



REM Project in Pniówek Coal mine

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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 2022 the JSW Group's mines produced:

- 14.1 mt of coal,
- 3.2 mt of coke.



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

2023 CRITICAL RAW MATERIALS (30)			
ALUMINIUM/BAUXITE*	COKING COAL*	LITHIUM*	COPPER*
ANTIMONY	FELDSPAR*	LIGHT RARE EARTH ELEMENTS	SCANDIUM
ARSENIC*	FLUORSPAR	MAGNESIUM	SILICON METAL
BARYTE	GALLIUM	MANGANESE*	TANTALUM
BERYLLIUM	GERMANIUM	NATURAL GRAPHITE	TITANIUM METAL
BISMUTH	HAFNIUM	NIObIUM	VANADIUM
BORATES	HELIUM*	PLATINUM METALS	TUNGSTEN
COBALT	HEAVY RARE EARTH ELEMENTS	PHOSPHATE ROCK	STRONTIUM
PHOSPHORUS*	NICKEL*	* strategic raw materials	

JSW CG environmental strategy by 2030 and in 2050 perspective



The basis of the Environmental Strategy is to clarify the role of JSW CG in the environmental and energy-climate transformation of Poland and the European Union as a response to changes in the external environment – regulatory, technological and market environment.

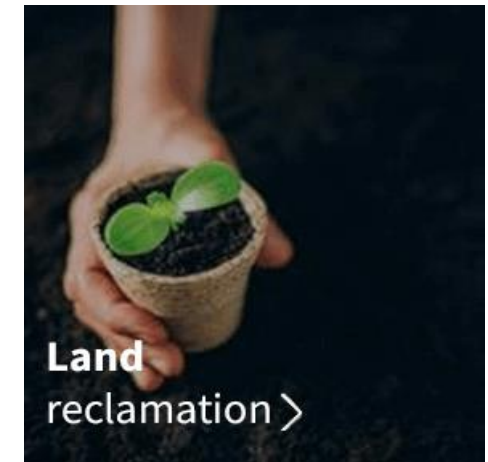
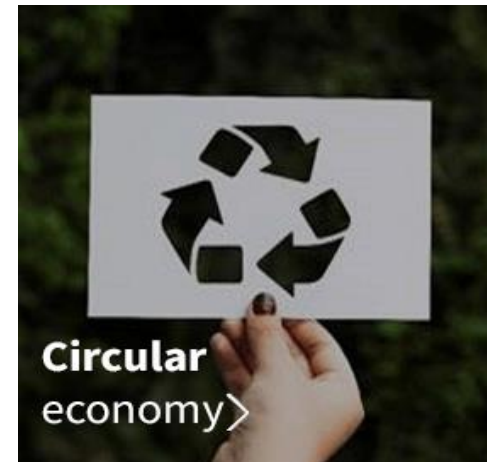
Primary objective: **achieve climate neutrality by 2050**

Intermediate objective: **reduction of carbon footprint by 30% by 2030 compared to 2018**

72% of JSW CG's carbon footprint is **METHANE => Methane Emissions Reduction Programme till 2025**
methane capture of approximately 50% and its economic use of up to 95%

Additional measures to further optimise electricity consumption and to improve energy efficiency, develop our own RES capacity and increase the share of 'green energy' in the volume of energy purchased from the market. Planned innovation and development initiatives related to the reduction of ventilation air methane (VAM) emissions

4 key areas of pro-environmental and pro-climate action:





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Universidad de Oviedo

In 2022 „Big tickets call” the European Research Fund for Coal and Steel awarded the highest rating to the REM project submitted by a consortium of companies: GIG, INiG-PIB, JSW. S.A., PIG-PIB, UNIOVI (Universidad de Oviedo), INSEMEX (Institutul National de Cercetare Dezvoltare Pentru Securitate Minierasi Protectie Antiexploziva Insemex Petrosani). It was recognised for its innovation and its importance for environmental protection.

The project budget amounts to € 21 493 154 and the EU co-financing is € 10 746 577.

This grant is the largest single EU grant-aid to the Polish mining industry so far.



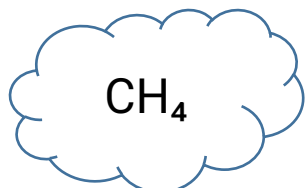
Co-funded by
the European Union

- Building a spatial and flow model of methane accumulation in goafs,
- Identification of methane accumulation locations in the reservoirs - delineation of goaf areas,
- Directional drilling to extract methane from selected goafs,
- Sealing post-mining goafs,
- Analysis of methane emissions into ventilation air and atmosphere,
- Concept, design and construction of methane drainage installation with reduced methane content,
- Production of electrical energy and heat in specially designed gas engines

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Methane emissions forecast in 2025 – 82 mln m³

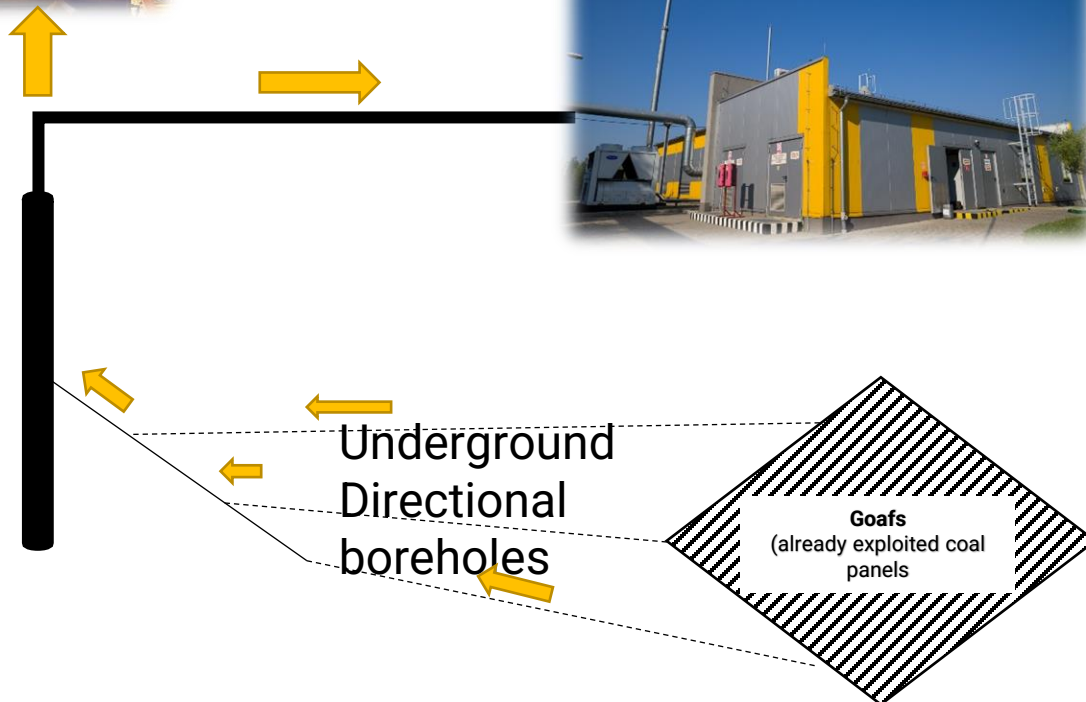
Forecasted methane emissions when REM project is implemented in 2025 – 63 mln m³



Low-concentration methane system.
Drainage station



Energy production
60 000 MWh/year





Thank you

For further information visit our website: www.cmm-energy.eu

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 **GPW**
SPÓŁKA NOTOWANA NA

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