



ACTIVITIES OF JASTRZĘBSKA SPÓŁKA
WĘGLOWA S.A.
IN THE CONTEXT OF THE UPCOMING
EUROPEAN COMMISSION'S METHANE
STRATEGY

The JSW Group is the largest producer of high quality hard coking coal in the European Union and one of the leading producers of coke used for smelting steel. Production and sale of coking coal and production and sale of coke and hydrocarbons constitute JSW Group's core business.



In 2020 the JSW Group's mines produced:

- 14.4 mt of coal,
- 3.3 mt of coke.

The European Commission listed coking coal in the list of Critical Raw Materials for the EU.

2020 CRITICAL RAW MATERIALS (30)			
ANTIMONY	COKING COAL	LITHIUM	PHOSPHORUS
BARYTE	FLUORSPAR	LREES	SCANDIUM
BAUXITE	GALLIUM	MAGNESIUM	SILICON METAL
BERYLLIUM	GERMANIUM	NATURAL GRAPHITE	TANTALUM
BISMUTH	HAFNIUM	NATURAL RUBBER	TITANIUM
BORATES	HREES	NIOBIUM	VANADIUM
COBALT	INDIUM	PGMS	TUNGSTEN
		PHOSPHATE ROCK	STRONTIUM

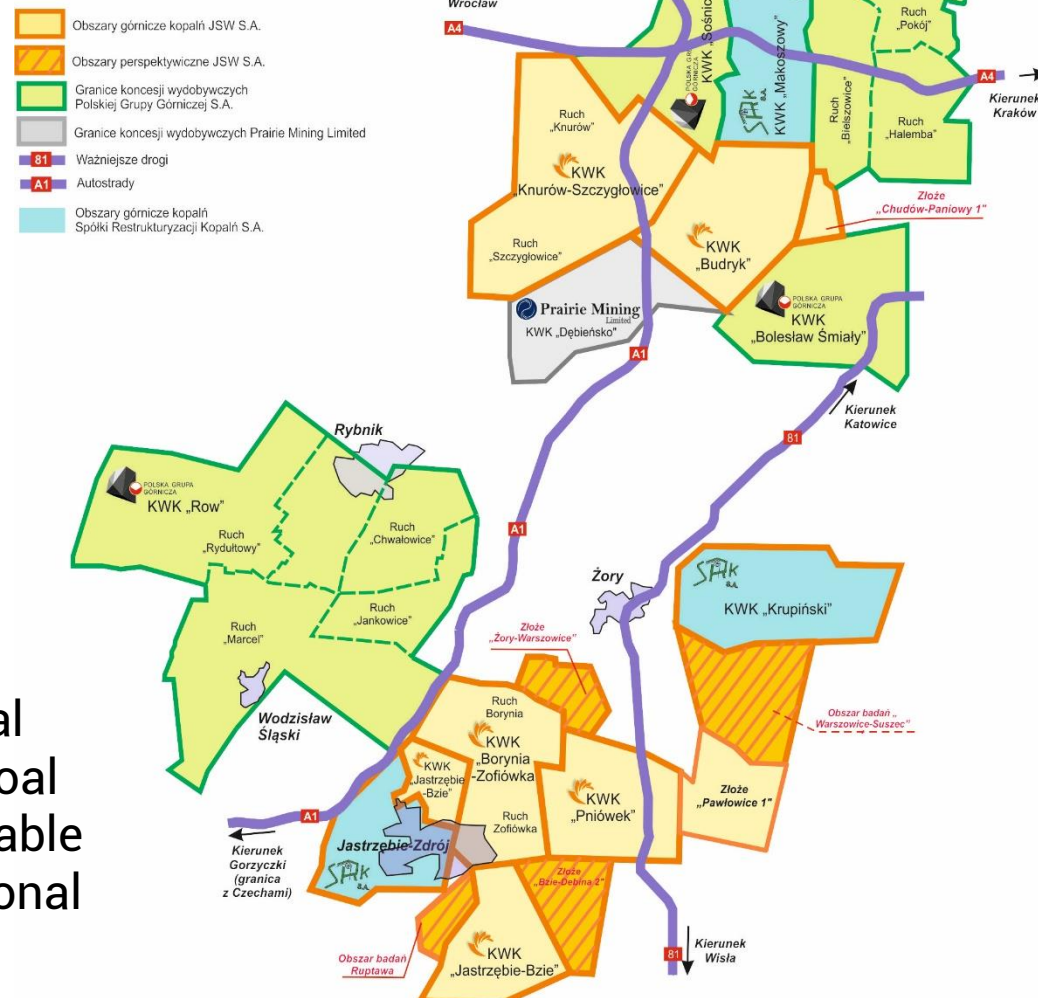
Jastrzębska Spółka Węglowa SA

JSW SA operates in the Upper Silesia Region.

Coal mines included in the company :

- ❖ Borynia-Zofiówka,
- ❖ Budryk,
- ❖ Jastrzębie-Bzie,
- ❖ Knurów-Szczygłowice
- ❖ Pniówek.

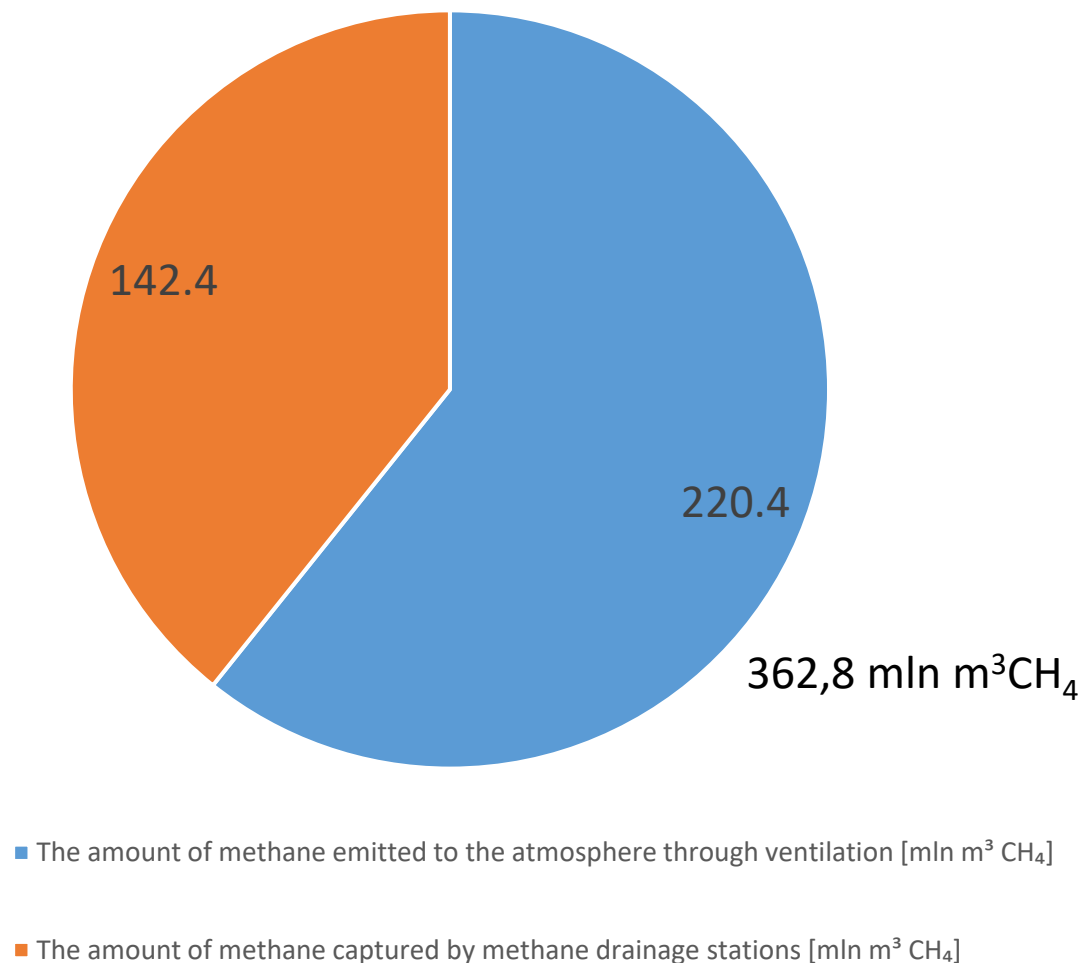
JSW SA's mines have a total of approx. 6.7 billion tons coal resources including approx. 1 billion tons of recoverable coal reserves. The Group intends to enlarge its base of recoverable reserves in order to maintain a strong position in international markets for several coming decades.

