

ZMIENIAMY SIĘ  
DLA WAS

# 3Q 2021 Results



**ZEPAK**  
Energia dla Ciebie

26 November 2021



RAZEM TWORZYMY LEPSZĄ PRZYSZŁOŚĆ

Jesteśmy członkiem:

**PROGRAM / CZYSTA / POLSKA**

Key operational and financial data	9M 2021		Change y/y
Sale of electricity:	4.13	TWh	-15.20%
• Electricity from own production:	3.09	TWh	-13.69%
• Electricity from resale:	1.04	TWh	-19.38%
Achieved average electricity sale price <sup>(1)</sup>	289.37	zł/MWh	4.89%
Average purchase price of EUA	123.35	zł/MWh	7.34%
Sale revenues:	1 604	mln zł	-0.06%
EBITDA:	185	mln zł	42.31%
Net result:	106	mln zł	142.23%
CAPEX:	295	mln zł	-
Indebtedness:	418	mln zł	-
Cash <sup>(2)</sup> :	363	mln zł	-16.74%
Net debt / EBITDA:	0.26	x	116.99%

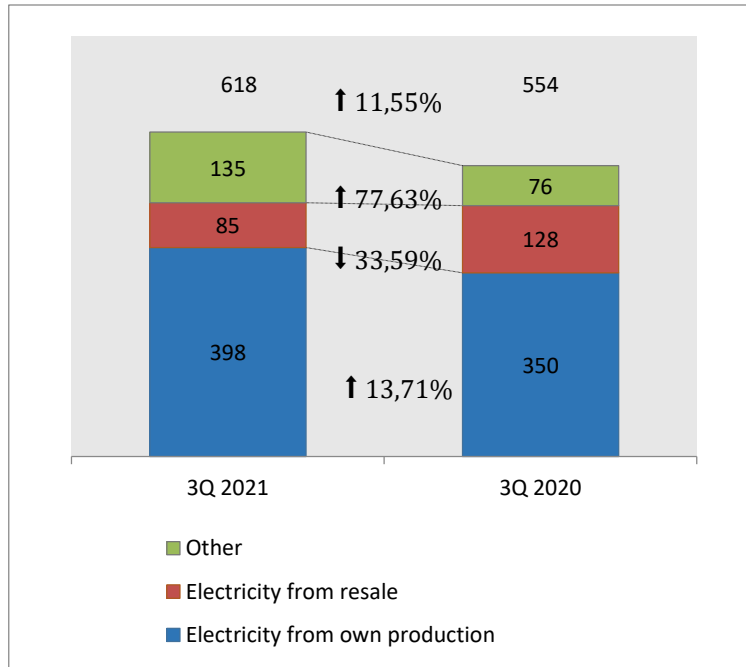
(1) Average price, calculated as electricity sales revenues (own production, from resale and system service) divided by sales volume.

(2) Cash and cash equivalents and other financial short-term assets.

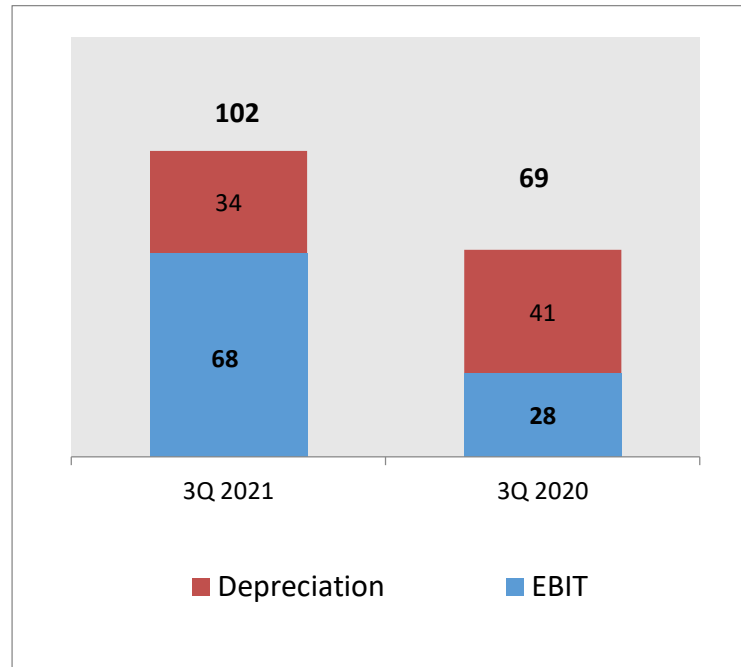
Key operational and financial data	3Q 2021		Change y/y
Sale of electricity:	1.52	TWh	-13.14%
• Electricity from own production:	1.23	TWh	-3.15%
• Electricity from resale:	0.29	TWh	-39.58%
Achieved average electricity sale price <sup>(1)</sup>	316.04	zł/MWh	15.45%
Average purchase price of EUA	143.21	zł/MWh	28.50%
Sale revenues:	619	mln zł	11.53%
EBITDA:	102	mln zł	47.83%
Net result:	86	mln zł	-
CAPEX:	82	mln zł	-

# ZE PAK Group – 3Q 2021 summary

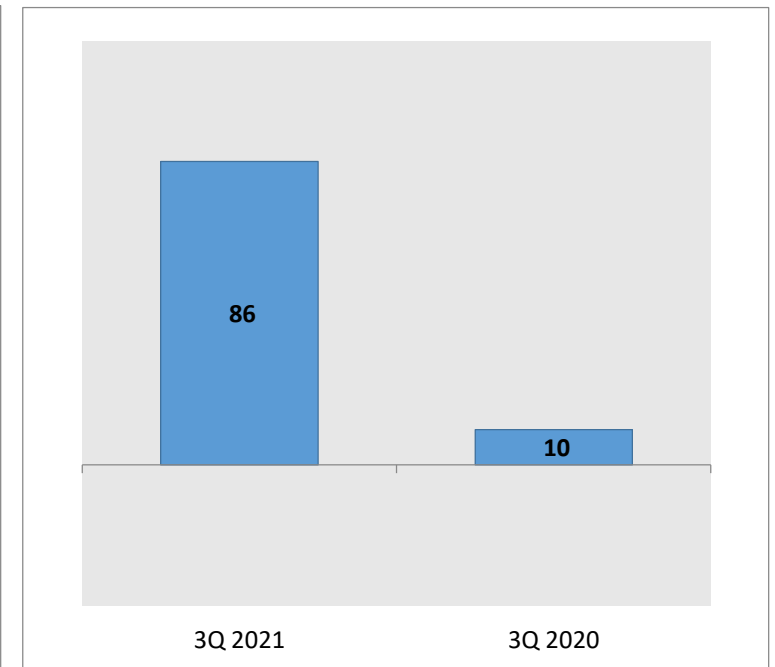
## REVENUES



## EBITDA



## NET RESULT



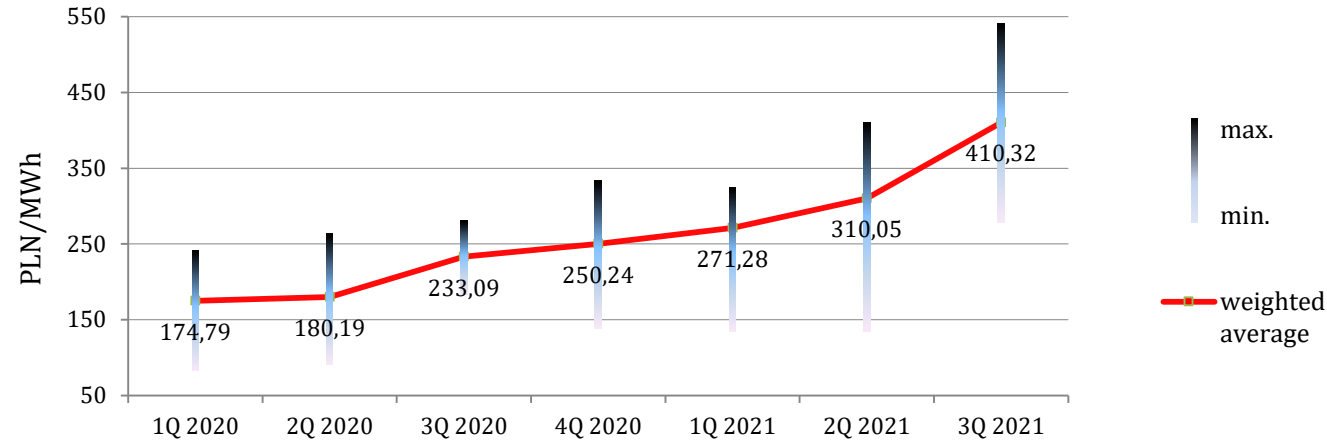
The higher level of revenues in the third quarter of 2021 compared to the third quarter of 2020 was determined by the higher price obtained for energy sales (despite the lower volume of own production and energy trading) and revenues from the capacity market, which were not recorded in the previous year. The significantly better financial results are mainly due to the better ratio of the energy price in relation to the cost of CO2 emission allowances and the above-mentioned revenues from the capacity market (48 million in the third quarter of 2021).

# SELECTED ELECTRICITY MARKET DATA

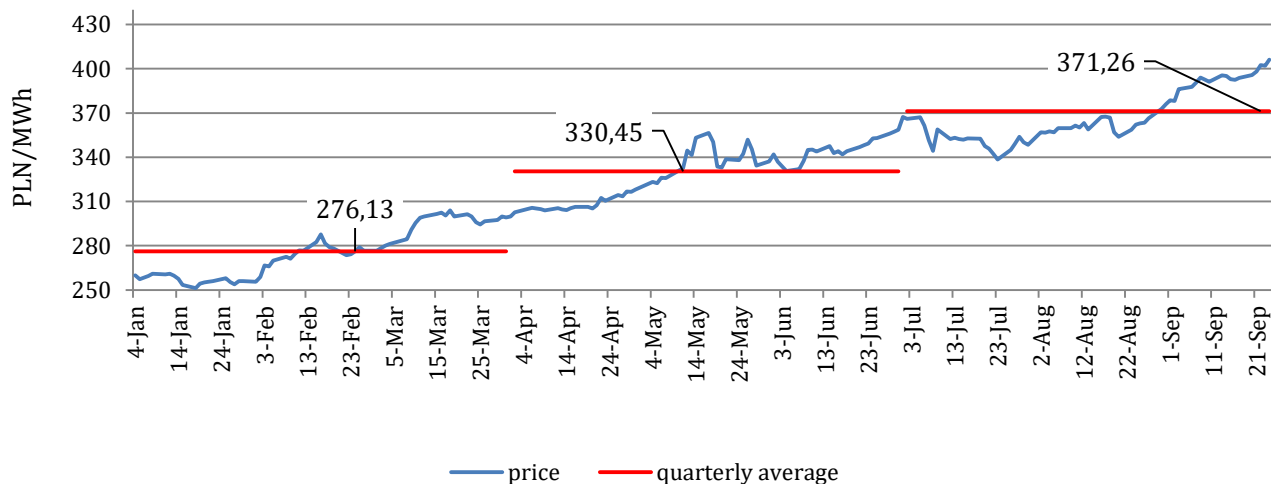
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# Electricity prices

