Institute of Chemical Engineering

Technical Indicators for the Assessment of Hard Coal Mine Exhaust Shafts in Terms of Ventilation Methane Processing

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Methane (CH4) is one of the most important greenhouse gases, and substantially impacts climate change. Over a 20-year period, its global warming potential (GWP) is approximately 80 times higher than that of carbon dioxide (CO2). One of the significant sources of methane emissions is the hard coal mining industry, particularly regarding the release of methane with mine ventilation air. Methane released from coal seams during mining operations and discharged into the atmosphere through exhaust shafts is referred to as VAM (Ventilation Air Methane). In the context of the European Union’s climate policy, activities aimed at reducing and utilizing VAMemissions are gaining increasing importance. One initiative supporting the development of such solutions is the research project ProVAM (Reduction of Ventilation Air Methane Emissions in the Coal Mining Transformation Process), implemented by a consortium of scientific and industrial institutions from EU member states. The project focuses on developing guidelines and selecting technologies dedicated to the utilization of VAM. This article presents a methodology for assessing parameters associated with VAM emissions and provides a characterization of the selected mine exhaust shafts analyzed within the ProVAM project. Key technical factors affecting the feasibility of using oxidation technologies to reduce methane emissions from hard coal mining are identified.

Metryczka

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