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- Legend for the map:
- Obszary górnicze kopalń JSW S.A.
 - Obszary perspektywiczne JSW S.A.
 - Granice koncesji wydobywczych Polskiej Grupy Górniczej S.A.
 - Granice koncesji wydobywczych Prairie Mining Limited
 - Ważniejsze drogi
 - Autostrady
 - Obszary górnicze kopalń Spółki Restrukturyzacji Kopalń S.A.

JSW's mining areas

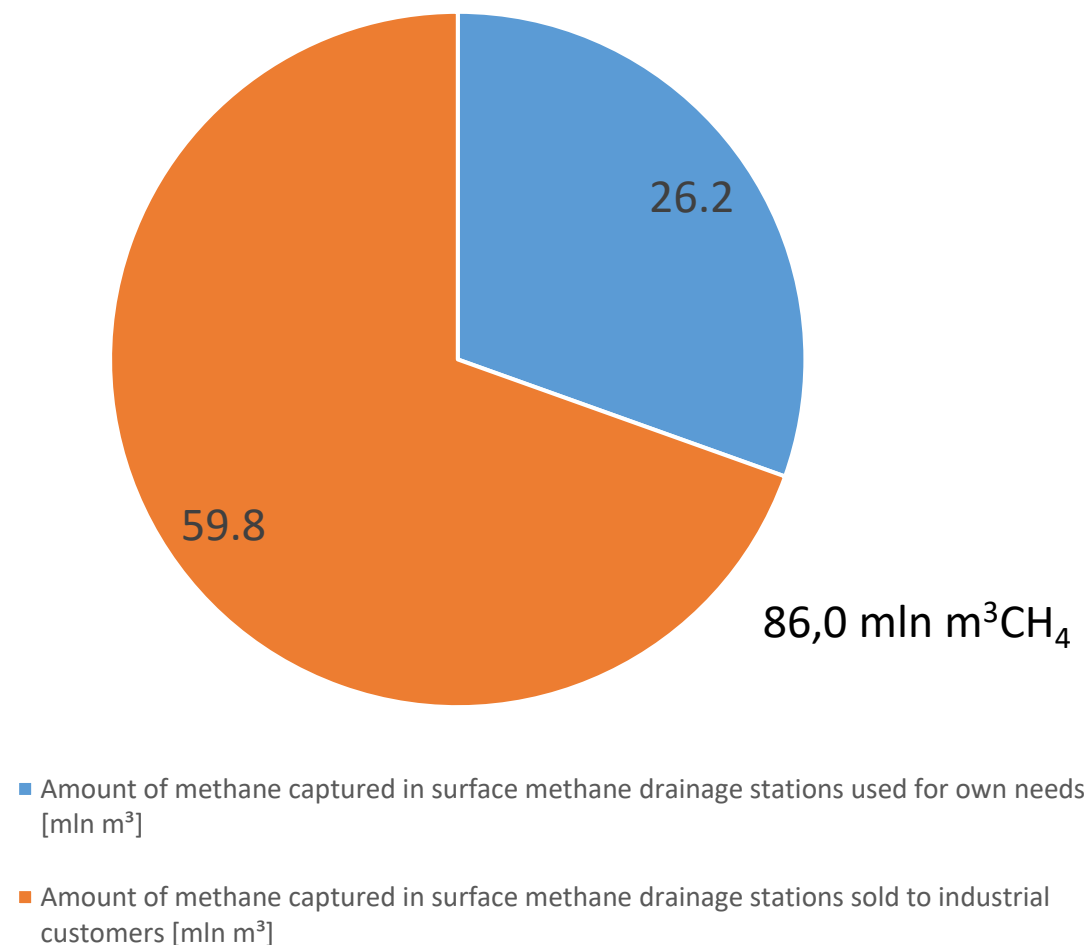
The release of methane during exploitation