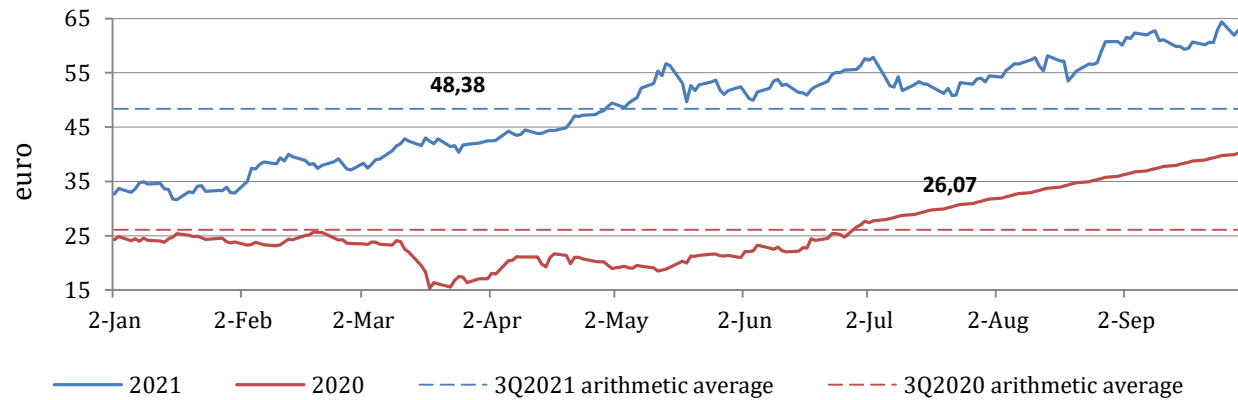


On the Day-Ahead Market at TGE S.A. the upward trend that started in the second quarter of 2020 continues. The weighted average from the TGEbase indices for the third quarter was PLN 410.32 / MWh with a maximum of PLN 541.57 / MWh on September 14, 2021. The price increases were dictated by the high demand for energy. The strong increases at the end of the third quarter of 2021, despite the recorded lower turnover, were influenced by many factors, including: lower than expected production from wind generation, unstable situation related to gas supplies in Europe and an increase in the prices of this fuel, increase in coal prices, dynamic price situation on the market of CO2 emission allowances, ongoing renovation campaign and unplanned shutdowns of power units, as well as exports of electricity by Poland.

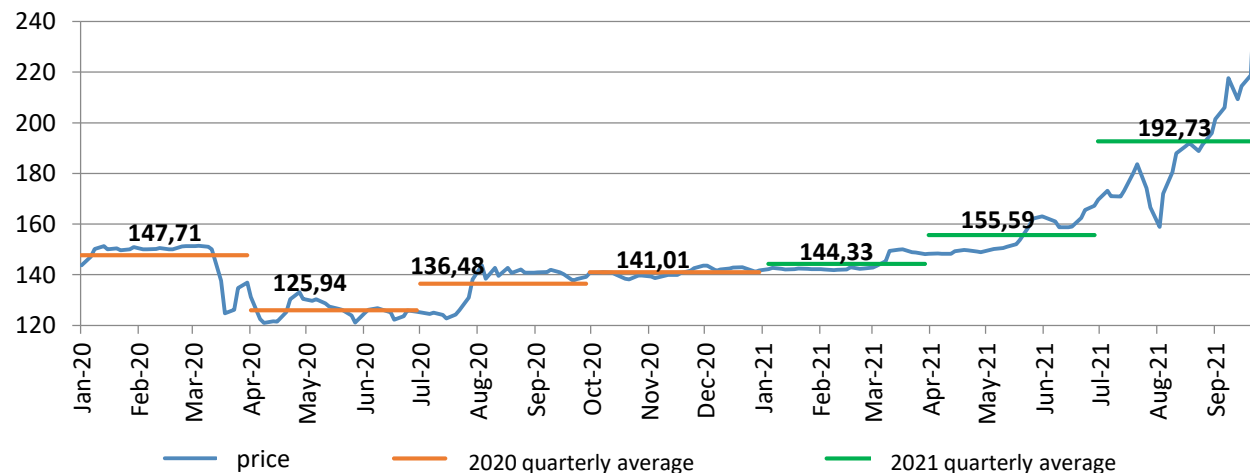


On the electricity futures market at TGE SA, the third quarter of 2021, like the entire first half of 2021, was in a strong upward trend on the BASE\_Y-22 product. The arithmetic mean of the daily clearing rates for the reference futures contract BASE\_Y-22 was at the level of PLN 371.26 / MWh by the end of the third quarter of 2021 (the highest price was PLN 432.70 / MWh on September 29, 2021). The stronger increases in the third quarter of 2021, not only in the presented annual contract, but also in other forward products on the electricity futures market, were stimulated by factors similar to those on the spot market.

# EUA and green certificates



The third quarter of 2021 began with strong increases in the prices of CO2 emission allowances. EUA prices approached 58 euros, setting a new record. The price increase was stimulated by rising gas prices on exchanges and expectations regarding the publication of the "Fit for 55" package (EP document updating the European Green Deal, the main assumption is to reduce emissions by 55% compared to 1990). EUA prices in August ranged from EUR 53 to EUR 60. The growth in EUA prices was supported by dynamic increases in the markets of energy resources: gas, coal and electricity. The month of September was a continuation of the upward trend in the prices of CO2 emission allowances. The prices ranged between EUR 59 and EUR 65 / EUA. The arithmetic mean of the EUA quotations during the nine months of 2021 was EUR 43.38, while in the same nine months of 2020 - EUR 26.07, which means an increase by EUR 17.31 (more than 66% increase).



From the beginning of 2021, an upward price trend has been observed on the Property Rights Market. The highest price increase occurred in the third quarter of 2021. The price increases were probably due to the decrease in their supply on the market, as in 2020 some entities ended their participation in the system of certificates of origin due to the end of the 15-year support period, while some installations, as a result of winning migration auctions, resigned from applying for green certificates. In addition, the emergence of a draft regulation setting the RES obligation for 2022 at an unchanged level of 19.5% also contributed to the increase in prices. Ultimately, however, after consulting this proposal, the Ministry of Climate and Environment decided to reduce the RES obligation for 2022 to 18.5%. Another factor that may affect the increase in the prices of green certificates may be the inability to meet this obligation by the obliged entities through the so-called substitute fee (information from the President of ERO 5/2021 and 45/2021).

# OPERATIONAL DATA

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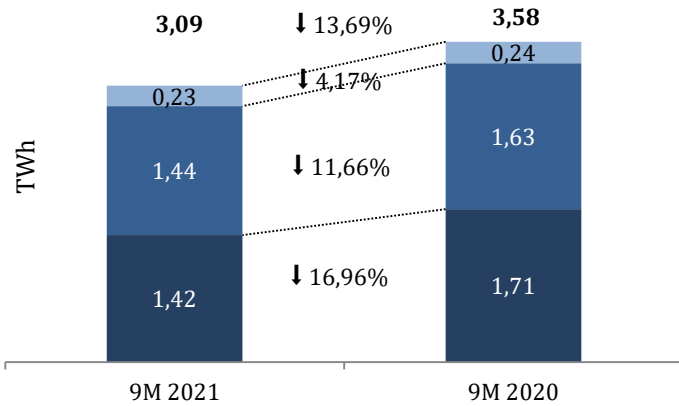


# Net production and sale of electricity – 9M 2021

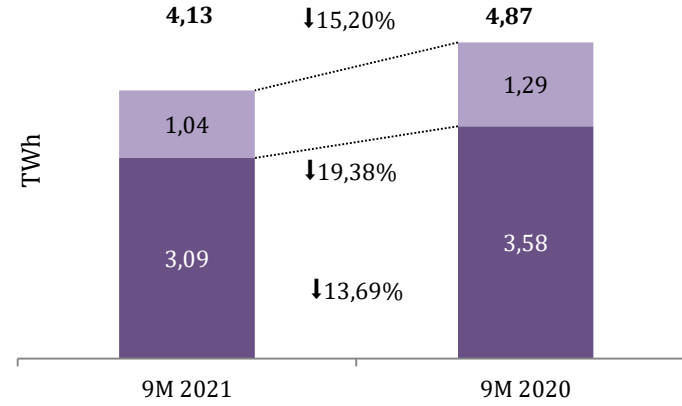
[TWh]



## NET PRODUCTION

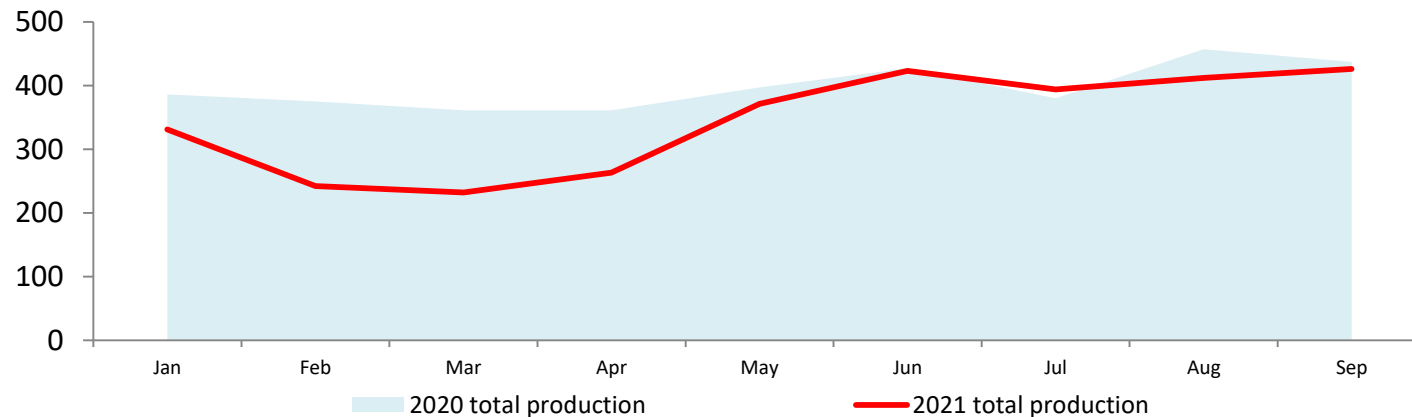


## SALE



■ Units 1,2 & 5 (Pątnów I) ■ Unit 9 (Pątnów II) ■ Konin

■ Own production ■ Resale



The decrease in production observed in the nine-month period of 2021 was caused by the shutdown of a 474 MW unit for a maintenance shutdown (March and the first decade of April), also problems with the optimal level of coal supplies in the first quarter contributed to lower production.

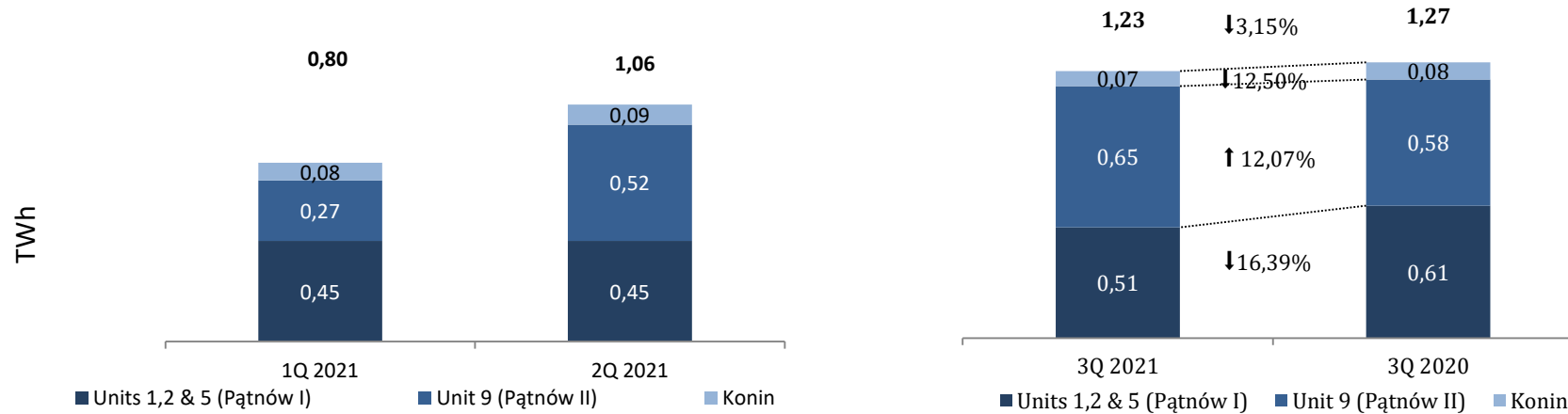
From May to September, the production level did not differ significantly from last year's levels.

