5,10%</i>	<i>5,34%</i>

- (1) The increase in financial income is primarily due to the positive valuation of instruments hedging the increase in interest rates and higher interest income.
- (2) The increase in financial costs is mainly due to the higher costs of servicing the contracted debt and the higher discount of the provision for reclamation.
- (3) The negative value of the tax is the result of the reduction of the provision for income tax and the reduction of deferred tax.





## Net debt [m PLN]



- Cash and cash equivalents
- Interest bearing loans, borrowings and leases
- Net debt

## Net debt/ EBITDA

30.06.2022	0,26
31.12.2021	-0,24
30.06.2021	1,03

<sup>(1)</sup> Cash and cash equivalents from consolidated statement of financial position and other short-term financial assets

# Consolidated cash flow statement

[m PLN]



	6M 2022	6M 2021	2Q 2022	2Q 2021
<b>Gross profit / (loss)</b>	<b>181</b>	<b>10</b>	<b>55</b>	<b>20</b>
Depreciation	23	67	12	34
Profit / (loss) on investing and financial activities	(4)	(9)	(3)	(8)
Changes in working capital	674	203	(79)	38
Income tax <sup>(1)</sup>	(4)	1	(2)	2
Acquisition of CO <sub>2</sub> emission allowances <sup>(2)</sup>	(1 296)	(634)	(135)	(15)
Other	(9)	(3)	(4)	(6)
<b>Net cash flow from operational activities</b>	<b>(435)</b>	<b>(364)</b>	<b>(156)</b>	<b>67</b>
(Inflows/outflows) of investments in property, plant and equipment and intangible assets <sup>(3)</sup>	(135)	(266)	(91)	(156)
Other inflows and outflows	(56)	12	(44)	10
<b>Net cash flow from investing activities</b>	<b>(191)</b>	<b>(254)</b>	<b>(135)</b>	<b>(146)</b>
proceeds from the increase in the value of shares <sup>(4)</sup>	479	-	479	-
Inflows of credits, loans and securities <sup>(5)</sup>	591	261	436	157
Payment of credits, loans, leases and securities	(19)	(55)	(15)	(47)
Interest paid	(5)	(1)	(3)	(1)
<b>Net cash flow from financial activities</b>	<b>1 046</b>	<b>205</b>	<b>897</b>	<b>109</b>
Change in cash and cash equivalents	421	(413)	605	29
Cash and cash equivalents at the beginning of the period	507	498	322	56
<b>Cash and cash equivalent at the end of the period</b>	<b>927</b>	<b>85</b>	<b>927</b>	<b>85</b>