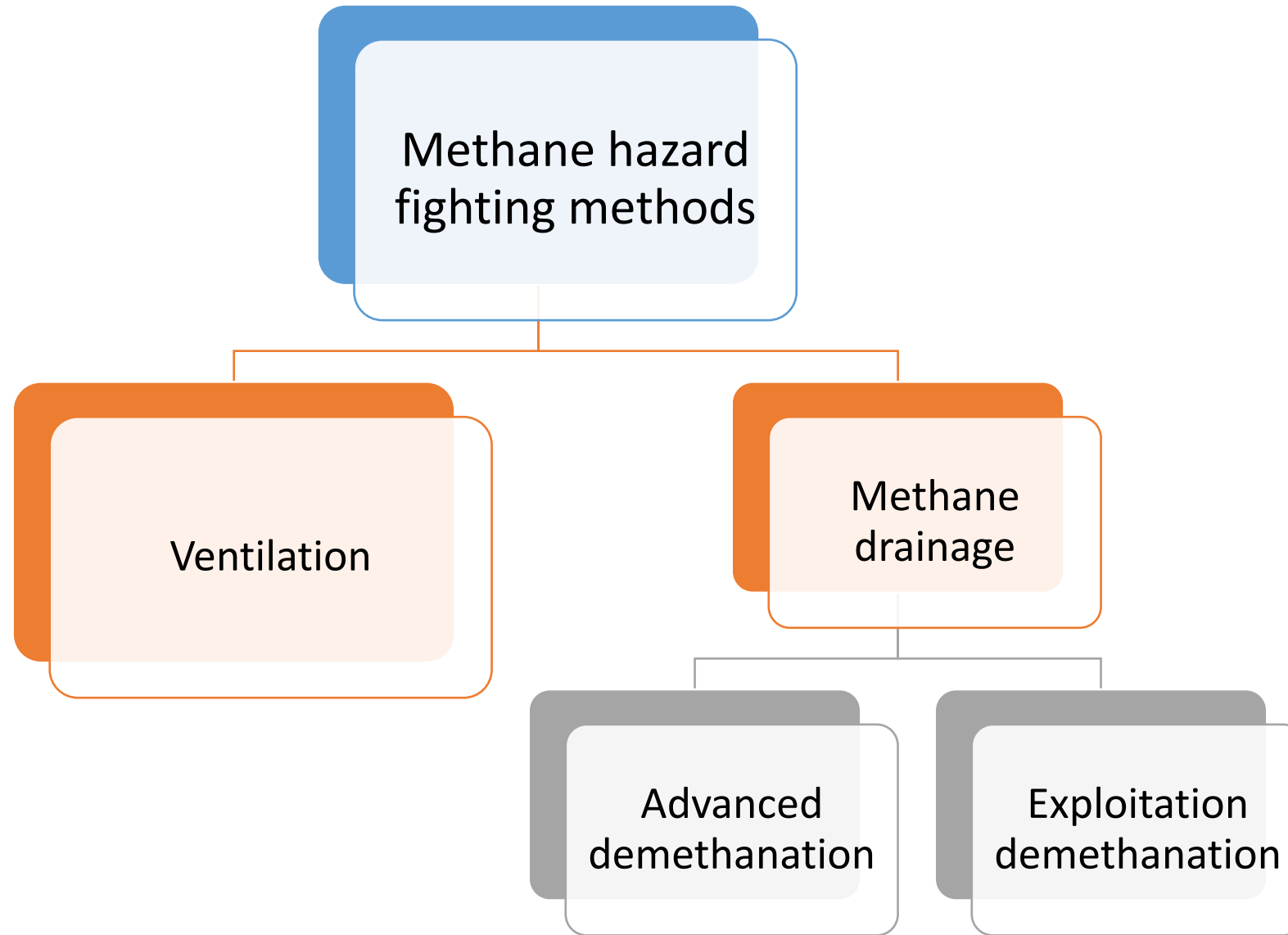
Total amount of methane released in the coal mining process in JSW S.A. mines for 2020 [mln m³]