# Quarterly net production and sale of electricity

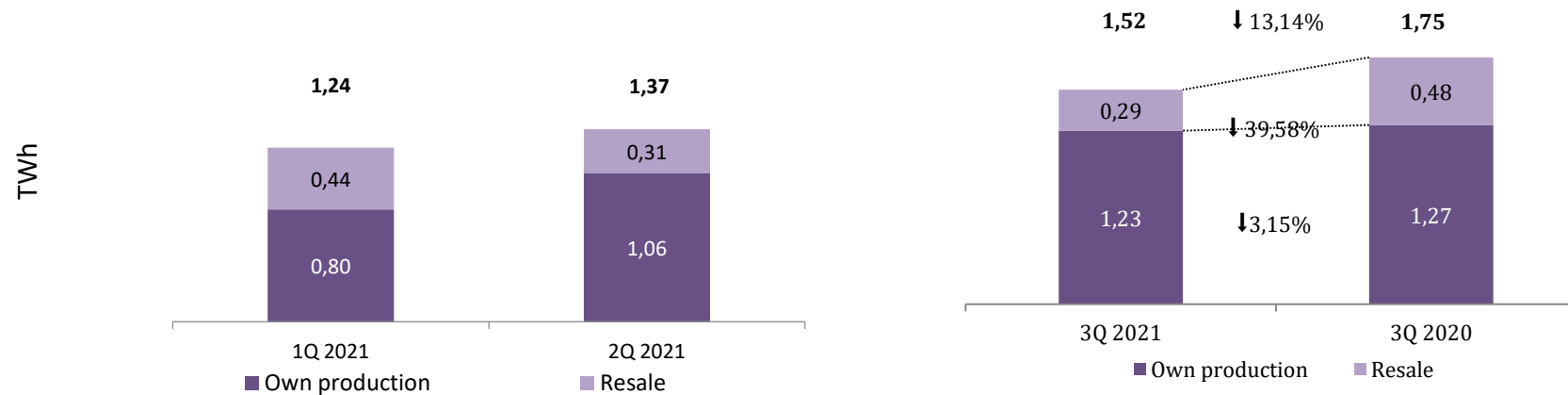
[TWh]



## NET PRODUCTION



## SALE

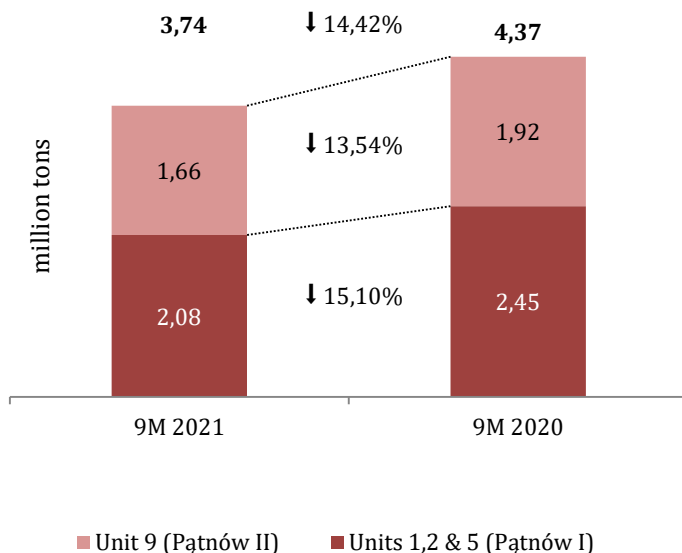


# Lignite consumption and CO<sub>2</sub> emission – 9M 2021

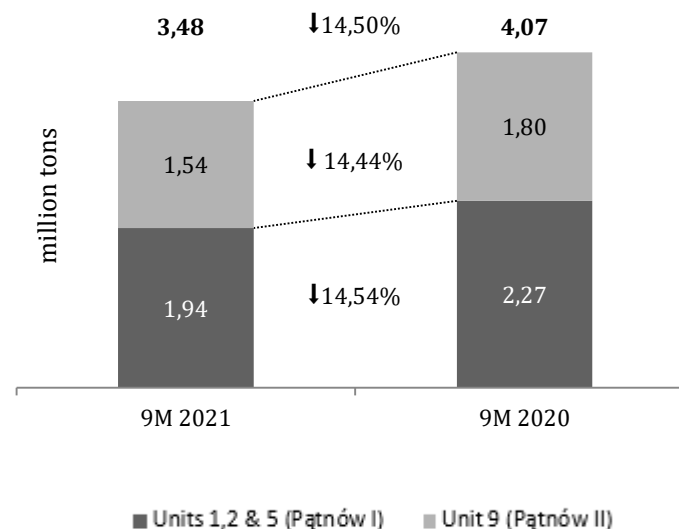
[m tons]



## LIGNITE CONSUMPTION



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



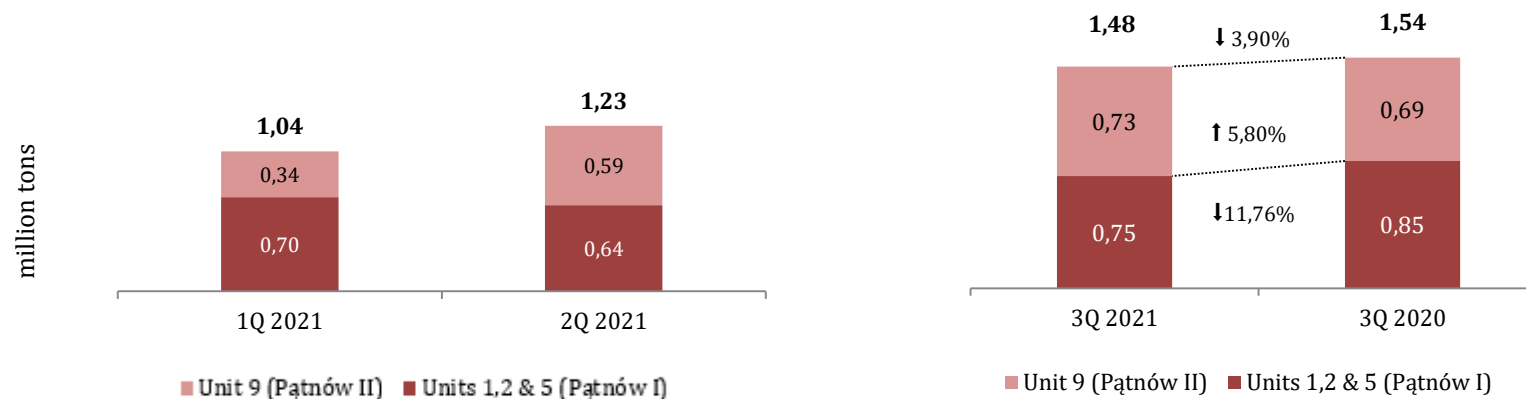
Data on coal consumption and CO<sub>2</sub> emissions both within the period of 9 months of 2021 and in Q3 2021 alone show a decrease in coal consumption and lower emissions, which results from lower volumes of energy produced compared to the corresponding periods of the previous year.

The Group purchases almost all emission allowances on the market. The amount of free allowances used both within the period of 2021 and 2020 did not exceed 1% of the total amount of allowances.

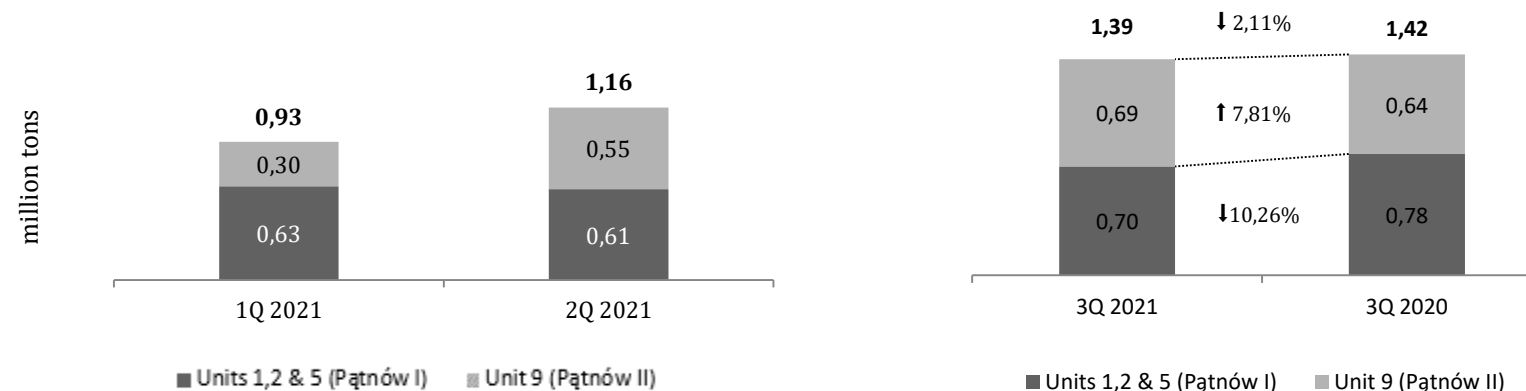
# Quarterly lignite consumption and CO<sub>2</sub> emission

[m tons]