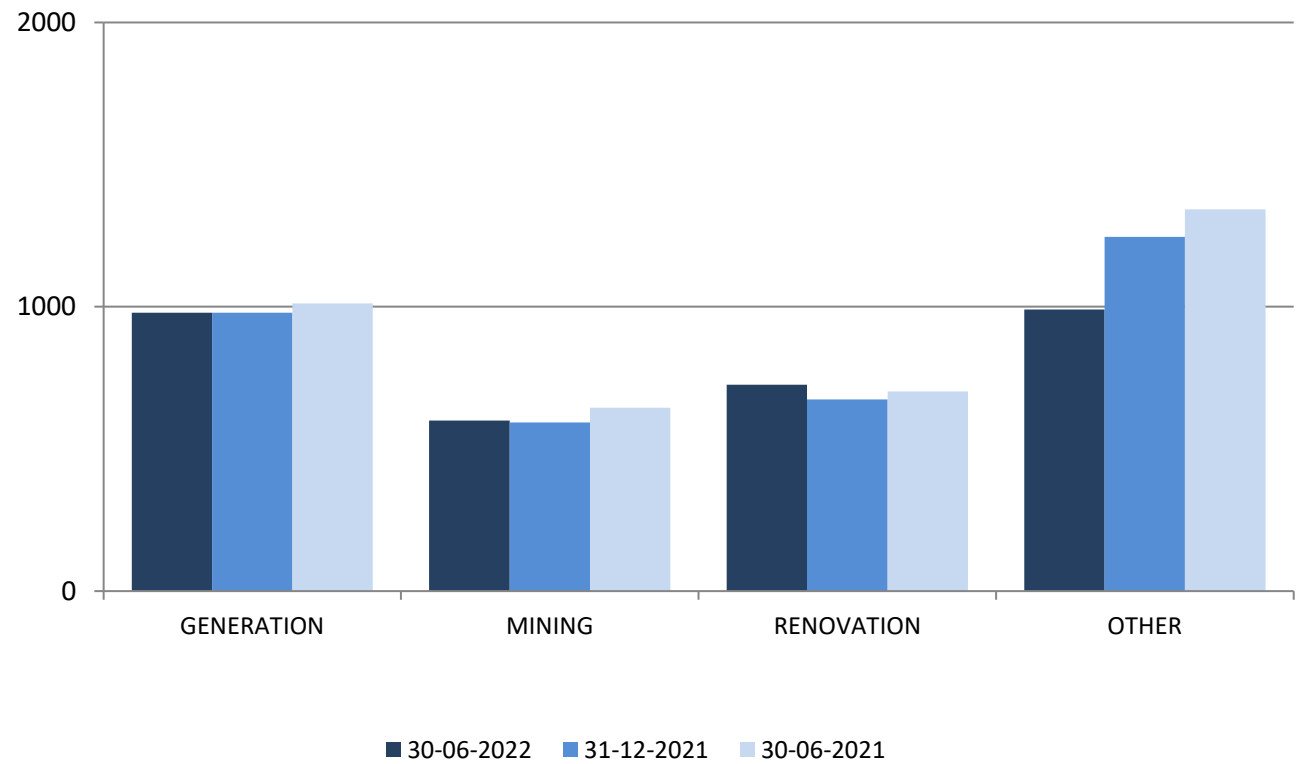
- (1) The positive change in working capital is mainly due to the decrease in receivables due to the decrease in the level of stock exchange deposits and the increase in provisions for the redemption of CO<sub>2</sub> emission allowances.
- (2) Higher expenses for the purchase of emission allowances are the result of the higher cost of their acquisition in 2021 and financial operations related to their settlement.
- (3) Capital expenditures mainly include CAPEX for the construction of a biomass block, but also expenditures on renewable energy projects and the purchase of land for the open pit.
- (4) The proceeds from the increase in the value of shares concern the acquisition of shares by Cyfrowy Polsat in PAK - PCE Biopaliwa i Wodór.
- (5) The proceeds from loans and borrowings are mainly loans received from Cyfrowy Polsat for the development of renewable energy projects and working capital financing of PAK-Volt as well as tranches of investment loans launched for the construction of a biomass unit and Brudzew photovoltaic farm.

# EMPLOYMENT

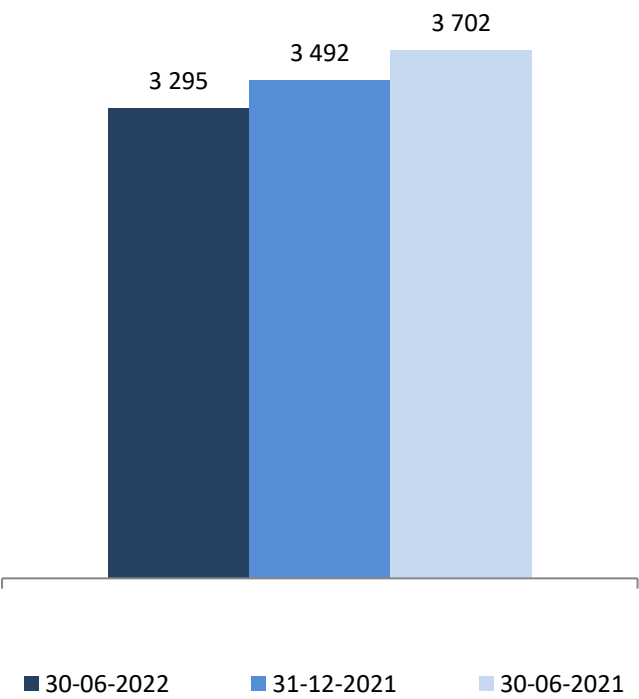
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## BY SEGMENTS