Management of captured methane

Utilization of managed methane for 2020 [mln m³]





Program of reduction of methane emissions in the ventilation air

Central Mining Institute with AGH University of Science and Technology conduct research and preparing project on the basis on which the program will be launched.



REDUCTION OF METHANE
EMISSIONS IN THE
VENTILATION AIR

Optimization of
the ventilation
network

Sealing goafs

Demethanation
effectiveness

Economic use of methane in JSW

SOUTHERN MINES

- ❖ Sale of gas to PGNiG
- ❖ 95% methane utilization
- ❖ Methane drainage stations modernizations



NORTHERN MINES

- ❖ Electricity and heat for JSW Group
- ❖ Cogeneration plants with 52 MWe installed capacity to 2025
 - ❖ Gas pipeline between KWK “Budryk”- KWK “Knurów-Szczygłowie”

Northern mines – Installed capacity in 2025

The final energetic model with full utilization of captured methane



KWK „Budryk”

- Installation of 2 x 4,0 MWe – 2016 r.
- Installation of 2,0 MWe – 2020 r.
- Installation of 2 x 4,0+2,0 MWe – 2022 r.
- Installation of 4,0 MWe – 2025 r.
- Total: **24,0 MWe** in 2025



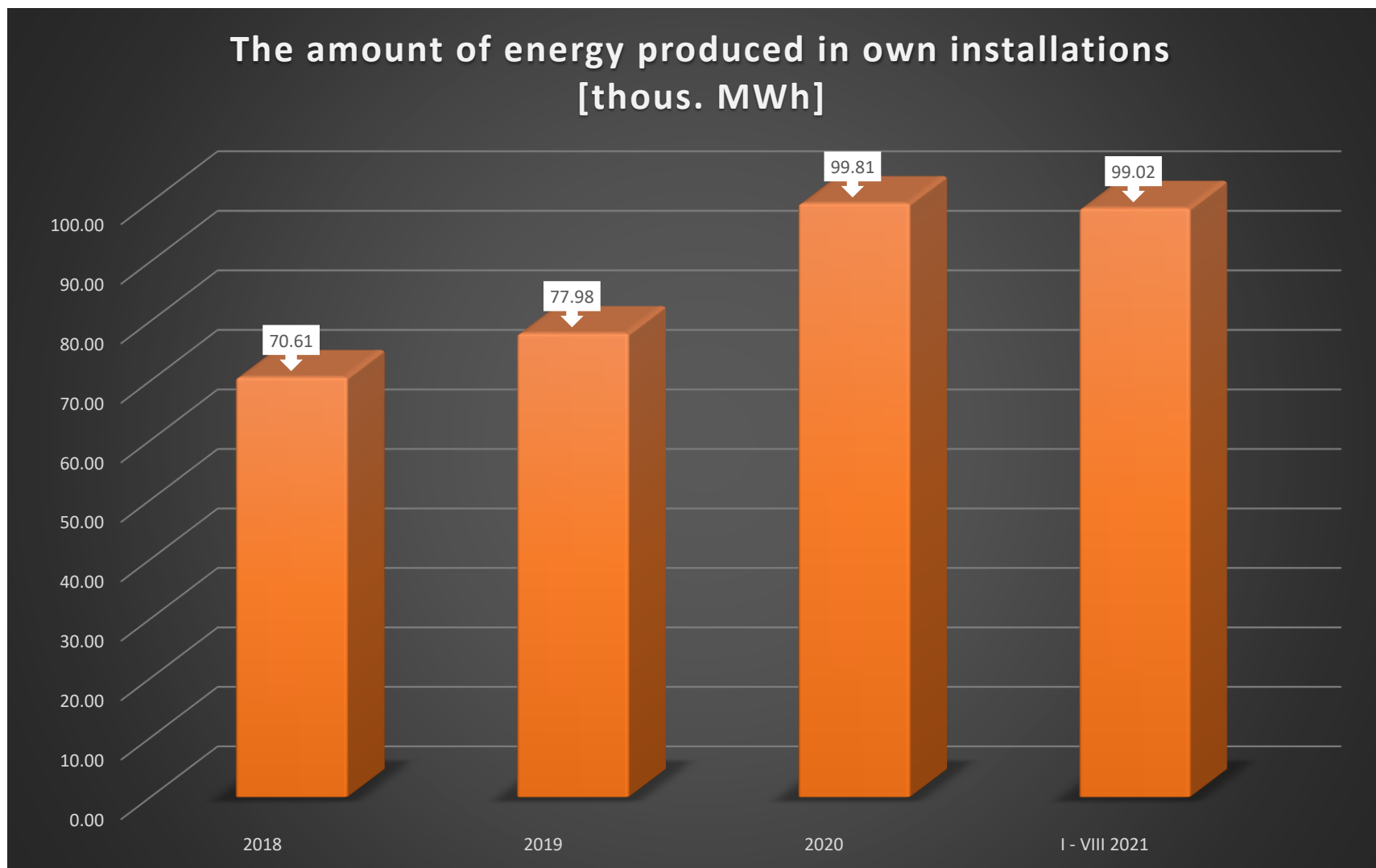
KWK „Knurów-Szczygłowiec”