## LIGNITE CONSUMPTION

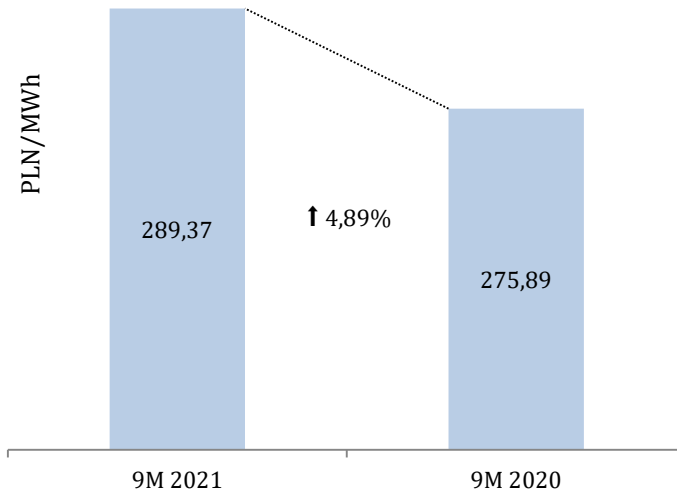


## CO<sub>2</sub> EMISSION

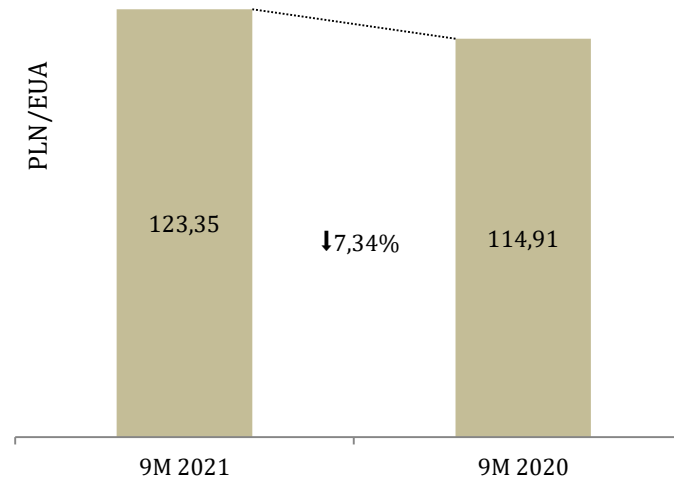


# Average prices of electricity and CO<sub>2</sub> emission allowances purchase – 9M 2021 [m tons]

Electricity prices <sup>1)</sup>



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

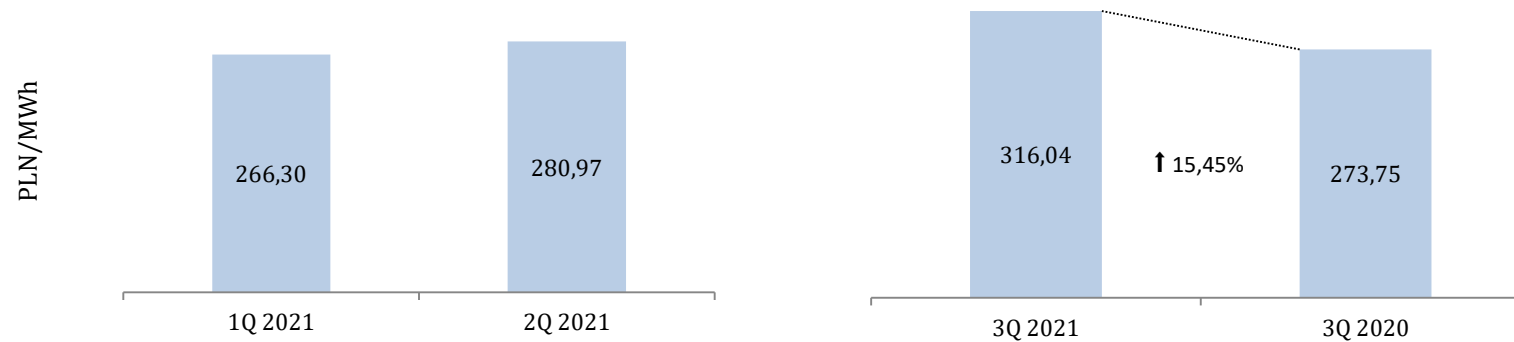


*1) Average price, calculated as electricity sales revenues (own production, from resale and system service) divided by sales volume.*

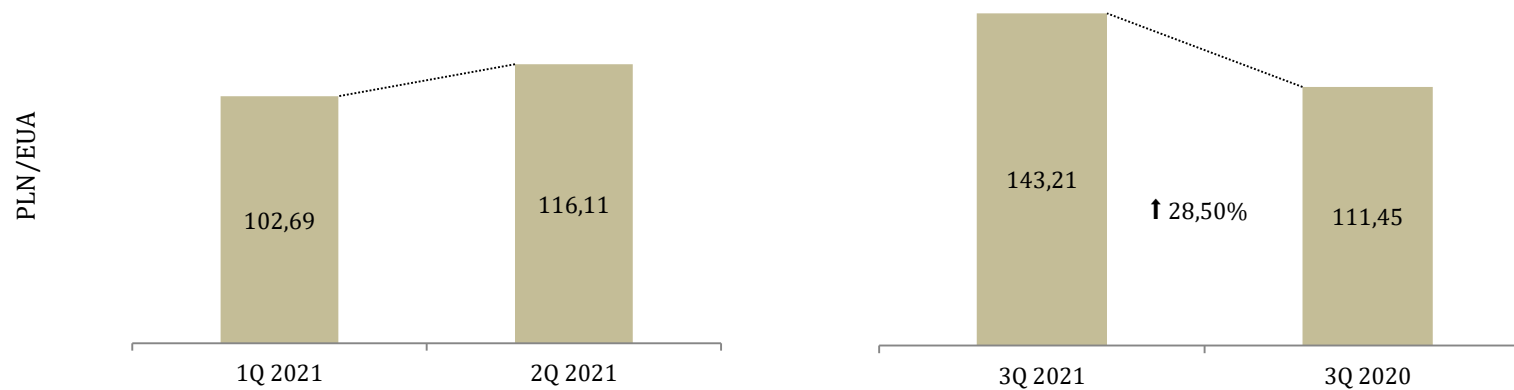
*2) Average price is calculated as the purchase cost of emission allowances incurred to cover emission for the period divided by the volume of CO<sub>2</sub> emission.*

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

## Electricity price

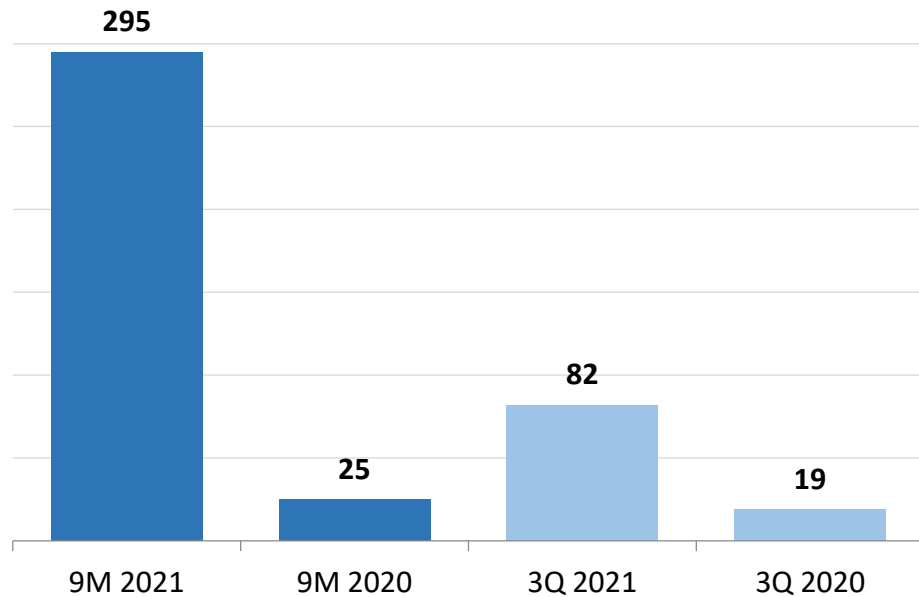


## Prices of CO<sub>2</sub> emission allowances purchase (EUA)

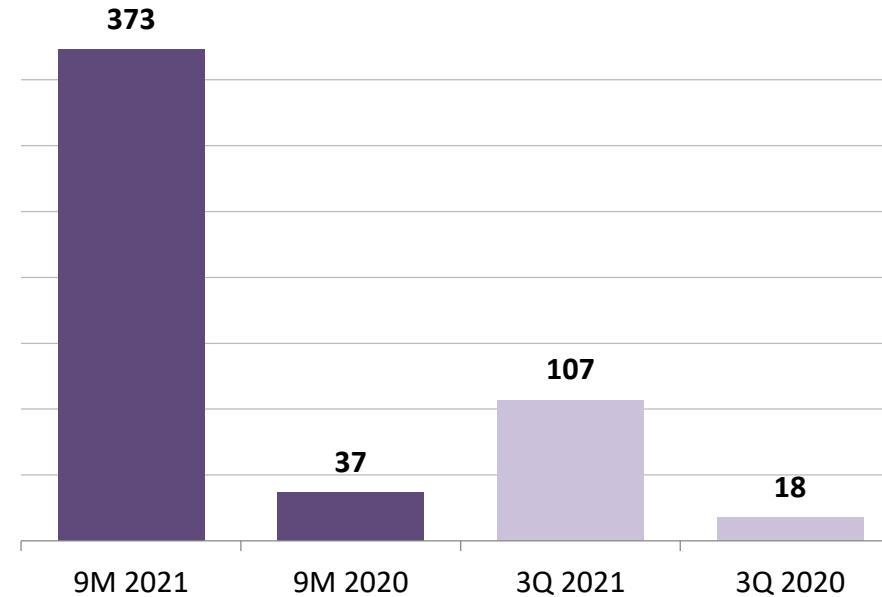


# Capex on fixed assets and intangible assets [excluding CO<sub>2</sub>]

## CAPEX [m PLN]



## EXPENDITURES [m PLN]



In the third quarter of 2021, ZE PAK SA Group continued the implementation of two large investment projects, which are the adaptation of K-7 coal boiler at Konin power plant for the exclusive combustion of biomass with the necessary technical infrastructure and the construction of a 70 MWp photovoltaic farm in Brudzew commune.

In addition, investment activity focused on launching projects related to the production and distribution of hydrogen 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 the mining and generation assets held.

# FIANCIAL DATA

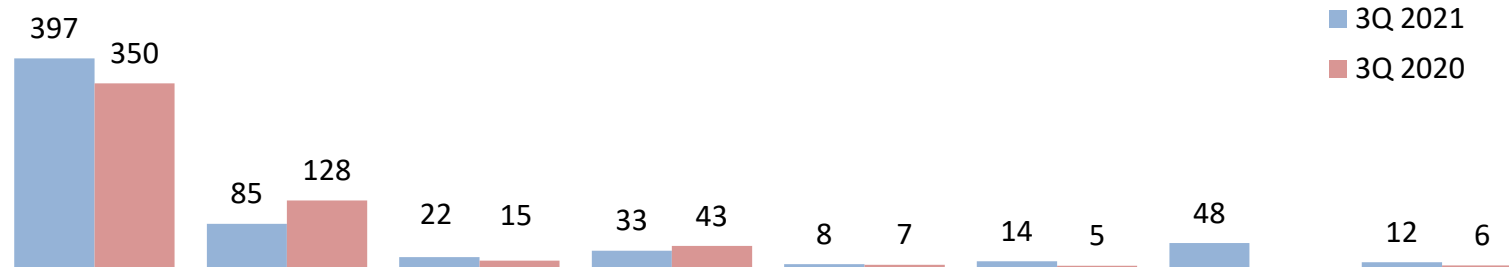
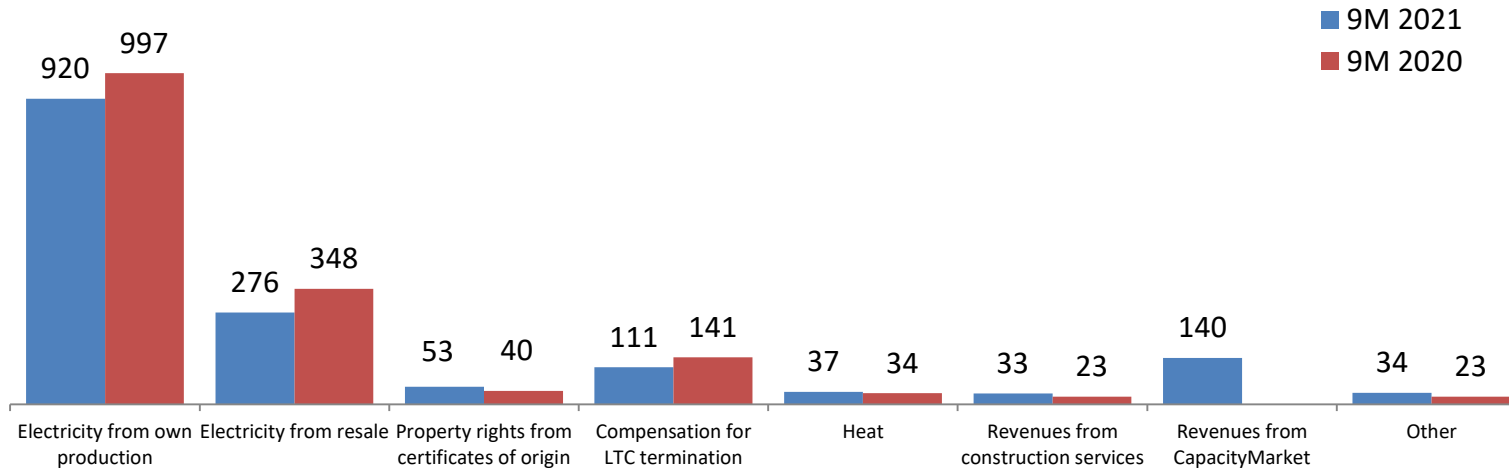
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# Revenues

[m PLN]



Lower total revenues from the sale of electricity within 9M of 2021:

- Lower volume of the sale of electricity from own production,
- Lower volume of the sale of electricity from trading,
- Higher electricity sale price.

