

Romania risks penalties for methane-intensive hard coal production

Romania's hard coal mines are methane intensive, risking non-compliance with new EU Methane rules.

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Context

- Methane is a major greenhouse gas contributing to climate change. Following the Global Methane Pledge in 2021, the EU released its first Methane Regulation in May 2024, under which Member States and coal importers to the EU will have to monitor, report and mitigate measures for methane emissions from the energy sector.
- In Romania, EU's fifth largest coal producer, methane emissions from coal mining activities accounted for 60% (213 thousand tonnes) of the total reported methane emissions of the energy sector in 2021.

Risking penalties under the EU Methane Regulation

- The Jiu Valley, a historic coal mining region, remains home to four underground hard coal mines (Lupeni, Livezeni, Vulcan, Lonea), which are operated by state-owned company, CEVJ. In 2022, they produced approximately 200,000 tonnes of hard coal. No hard coal production in Romania was reported in 2022.
- While the EU methane regulation now requires a limit of 5 tonnes of methane per kilotonne of coal by 2027, the average methane per kilotonne of coal in the mines located in the Jiu Valley was calculated at 14.9 tonnes in 2022. CEVJ will have to reduce the methane intensity of their coal threefold compared to 2022 levels.
- Despite planning to end coal extraction from these mines by 2030, CEVJ has been intensifying its hard coal extraction in 2024, from 500 to 700 tonnes per day in January, aiming to achieve 2,000 tonnes per day by June of the same year.

Converting coal mine methane

To avoid penalties for non-compliance, Romania must take actions by 2025. Ember's report finds that capturing coal mine methane and converting it to produce electricity and heat is possible.

- Countries, such as Russia, Poland, Germany and France have implemented highly efficient degassing systems to capture methane from coal mines. As a result, they've managed to capture up to 60% of coal mine methane. In contrast, Romania only captures 25% on average.

- Increasing the degassing efficiency of Romania's mines to at least 50% would increase usable methane from 447 tonnes to 1,300 tonnes per year. Transforming the methane using combined heat and power could result in 9 thousand MWh of electricity and heat annually, and additional CO₂e savings of 24 million tonnes per year (using 100-year GWP).
- Abandoned Mine Methane (AMM) projects to capture and use methane from old mines have been deployed in Germany, generating 544 GWh of electricity and 108 GWh of heat. Romania, which closed 173 underground mines from 1935 to 2019, hasn't introduced any AMM projects. Implementing AMM in Romania can cut thousands of tonnes of methane emissions each year.

Read the full report [here](#).

About Ember

Ember is an independent, not-for-profit energy think tank that aims to shift the world to clean electricity using data. It gathers, curates and analyses data on the global power sector and its impact on the climate, using cutting edge technologies and making data and research as open as possible. It uses data-driven insights to shift the conversation towards high impact policies and empower other advocates to do the same. Its team of electricity analysts and other support staff are based around the world in the EU, UK, Turkey, India, China and Indonesia.