- Installation of 2 x 2,0 MWe – 2014
- Installation of 3 x 4,0 MWe – 2020 r.
- Installation of 2 x 4,0 MWe – 2023 r.
- Installation of 4,0 MWe – 2025 r.
- Total: **28,0 MWe** in 2025



Jastrzębska Spółka Węglowa

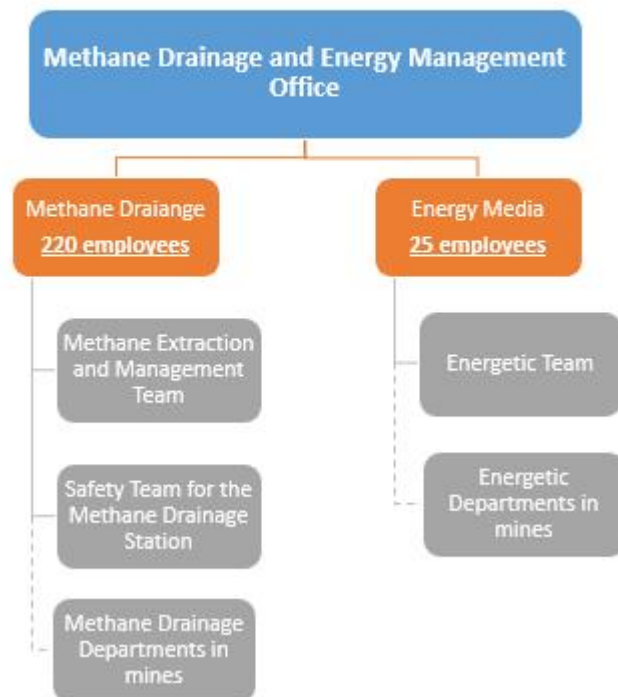
Self-production of energy from methane



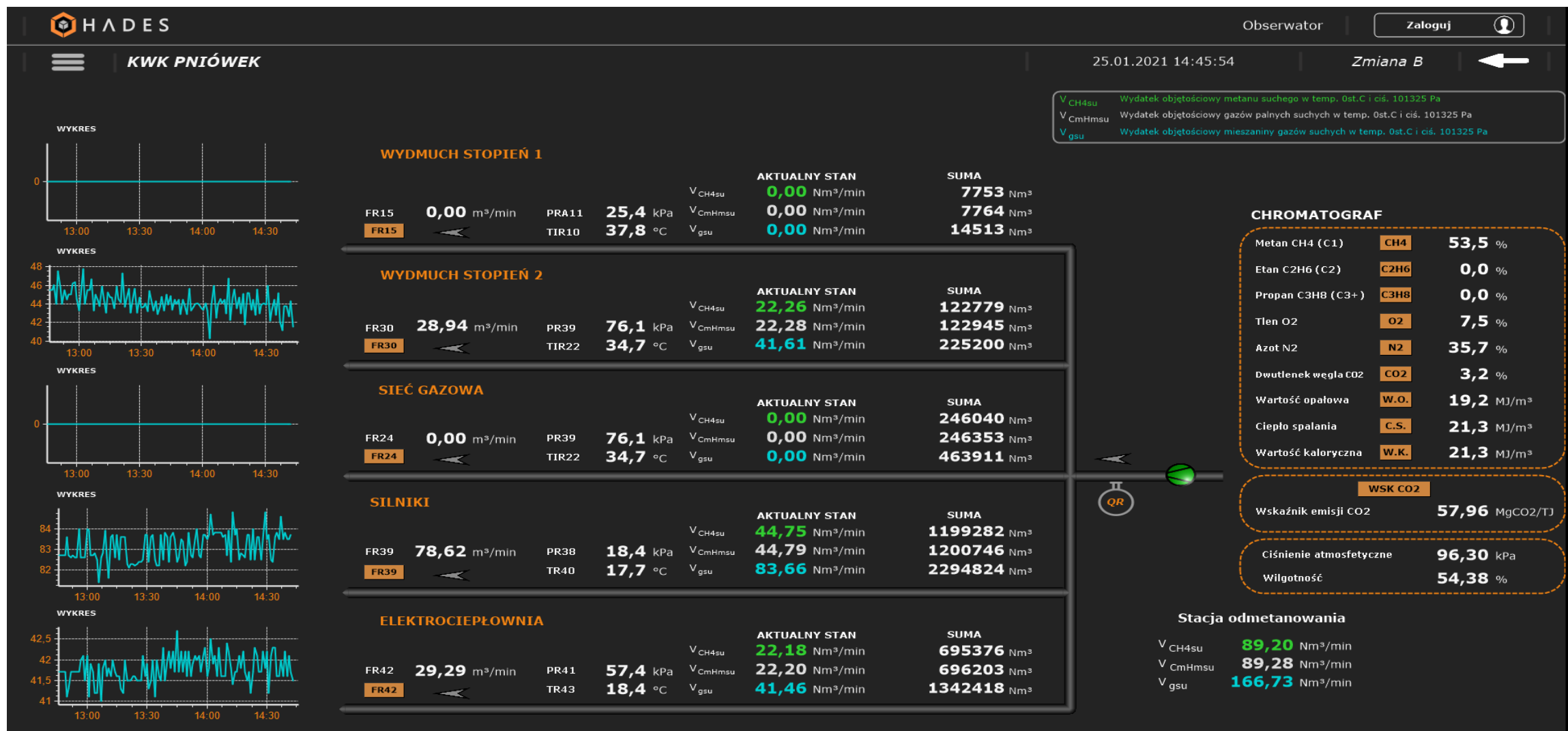
Methane drainage and energy management office

In 2019, the Management Board of JSW SA established the Methane Drainage and Energy Management Office, thus linking methane drainage to the economic use of methane. In-house structures are currently being developed. Methane drainage units have been set up at every mining facility, employing more than people 200 in total. Operating and servicing methane drainage stations as well as supervising and regulating key pipelines and methane intakes in underground excavations are now performed internally. The main task of these units is to increase the capture of methane in the drainage system and thus enhance the safety of underground crews and reduce methane emissions into atmosphere.