In Q3 2021 alone, higher revenues from electricity sales were determined by the higher price, despite a decline in the volume of energy from own production and trade.

Higher revenues from the sale of property rights from energy origin certificates as a result of the higher price of certificates, despite the lower volume of green energy production due to the block's maintenance shutdown.

The lower compensation for the termination of PPAs in the third quarter of 2021 was caused by a lower adjustment compared to the corresponding period of 2020 (the advance payment was at a similar level). The lower level of the adjustment was the result of the revenue from the provision of power services being obtained for the first time in 2021 and the achievement of a higher operating result compared to the third quarter of 2020, mainly due to the higher energy sales price obtained.

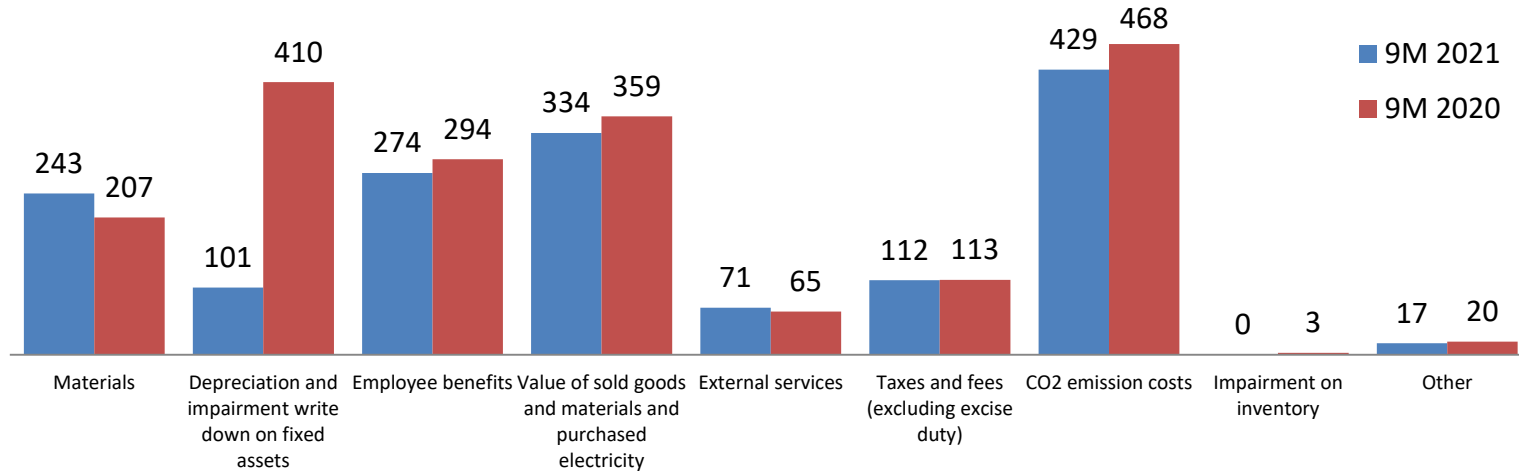
Increase in revenues from the sale of heat as a result of a higher volume and sale price.

Increase in revenues from construction services contracts as a result of the involvement of a company from the renovation segment PAK Serwis as a subcontractor in the biomass and photovoltaic project implemented in the Group.

A new item – revenue from the Capacity Market from 2021.

# Costs by type

[m PLN]



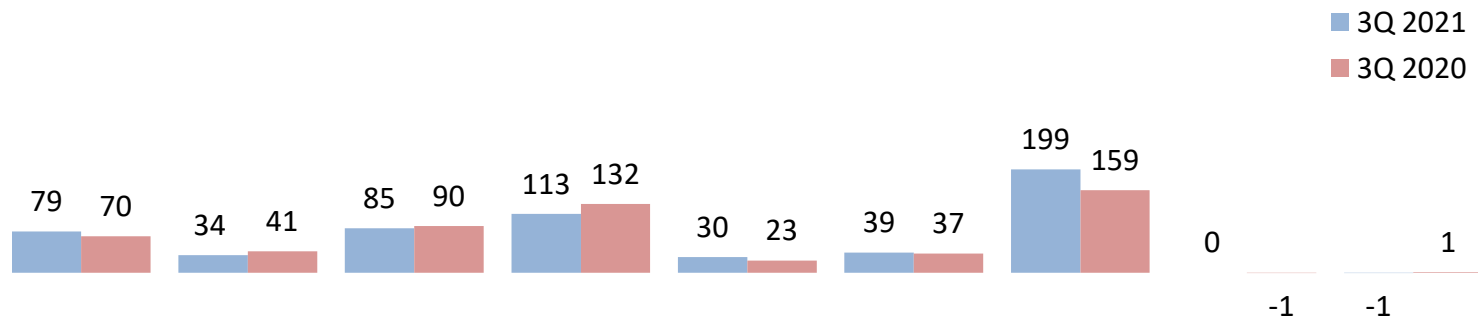
Higher material costs mean higher costs of purchased coal and higher costs of materials used for renovation.

Lower depreciation is the result of write-downs made in previous periods. In 2020, in the item (in the amount of PLN 287 million), there were impairment losses on fixed assets as a result of impairment determined by the performed tests.

Lower costs of employee benefits as a result of lower average employment - employment decreased by 630 people over the last year.

Lower value of goods and materials sold due to the smaller amount of electricity purchased and intended for trading.

Lower costs of CO2 emissions due to lower emissions.



# EBITDA 9M 2021

[m PLN]



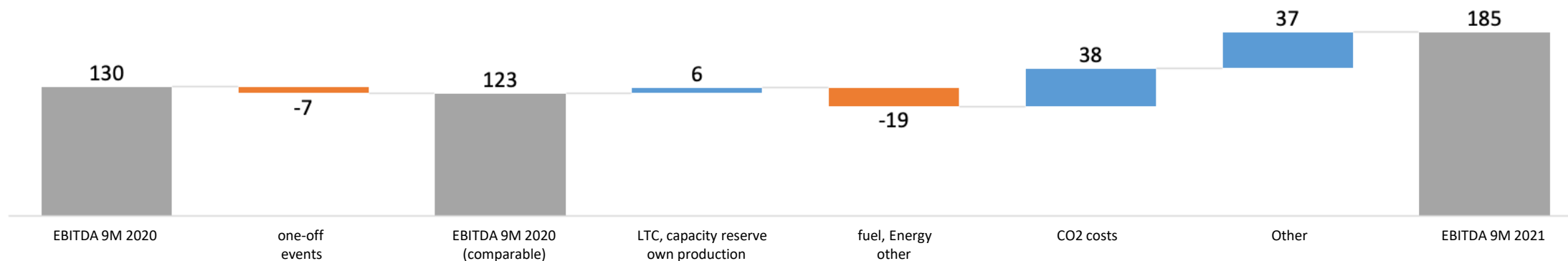
	9M 2021	9M 2020
<b>Sale revenues</b>	<b>1 604</b>	<b>1 605</b>
Change %	(0.06)%	
Costs of goods sold	(1 470)	(1 825)
<b>Gross profit</b>	<b>134</b>	<b>(220)</b>
Margin %	8.35%	(13.71)%
Other operating revenues	44	63
Selling and distribution expenses	(4)	(3)
Administrative expenses	(78)	(84)
Other operating expenses	(12)	(38)
<b>EBITDA<sup>(1)</sup></b>	<b>185</b>	<b>130</b>
Margin %	0.12%	8.10%
<b>EBIT</b>	<b>84</b>	<b>(280)</b>
Margin %	5.24%	(17.45)%

(1) EBITDA higher by PLN 55 m (+42,31%) -> after bringing to comparability higher by PLN 62 m (+50,41%)

comparable EBITDA for 9M 2020 amounted to PLN 123 m -> value of PLN 130 m is the effect of events related to the shortening of the operating period of Pątnów I and Pątnów II power plants as well as coal extraction in PAK KWB Adamów, revenues obtained from the shield and demolition of the Adamów power plant

- (+6) revenues from the Capacity Market, higher revenues from property rights, higher revenues from heat, lower revenues from own energy, lower revenues from system services, lower revenues from LTCs, lower result achieved on energy purchased
- (-19) higher costs of purchased coal, higher costs of other fuels and materials (mazout, heating oil, sorbent), lower biomass costs, lower energy costs (in mines)
- (+38) lower costs of CO<sub>2</sub> emission
- (+37) lower salary costs, higher construction revenues and other revenues, higher result on other operating activities, higher other materials, higher external services, lower other costs, higher result on sales of other materials

## EBITDA changes

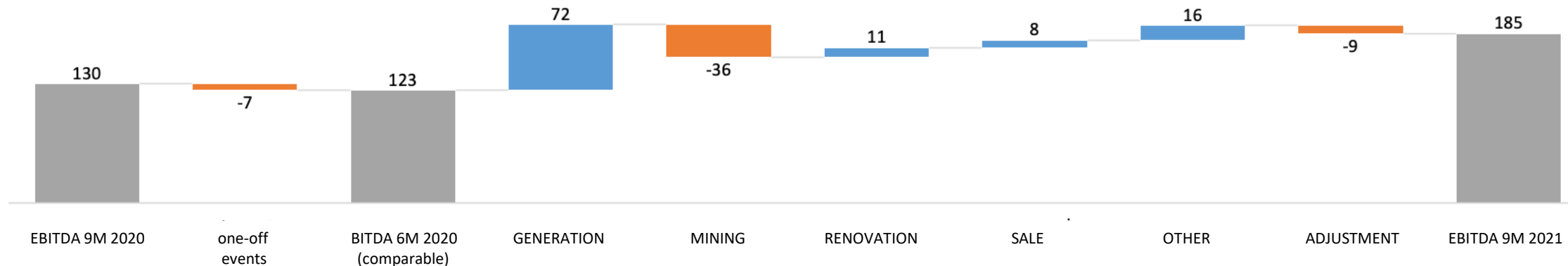


# EBITDA 9M 2021 by segments

[m PLN]



## EBITDA changes



### Main reasons of EBITDA changes in segments:

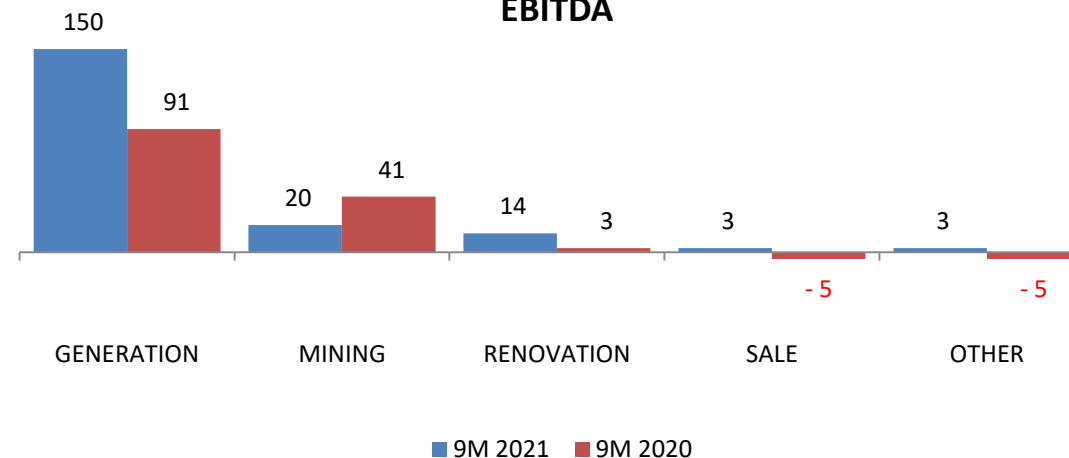
#### Generation:

- revenues from the Capacity Market (from 2021), higher revenues from certificates, higher revenues from heat, lower revenues from own energy, lower revenues from LTCs, lower result achieved on energy purchased,
- lower costs of coal, higher costs of other fuels and materials (mazout, oil, sorbent, etc.), lower costs of biomass,
- lower costs of carbon dioxide emission allowances,
- positive result on other operating activities, lower costs of employee benefits, higher construction and other revenues, higher costs of other materials and external services.