## TOTAL

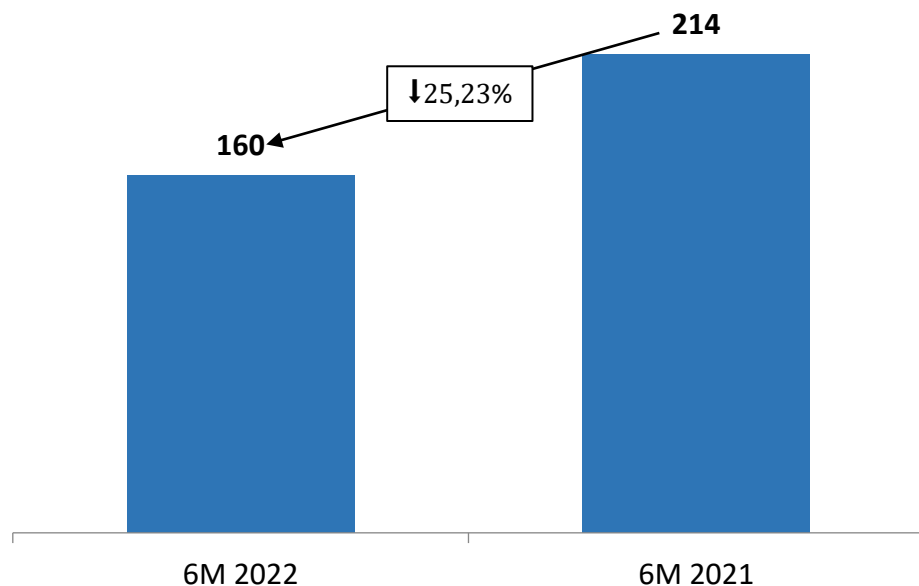


# INVESTMENTS

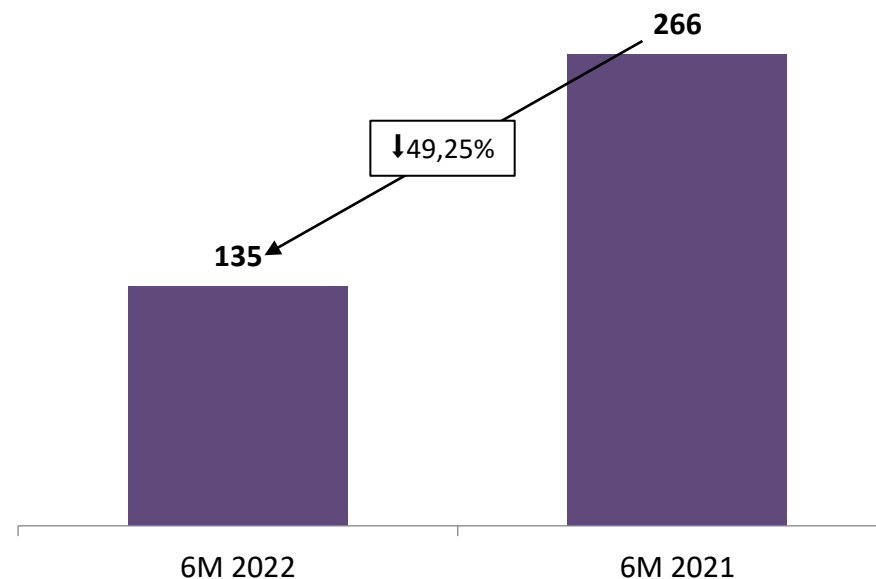
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## CAPEX [m PLN]



## EXPENDITURES [m PLN]



In the first half of 2022, ZE PAK SA Group continued the implementation of one large project consisting in adapting K-7 coal boiler at Konin power plant to the exclusive combustion of biomass along with the necessary technical infrastructure, and started the construction of several projects for acquired wind farms.

