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GREENHOUSE EFFECT REDUCTION THROUGH MINE METHANE VALORIZATION: OVERVIEW AND FEASIBILITY STUDY

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Abstract

Although the main reason for the extraction of methane from coal beds continues to address ensuring the safety of workers, an important driver is the need to reduce emissions of greenhouse gases. In order to identify potential technical problems specific for available technologies implementation, we performed a comparative critical analysis, based on which the technically feasible systems resulted, their further selection being based on detailed analysis in financial and investment terms. The research goal was to establish options for using methane gas discharged through central degassing and main ventilation stations currently operational mines in the Jiu Valley collieries; through its level of coverage and detail, the technical analysis performed on the feasibility of the identified alternatives represents a national level novelty. The proposed solutions are aimed at correlating with EU regulations on reducing vulnerability and risk mitigation regarding potentially explosive atmospheres, while simultaneously minimizing greenhouse gas emissions and reduce the contribution of methane discharged into the atmosphere by the main ventilation and degassing stations operating in the Jiu Valley collieries.

Keywords: colliery, global warming, greenhouse gas, methane recovery, recovery technologies

Received: May, 2016; Revised final: May, 2017; Accepted: May, 2017

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