#### Mining:

- lower revenues from coal sales, higher costs of substitute coal, lower costs of external services, lower costs of employee benefits, lower costs of electricity

## EBITDA



# Consolidated profit and loss account for 9M 2021 by segments



m PLN	Generation	Mining	Renovation	Sale	Other	Consolidation adjustments	Total
Sale revenues from external customers	1 371	12	42	175	4		1 604
<i>External sale revenues %</i>	<i>93.84%</i>	<i>3.43%</i>	<i>28.38%</i>	<i>100.00%</i>	<i>3.74%</i>	<i>000%</i>	<i>100,00%</i>
Sale revenues between segments	90	338	106	-	103	(636)	-
<b>Sale revenue</b>	<b>1 461</b>	<b>350</b>	<b>148</b>	<b>175</b>	<b>107</b>	<b>(636)</b>	<b>1 604</b>
Cost of goods sold	(1 368)	(336)	(129)	(170)	(101)	633	1 470
<b>Gross profit (loss)</b>	<b>93</b>	<b>14</b>	<b>19</b>	<b>5</b>	<b>6</b>	<b>(3)</b>	<b>134</b>
<i>Margin %</i>	<i>6.37%</i>	<i>4.00%</i>	<i>12.84%</i>	<i>2.86%</i>	<i>5.61%</i>	<i>0.47%</i>	<i>8.35%</i>
<b>EBITDA</b>	<b>150</b>	<b>20</b>	<b>14</b>	<b>3</b>	<b>3</b>	<b>(4)</b>	<b>185</b>
<i>Margin %</i>	<i>10.27%</i>	<i>5.71%</i>	<i>9.46%</i>	<i>1.71%</i>	<i>2.80%</i>	<i>0.63%</i>	<i>11.53%</i>
<b>EBIT</b>	<b>65</b>	<b>9</b>	<b>12</b>	<b>3</b>	<b>-</b>	<b>(5)</b>	<b>84</b>
<i>Margin %</i>	<i>4.45%</i>	<i>2.57%</i>	<i>8.11%</i>	<i>1.71%</i>	<i>0.00%</i>	<i>0.79%</i>	<i>5.24%</i>
<b>Net profit (loss)</b>	<b>94</b>	<b>(1)</b>	<b>9</b>	<b>2</b>	<b>(1)</b>	<b>3</b>	<b>106</b>
<i>Margin %</i>	<i>6.43%</i>	<i>(0.29)%</i>	<i>6.08%</i>	<i>1.14%</i>	<i>(0.93)%</i>	<i>(0.47)%</i>	<i>6.61%</i>

# EBITDA 3Q 2021

[m PLN]



	3Q 2021	3Q 2020
<b>Sale revenues</b>	<b>618</b>	<b>555</b>
Change %	11.35%	
Costs of goods sold	(539)	(519)
<b>Gross profit</b>	<b>79</b>	<b>36</b>
Margin %	12.78%	6.49%
Other operating revenues	15	27
Selling and distribution expenses	(1)	(1)
Administrative expenses	(25)	(32)
Other operating expenses	-	(2)
<b>EBITDA<sup>(1)</sup></b>	<b>102</b>	<b>69</b>
Margin %	16.50%	12.43%
<b>EBIT</b>	<b>68</b>	<b>28</b>
Margin %	11.00%	5.05%

(1) **EBITDA** higher by PLN 33 m (+47.82%) -> after bringing to comparability **higher by PLN 55 m (+117.02%)**

comparable EBITDA for 3Q 2020 amounted to PLN 47 m -> value of PLN 69 m is the effect related to revenues obtained from the shield and demolition of the Adamów power plant

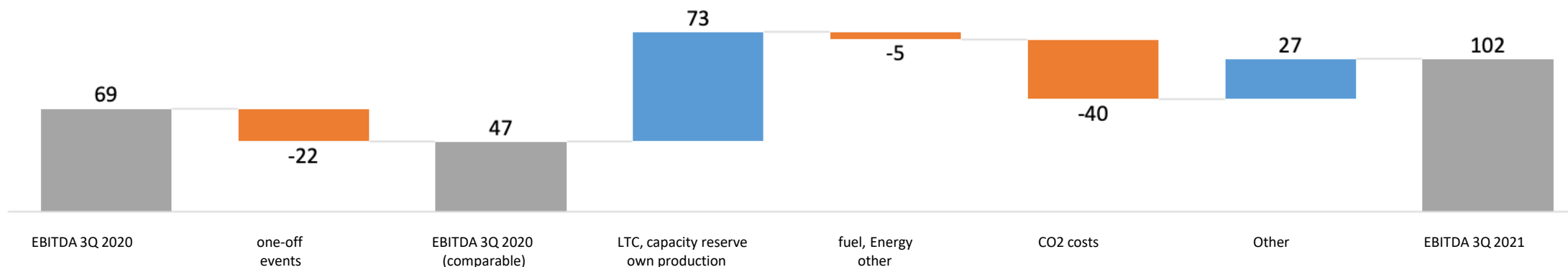
(+73) revenues from the Capacity Market, higher revenues from own energy, higher revenues from property rights, higher revenues from heat, lower revenues from system services, lower revenues from LTCs, lower result achieved on purchased energy

(-5) higher costs of purchased coal, higher costs of other fuels and materials (mazout, heating oil, sorbent), lower biomass costs, lower energy costs (in mines)

(-40) higher CO<sub>2</sub> emission costs

(+27) lower salary costs, higher construction revenues and other revenues, higher result on other operating activities, lower other materials, higher external services, lower other costs, higher result on sales of other materials

## EBITDA changes

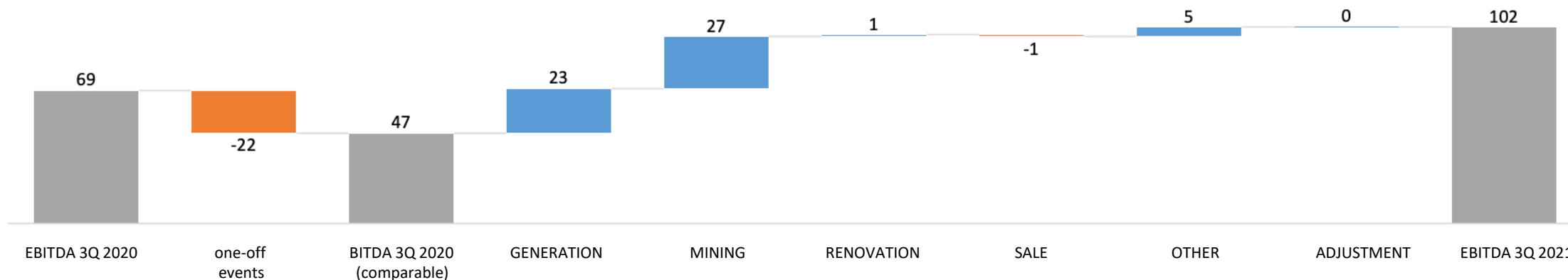


# EBITDA 3Q 2021 by segments

[m PLN]



## EBITDA changes



### Main reasons of EBITDA changes in segments:

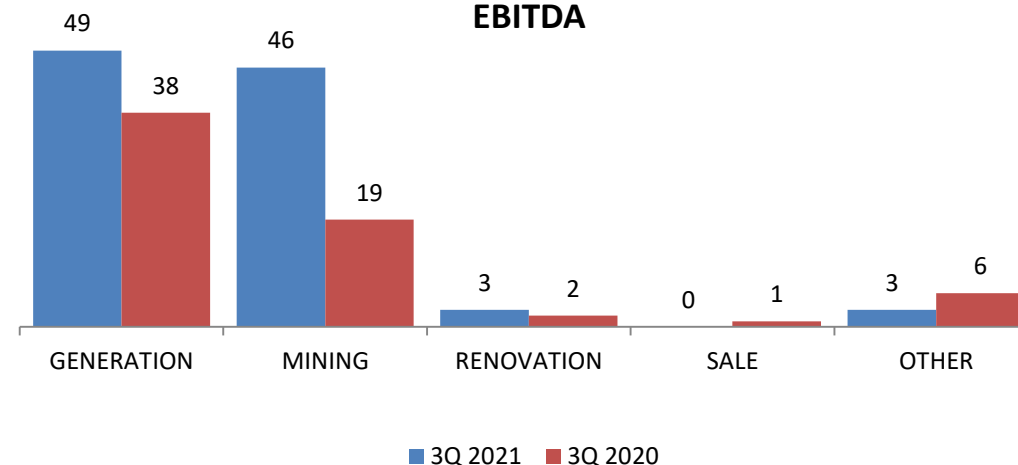
#### Generation:

- revenues from the Capacity Market (from 2021), higher revenues from own energy, higher revenues from certificates, higher revenues from heat, lower revenues from LTCs, lower result achieved on energy purchased,
- lower costs of coal, higher costs of other fuels and materials (mazout, oil, sorbent, etc.), lower costs of biomass,
- lower costs of carbon dioxide emission allowances,
- positive result on other operating activities, lower costs of employee benefits, higher construction and other revenues, lower costs of other materials, but higher costs of external services

#### Mining:

- lower revenues from coal sales, higher costs of substitute coal, lower costs of external services, lower costs of employee benefits, lower costs of electricity