In addition, investment activity focused on launching projects related to the production, distribution and use of green hydrogen (electrolyser, hydrogen cars, refueling stations, hydrogen bus) as well as preparatory work for the implementation of further renewable energy sources and the necessary tasks to ensure the maintenance of current efficiency and more effective use of owned mining and production assets.

# STRATEGIC PROJECTS IN RENEWABLE ENERGY SOURCES

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As at September 2022



## PROJECT'S NAME

## PROJECT'S PHASE

## STATUS OF WORK

### Hydrogen Plant in Elektrownia Konin

Implementation



- 6/10kV transformer has been delivered.
- The process of developing technical projects is ongoing.
- A building permit was obtained and the commencement of works was reported to the Poviast Building Supervision Inspectorate and the National Labor Inspectorate.
- Dismantling and earth works have started.
- Equipment of 6kV bay in P7 switchgear has started.
- An energy building and a 6kV switching station, section A were ordered.
- Contractual provisions were agreed for the purchase of a second HyLYZER 500-30 electrolyser - contract in signature.
- Hydrogenics has reported that the first electrolyser is ready for delivery with the power supply system.

### Hydrogen refuelling station in Warsaw

Implementation



- An agreement was concluded with NEL Hydrogen Denmark for the delivery of technological equipment for two hydrogen refueling stations. Hydrogen storage tanks were provided.
- A building permit was obtained and the commencement of works was reported to PINB and PIP.
- Preparatory work has started.



PROJECT'S NAME	PROJECT'S PHASE	STATUS OF WORK
Hydrogen refuelling stations on 5 locations: Gdańsk, Gdynia, Wrocław, Rybnik, Lublin, Warszawa Port Praski	Design	<ul style="list-style-type: none"> <li>An agreement was concluded with EP Katowice for the design of hydrogen refuelling stations. Design process in progress.</li> <li>Agreements were concluded with NEL Hydrogen Denmark for the supply, assembly, commissioning and service of 5 hydrogen refuelling stations with delivery dates successively in the 1st half of 2023.</li> </ul>
Mobile hydrogen refuelling stations	Delivery	<ul style="list-style-type: none"> <li>An agreement was concluded with Wystrach Germany for the delivery of 2 mobile hydrogen refuelling stations with delivery dates: July 2023 and August 2023.</li> <li>An agreement was concluded with Wystrach for the delivery of 2 mobile hydrogen refuelling stations: delivery dates November / December 2022 and March 2023.</li> </ul>
Hydrogen car with a capacity of 371 kg H <sub>2</sub> 20ft	Exploitation	<ul style="list-style-type: none"> <li>Hydrogen car has been delivered.</li> </ul>
Hydrogen cars with a capacity of 1024 kg H <sub>2</sub>	Exploitation/ Delivery	<ul style="list-style-type: none"> <li>2 hydrogen cars 1024 kg 40ft have been delivered – in operation.</li> <li>An agreement was signed with Wystrach Germany for the delivery of 5 hydrogen cars from April 2023 to July 2023.</li> <li>An agreement was concluded with Wystrach Germany for the delivery of 2 hydrogen cars with the planned delivery dates: September 2023 and December 2023.</li> </ul>

# Polish Hydrogen Bus – Neso Bus

## PROJECT'S NAME

**Polish Hydrogen Bus**

## STATUS OF WORK

- Work on the prototype has been completed.
- EU approval obtained – city bus.
- On May 30, 2022, the official premiere and presentation of the bus took place, and the website was launched [www.nesobus.pl](http://www.nesobus.pl).
- On August 23, 2022, the Company obtained a legally binding permit to build a plant in Świdnik - the planned construction of a hydrogen bus factory is June 2023.

