

International Workshop on Best Practices in Coal Mine Methane Monitoring, Capture, and Use Katowice, 5-6 November 2024





Mine closure and repurposing projects in Poland

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HR EXCELLENCE IN RESEARCH

Katowice, 2024

Mine closure process in Poland

- Poland has a long history with coal mining, especially in Silesia, and coal has been a major source of energy and employment.
- Poland has adopted a phased approach, where mines are gradually decommissioned based on their economic viability and environmental impact.
- Mines are required to go through an environmental and safety review, and the physical decommissioning involves dismantling infrastructure, securing shafts, and restoring the land.

Mine closure process in Poland

- The **Spółka Restrukturyzacji Kopalń (SRK)**, or **Mine Restructuring Company**, plays a central role in Poland's coal mine closure and restructuring process. SRK is a state-owned entity established specifically to manage the orderly closure, decommissioning, and rehabilitation of coal mines that are no longer economically viable.
- When a mine from state-owned mining company is deemed economically unviable and closure is approved, it is transferred to SRK, which assumes full responsibility for the closure process.
- SRK is responsible for the physical closure of mining infrastructure, including sealing shafts, securing galleries, dismantling equipment, and removing or repurposing surface facilities.

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A NEW APPROACH



Coal Mine "Bobrek" Foreseen end of coal production 12.2025

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LEVERAGING THE COMPETITIVE **ADVANTAGES OF END-OF-LIFE UNDERGROUND COAL** MINES TO MAXIMISE THE CREATION OF GREEN AND **QUALITY JOBS**

Call: RFCS-2021 Instrument: RFCS-RPJ Start date: 01/07/2022 End date: 31/12/2025 Budget: 2,202,647 €



Problems tackled by GreenJOBS



- Before GreenJOBS, there was no guidance focused on operating underground coal mining companies to understand, evaluate, design, and implement alternative economic activities within their future closing period, i.e., to have a holistic and long-term approach:
 - ✓ Leaving behind short-term patchwork.
 - ✓ Promoting sustainable local economic growth.
 - ✓ Maximising the number of green and quality jobs.

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Problems tackled by GreenJOBS



- There were no studies on repurposing end-of-life underground coal mines, leveraging their competitive advantages:
 - 1. Mine water.
 - 2. Connections to the grid.
 - 3. Large waste heap areas.
 - 4. Very deep shafts and galleries.
 - 5. Fine coal waste.



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Main objectives



- To develop for coal mining companies innovative business plans for deploying emerging renewable energy and circular economy technologies to facilitate their exploitation.
- To plan and disseminate among mining companies and regional authorities in the coal regions in transition, training and re-skilling programmes addressing former coal mining.



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Bobrek, POLAND





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Main results



An innovative business plan:

A **Virtual Power Plant** where the energy locally produced will be sold to the grid or used to power electro-intensive industries or companies with constant energy consumption close to mines, such as aluminium factories or green data centres.



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Main results



 Training and re-skilling programmes in each of the stages of the value chains and according to the skill levels required, addressing the skill gaps of former coal mining workers to facilitate the development of the business alternatives.



Main industrial and/or socioeconomic outcome/impact

- To contribute to the European Green Deal objectives, promoting sustainable local economic growth and maximising the number of green and quality jobs.
- Beyond the current extractive, take-makewaste industrial model, to build economic, natural and social capital.
- To establish a roadmap ready to be applied by former mining companies that decide to move towards emerging renewable energies and circular economy.









POTENTIAL OF BOBREK MINE



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POTENTIAL OF BOBREK MINE



Heat from pumped mine water (T=29 °C)



Solar power (PV panels)



H2 production



(underground pumped storage power station)

National Research

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POTENTIAL OF BOBREK MINE – SURROUNDING AREA







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THANK YOU FOR ATTENTION

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