## EBITDA



# Consolidated profit and loss account for 3Q 2021 by segments



m PLN	Generation	Mining	Renovation	Sale	Other	Consolidation adjustments	Total
Sale revenues from external customers	534	5	17	61	1	0	618
<i>External sale revenues %</i>	<i>94.85%</i>	<i>3.55%</i>	<i>36.17%</i>	<i>100.00%</i>	<i>2.94%</i>	<i>0.00%</i>	<i>100.00%</i>
Sale revenues between segments	29	136	30	-	33	(227)	
<b>Sale revenue</b>	<b>563</b>	<b>141</b>	<b>47</b>	<b>61</b>	<b>34</b>	<b>(227)</b>	<b>618</b>
Cost of goods sold	(529)	(107)	(42)	(61)	(30)	230	2 401
<b>Gross profit (loss)</b>	<b>33</b>	<b>34</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>79</b>
<i>Margin %</i>	<i>5.86%</i>	<i>24.11%</i>	<i>10.64%</i>	<i>1.64%</i>	<i>11.76%</i>	<i>(1.32)%</i>	<i>12.78%</i>
<b>EBITDA</b>	<b>49</b>	<b>46</b>	<b>3</b>	<b>-</b>	<b>3</b>	<b>2</b>	<b>102</b>
<i>Margin %</i>	<i>8.70%</i>	<i>32.62%</i>	<i>6.38%</i>	<i>0.00%</i>	<i>8.82%</i>	<i>(0.88)%</i>	<i>16.50%</i>
<b>EBIT</b>	<b>21</b>	<b>42</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>68</b>
<i>Margin %</i>	<i>3.73%</i>	<i>29.79%</i>	<i>4.26%</i>	<i>0.00%</i>	<i>5.88%</i>	<i>(0.88)%</i>	<i>11.00%</i>
<b>Net profit (loss)</b>	<b>44</b>	<b>39</b>	<b>2</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>86</b>
<i>Margin %</i>	<i>7.82%</i>	<i>27.66%</i>	<i>4.26%</i>	<i>0.00%</i>	<i>2.94%</i>	<i>(0.44)%</i>	<i>13.92%</i>



# Financial activities, taxation and net result

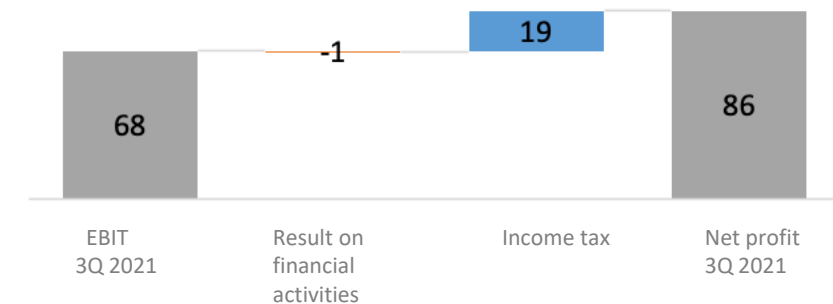
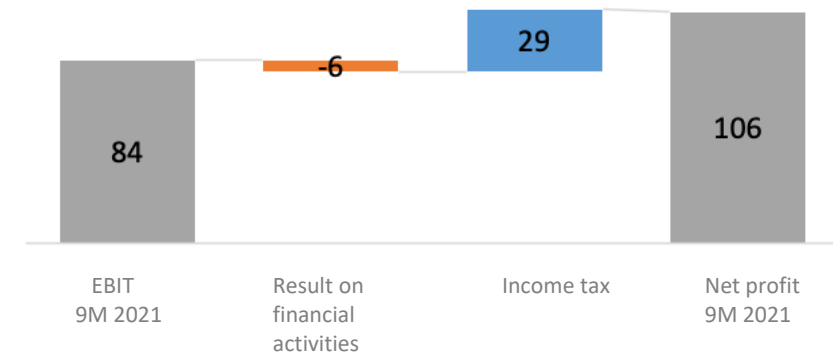
[m PLN]



	9M 2021	9M 2020	3Q 2021	3Q 2020
<b>EBIT</b>	<b>84</b>	<b>(280)</b>	<b>68</b>	<b>28</b>
Financial income	50	7	49	1
Financial costs	(56)	(15)	(50)	(3)
<b>Gross profit / (loss)</b>	<b>77</b>	<b>(288)</b>	<b>67</b>	<b>26</b>
Income tax (tax overload) <sup>(1)</sup>	29	38	19	(16)
<i>Effective tax rate</i>	<i>37.66%</i>	<i>13.19%</i>	<i>28.36%</i>	<i>61.54%</i>
<b>Net profit / (loss) for the period</b>	<b>106</b>	<b>(251)</b>	<b>86</b>	<b>10</b>
<i>Margin %</i>	<i>6.61%</i>	<i>-15.64%</i>	<i>13.92%</i>	<i>1.80%</i>

- (1) In Q3 2021, on the basis of an arrangement concluded by Huta Łaziska with creditors, the share capital of Huta Łaziska was increased, under which ZE PAK SA acquired the issued shares for an interest value of PLN 46.4 million. The transaction in the Company was recorded both in terms of financial income (interest) and financial costs (increase in the revaluation write-off) in the amount of PLN 46.4 million.
- (2) The negative value of the tax is the result of the reduction of the provision for income tax and the reduction of deferred tax.

EBIT --> net profit



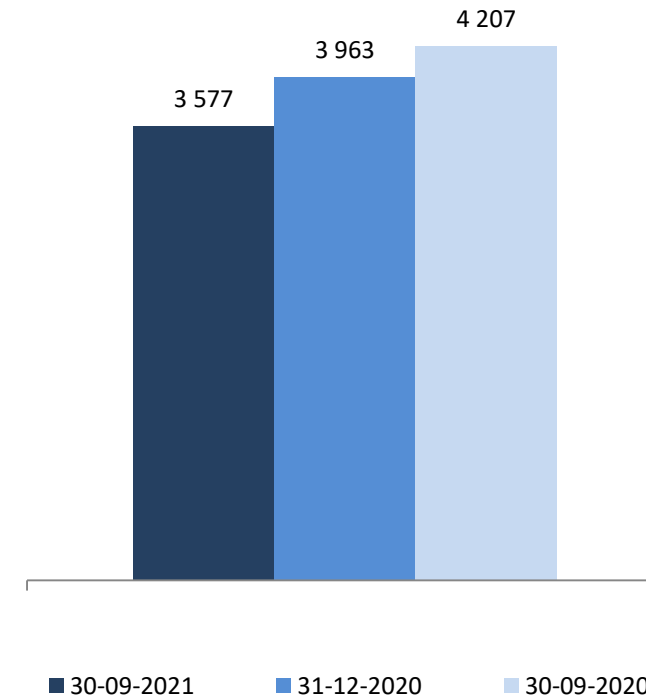
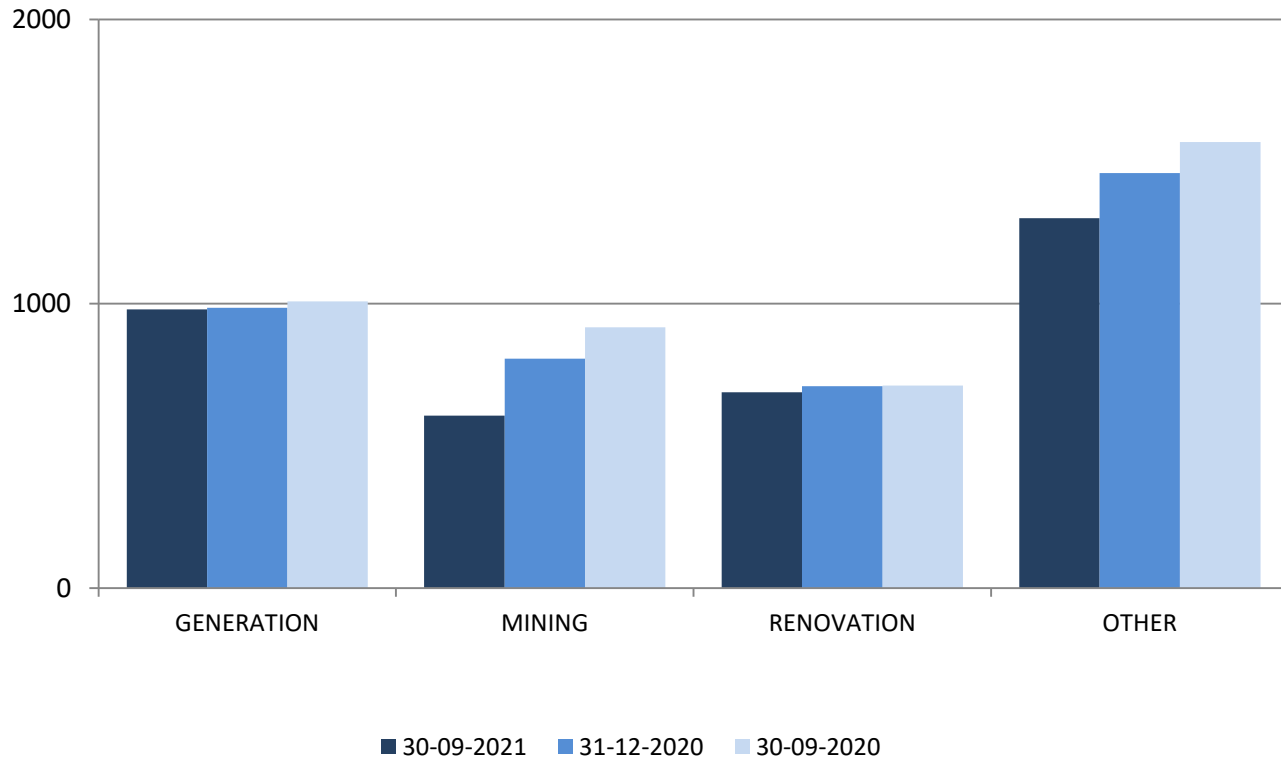
# Employment

[full time]

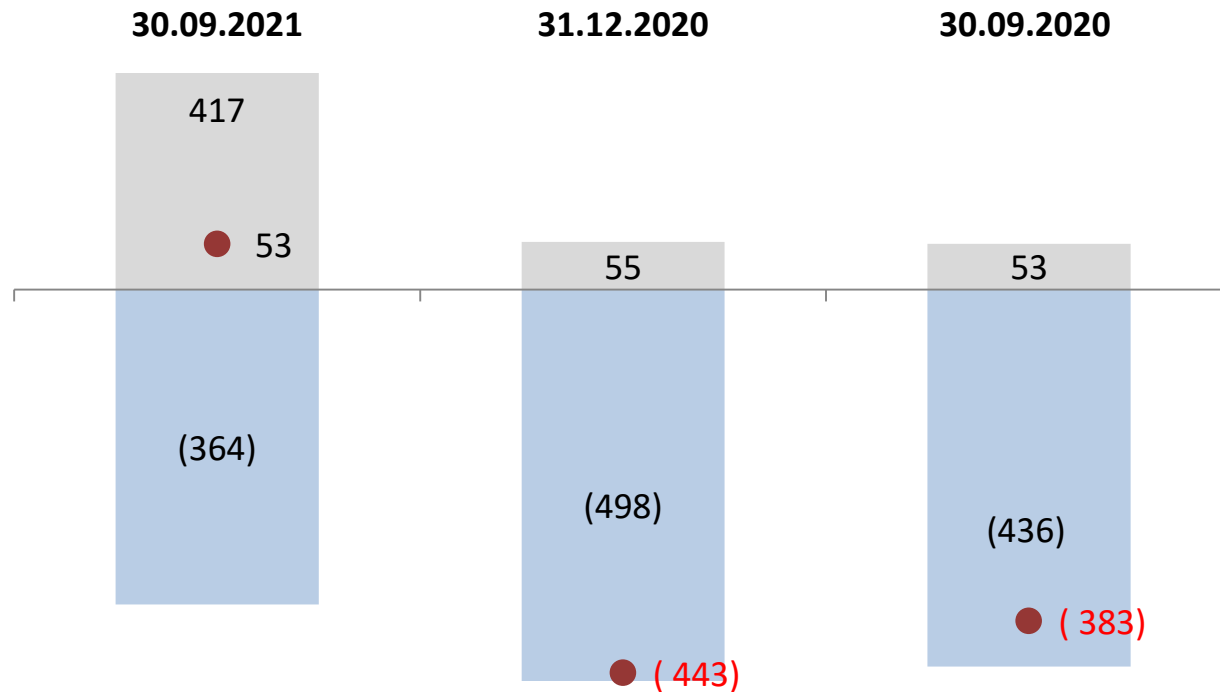


## BY SEGMENTS

## TOTAL



## Net debt [m PLN]



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

## Net debt/ EBITDA

30.09.2021	0.26
31.12.2020	-3.00
30.09.2020	-1.53

<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]