## MAIN TECHNICAL PARAMETRES

12<sup>M</sup>  
Length

2,55<sup>M</sup>  
Width

3,4<sup>M</sup>  
Height

450<sup>KM</sup>  
Range to

15<sup>MIN</sup>  
Refuelling



# Green Energy and heat – Biomass unit no. 2 in Elektrownia Konin (K7/TG5)

PROJECT'S NAME	ELECTRICAL POWER	THERMAL POWER OF THE SYSTEM	PROJECT'S PHASE	PRODUCTION
Biomass unit no. 2 (K7/TG5) in Elektrownia Konin	50 MW	$\geq 80$ MWt	In operation	since 28.04.2022

## GUARANTEED EMISSION PARAMETERS

- $\text{SO}_2$  concentration  $< 70 \text{ mg/Nm}^3$   $\text{NO}_x < 180 \text{ mg/Nm}^3$
- $\text{CO}$  concentration  $< 160 \text{ mg/Nm}^3$  dust  $< 12 \text{ mg/Nm}^3$
- $\text{HCl}$  concentration  $< 9 \text{ mg/Nm}^3$   $\text{HF} < 1 \text{ mg/Nm}^3$
- $\text{Hg}$  concentration  $< 5 \text{ }\mu\text{g/Nm}^3$   $\text{NH}_3 < 15 \text{ mg/Nm}^3$

Boiler thermal efficiency at 100% WMT:  $> 88,8\%$



*New transfer tower and biomass feeding pipeline*

# Photovoltaic farm - Cambria

PROJECT'S NAME	LOCATION	CAPACITY	PROJECT'S PHASE	PRODUCTION
PV Cambria	Wielkopolskie voivodship Turek powiat Commune: Brudzew	12,4 MWp	Design	3Q 2023

## STATUS OF WORK

- The process of acquiring the project - a photovoltaic farm adjacent to the operated Brudzew 70 MWp photovoltaic farm has been completed.
- Detailed design process has begun. A construction design has been prepared and will be submitted to the Powiat Starosty in Turek in September in order to obtain a building permit.
- ENERGA Operator was requested to conclude an annex to the Connection Agreement.





# Kazimierz Biskupi Wind Farm



PROJECT'S NAME	LOCATION	CAPACITY	TURBINES	PROJECT'S PHASE	PRODUCTION
<b>FW Kazimierz Biskupi</b>	Wielkopolskie voivodship Konin Powiat Kazimierz Biskupi Commune	<b>17,5 MW</b>	<b>7</b>	<b>Implementation</b>	<b>3Q 2023</b>

## STATUS OF WORK

- Detailed designs for the project were made.
- Construction work on foundations for wind turbines has been completed.
- Construction works are being finalized in the scope of: access roads, yards for wind turbines and cable lines.
- Construction works are underway for GPO station.
- Planned start of wind turbine assembly: November 2022.



# Miłosław Wind Farm



PROJECT'S NAME	LOCATION	CAPACITY	TURBINES	PROJECT'S PHASE	PRODUCTION
<b>FW Miłosław</b>	Wielkopolskie voivodship Września Powiat Mirosław Commune	<b>9,6 MW</b>	<b>4</b>	<b>Implementation</b>	<b>3Q 2023</b>

## STATUS OF WORK

- Construction work on foundations for wind turbines is being finalized.
- Construction works are carried out in the field of: access roads, yards for wind turbines and cable lines.
- Planned start of wind turbine assembly: January 2023.



# Przyrów Wind Farm



PROJECT'S NAME	LOCATION	CAPACITY	TURBINES	PROJECT'S PHASE	PRODUCTION
FW Przyrów	Śląskie voivodship Częstochowa powiat Przyrów commune	50,4 MW	14	Implementation	3Q 2024

## STATUS OF WORK

- Negotiations with the supplier of wind turbines (Nordex) completed, contract for the supply of 14 N117 turbines signed.
- Work to select a contractor is underway (BoP).
- Planned start of construction works: November 2022.





PROJECT'S NAME	LOCATION	CAPACITY	TURBINES	PROJECT'S PHASE	PRODUCTION
FW Człuchów	Pomorskie voivodship Człuchowski powiat Człuchów commune	72,6 MW	33	Implementation	2Q 2024

## STATUS OF WORK

- Power transformers for the substation were ordered.
- The construction site was handed over to the main contractor – Onde.
- Construction works have started.





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