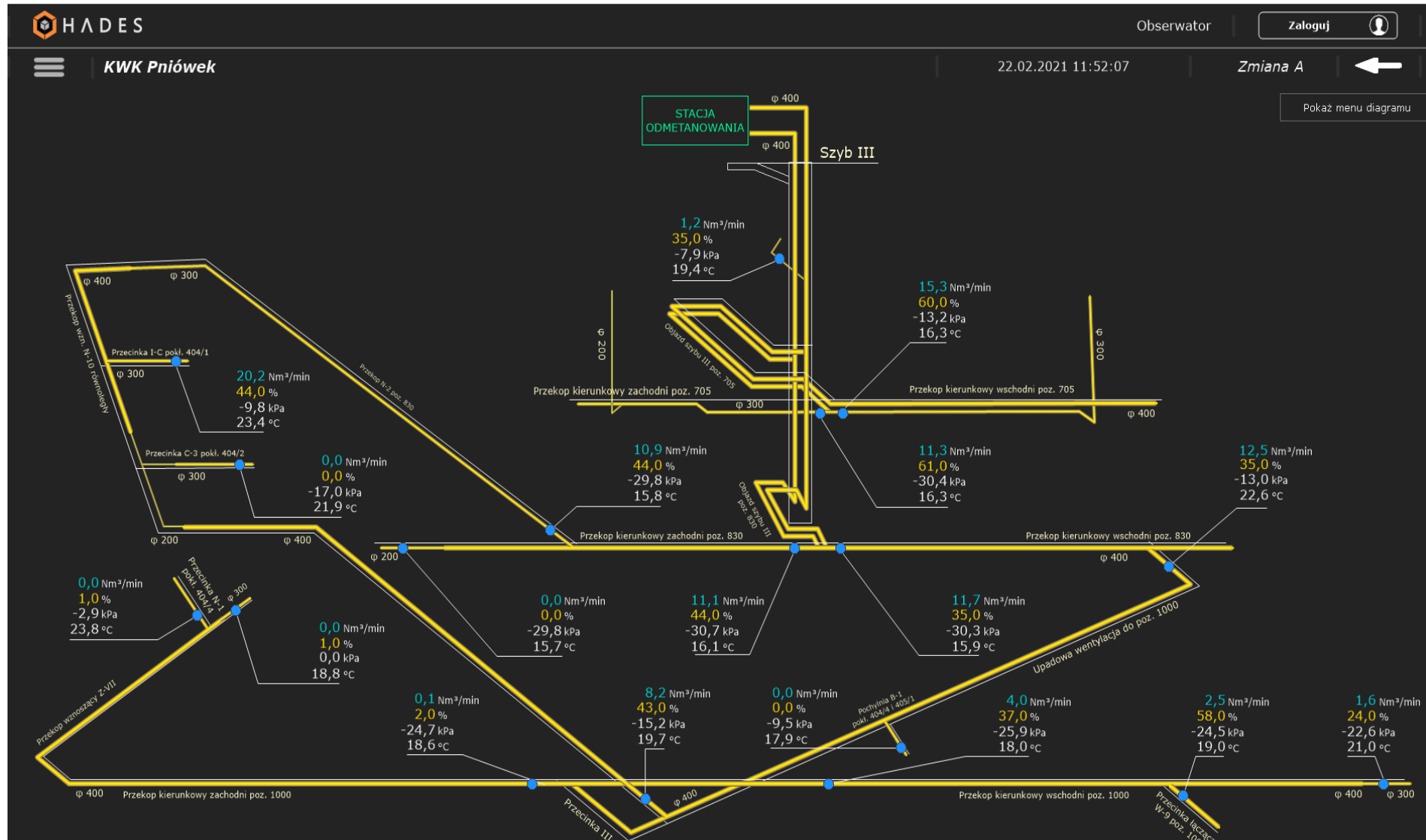
*Methane Drainage and Energy Management Office
Organizational Structure*



Measurement and billing system for gas from methane drainage



Visualization of methane drainage network





Thank you

For more information visit us on www.cmm-energy.eu

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SPÓŁKA NOTOWANA NA

WIG20