	9M 2021	9M 2020	3Q 2021	3Q 2020
<b>Gross profit (loss)</b>	<b>77</b>	<b>(288)</b>	<b>67</b>	<b>26</b>
Depreciation and amortisation	100	121	34	42
Profit/(loss) on investing and financial activities	(25)	(2)	(16)	3
Changes in working capital	335	462	132	225
Income tax	16	31	14	(2)
Purchase of EUA <sup>(1)</sup>	(639)	(526)	(5)	-
Impairment write down on fixed assets and mining assets	-	287	-	(2)
Other	2	(4)	5	(4)
<b>Net cash flow from operational activities</b>	<b>(134)</b>	<b>81</b>	<b>230</b>	<b>288</b>
(inflows/outflows) of investments in property, plant and equipment and intangible assets <sup>(2)</sup>	(373)	(37)	(107)	(18)
Other inflows and outflows	13	5	1	1
<b>Net cash flow from investing activities</b>	<b>(360)</b>	<b>(32)</b>	<b>(106)</b>	<b>(17)</b>
Inflows of credits, loans and securities <sup>(3)</sup>	440	-	168	(13)
Payment of credits, loans, leases and securities <sup>(4)</sup>	(79)	(27)	(14)	(11)
Interest paid	(1)	(2)	1	(0)
<b>Net cash flow from financial activities</b>	<b>359</b>	<b>(28)</b>	<b>154</b>	<b>(24)</b>
Change in cash and cash equivalents	(134)	21	279	246
Cash and cash equivalents at the beginning of the period	498	415	85	189
<b>Cash and cash equivalents at the end of the period</b>	<b>364</b>	<b>435</b>	<b>364</b>	<b>435</b>

(1) Higher expenses related to the settlement of contracts for the purchase of CO2 emission allowances

(2) The capital expenditure consists mainly of CAPEX for the construction of a biomass unit (PLN 170 million) and a photovoltaic farm (PLN 146 million), but also expenditure on renewable energy projects, i.e. Kazimierz Biskupi Wind Farm and Polski Autobus Wodorowy (PLN 31 million) and buyouts land for open-pit mines (PLN 22 million).

(3) Proceeds from loans include investment loans launched for the construction of a biomass block (PLN 102 million) and a photovoltaic farm, including VAT financing (PLN 140 million) and a loan from EFG Bank (PLN 160 million), including financing acquisitions in RES, other part of it concerns working capital financing.

(4) The repayment of loans is mainly related to the termination of financing PAK KWB Konin by commercial banks.

# STRATEGIC PROJECTS IN RENEWABLE ENERGY SOURCES

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As at November 26<sup>th</sup>, 2021



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

## Main technical parameters and financial data:

**Rated electric power:** 50 MW  
**Boiler thermal efficiency at 100% WMT:** > 88.8%  
**Thermal power of the system in network waters:** ≥ 80 MWt

## **Guaranteed exhaust emission parameters:**

SO <sub>2</sub> concentration < 70 mg/Nm <sup>3</sup>	NO <sub>x</sub> < 180 mg/Nm <sup>3</sup>
CO concentration < 160 mg/Nm <sup>3</sup>	dust < 12 mg/Nm <sup>3</sup>
HCl concentration < 9 mg/Nm <sup>3</sup>	HF < 1 mg/Nm <sup>3</sup>
Hg concentration < 5 µg/Nm <sup>3</sup>	NH <sub>3</sub> < 15 mg/Nm <sup>3</sup>

<b>Project investment budget:</b>	<b>PLN 212.8 m</b>
<b>Financial advancement</b> (as at the end of October 2021):	ca. 81 %
<b>Investment completion date:</b>	12.2021 / 01.2022



*New transfer tower and biomass feeding pipeline*

# Energy from the sun – „Brudzew” 70MWp photovoltaic farm

## Main technical and financial data

Rated power:	70 MWp
Productivity coefficient:	≥ 80.4 %
Area occupied:	> 100 ha
Single module power:	450 Wp



Obtaining consent for  
applying the voltage (EON):

**15 September 2021**

Obtaining consent for initial  
operation (ION):

**26 October 2021**

Electricity production start date:

**27 October 2021**

Amount of modules:	155 554 pcs
Amount of inverters:	306 pcs
Amount of transformer stations:	31 pcs
Project budget:	PLN 188.9 m
Financial advancement:	ca. 96 %
Material advancement:	ca. 98 %

*„Brudzew” Farm –  
October 2021*



## Hydrogen projects realized in ZE PAK Group

### **Hydrogen Plant in Konin Power Plant**

As part of the first stage of construction, a production plant with a capacity of 1 ton of H<sub>2</sub> / day will be launched. Ultimately, the plant is to be expanded to a capacity of 20 tons of H<sub>2</sub> / day - successively to increase the demand for hydrogen.

April 2020: A contract was concluded with Hydrogenics Europe Belgium for the supply of hydrogen technology - HyLYZER electrolyser, power supply system, compressor station and power supply system for mobile warehouses.

August 2021: The final environmental decision was obtained.

November 2021: Construction project of the hydrogen plant was developed.



*An example of an electrolyser HyLYZER 1000-30 bar*

### **Hydrogen refueling station in Konin and in Warsaw**

October 2020: Conclusion of an agreement with NEL Hydrogen Denmark for the supply of technological equipment for two hydrogen refueling stations

The station design process is underway.

An application has been submitted to obtain an environmental decision for a station in Warsaw.

### **Mobile hydrogen storage facility**

January 2021: An agreement was signed with Wystrach Germany for the delivery of a mobile hydrogen storage facility.

A mobile hydrogen storage facility was delivered.



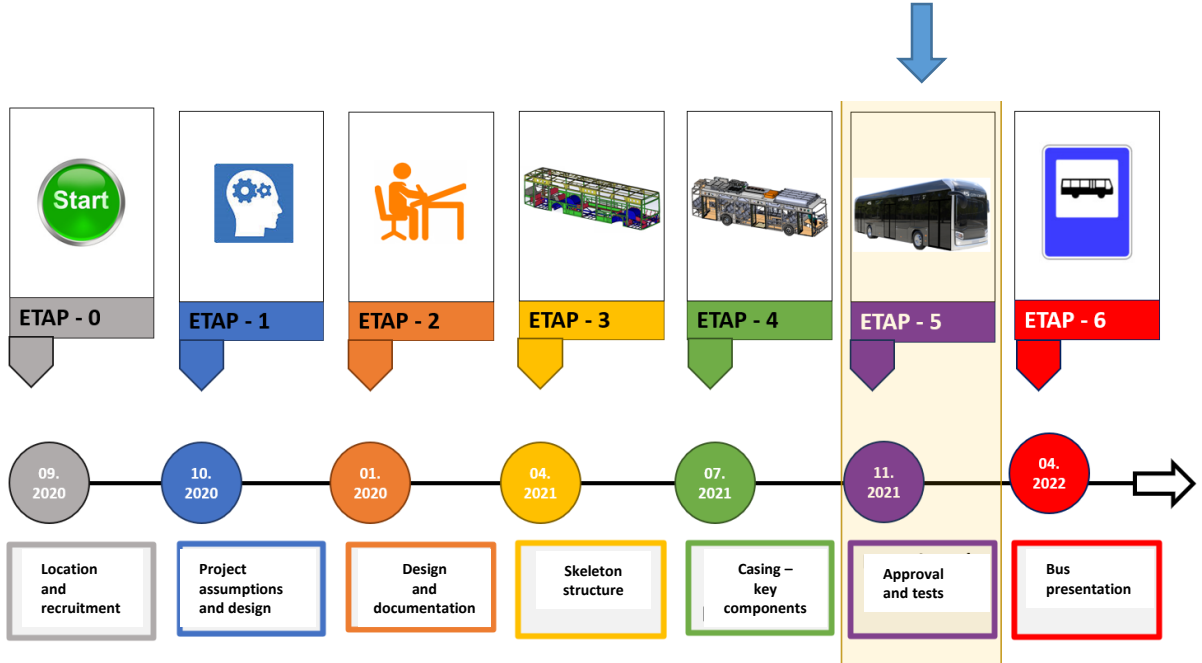
# Polish hydrogen bus



**September 2021 – STAGE 4**  
*External and internal installation of key components.*

**November 2021 - STAGE 5**  
*We are currently at stage 5 - Commencement of the vehicle approval process*

**April 2022 – STAGE 6**  
*The bus is ready for commercialization.*



# Kazimierz Biskupi Wind Farm

## Main technical and financial data

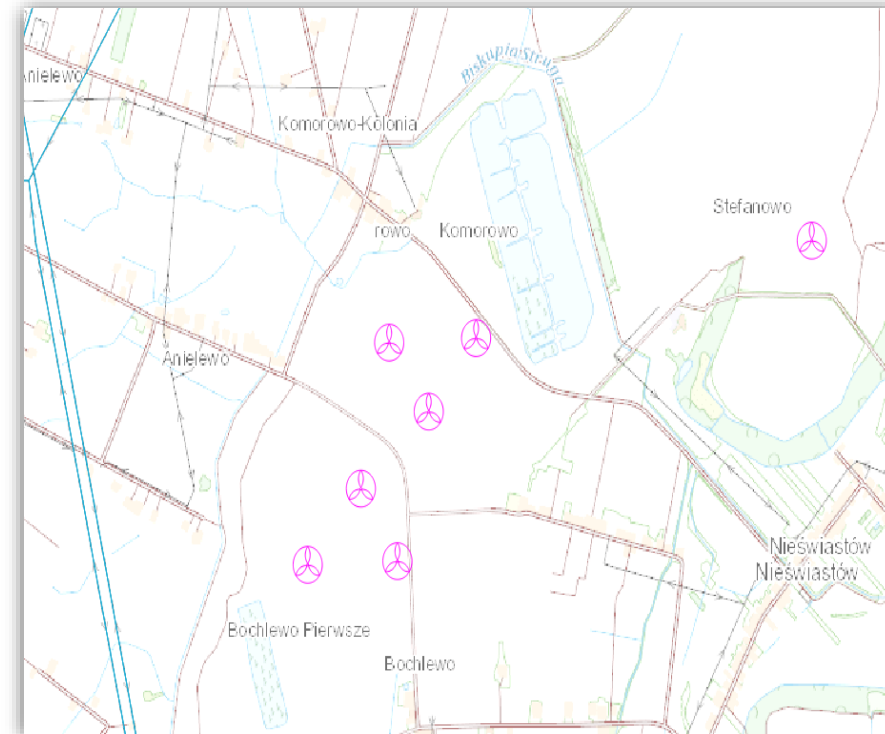
Amount of wind turbines	7
Project capacity:	17.5 MW
Average annual production:	59 GWh

## Status of project realization

- The project purchase process was carried out
- 7 wind turbines were ordered from the manufacturer
- The selection of the Contractor for design and construction works has commenced, the completion of the tender procedure is planned at: 11.2021 / 12.2021

## Project location

Wielkopolskie voivodship  
Konin Poviat  
Kazimierz Biskupi Commune



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