Institute of Chemical Engineering

Adres artykułu: https://iich.gliwice.pl/en/article/reduction-of-ventilation-air-methane-emissions-in-the-coal-mining-transformation-process-2

Reduction of Ventilation Air Methane Emissions in the Coal Mining Transformation Process

Image not found or type unknown

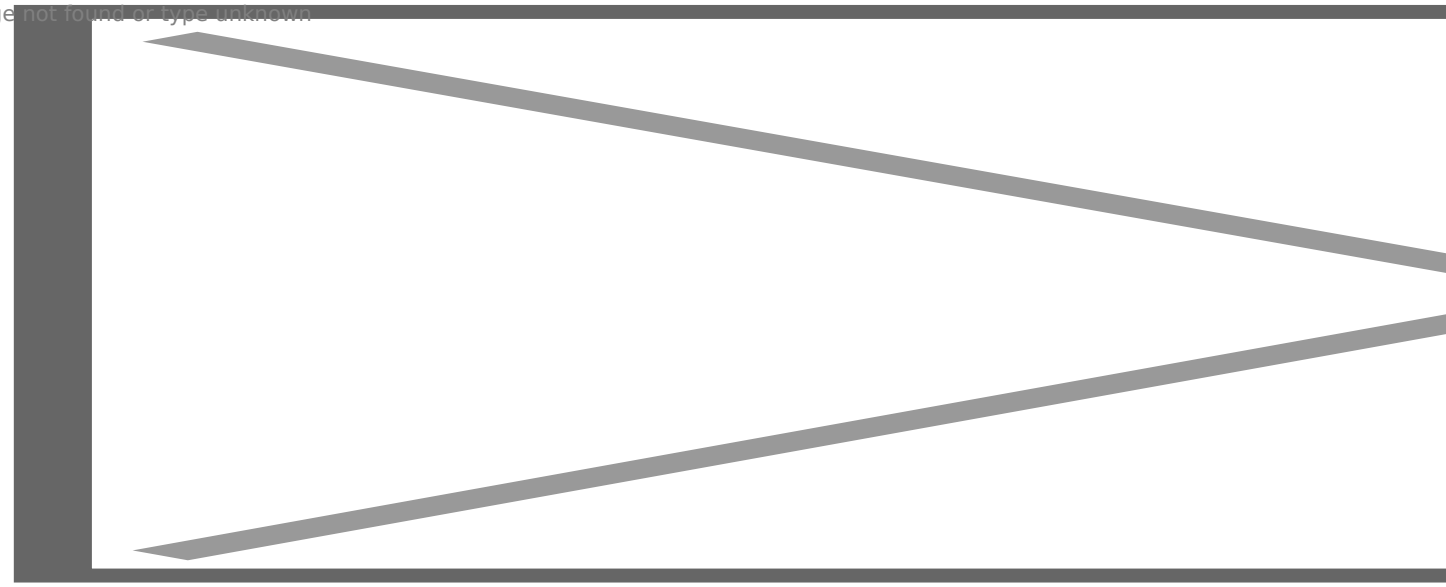
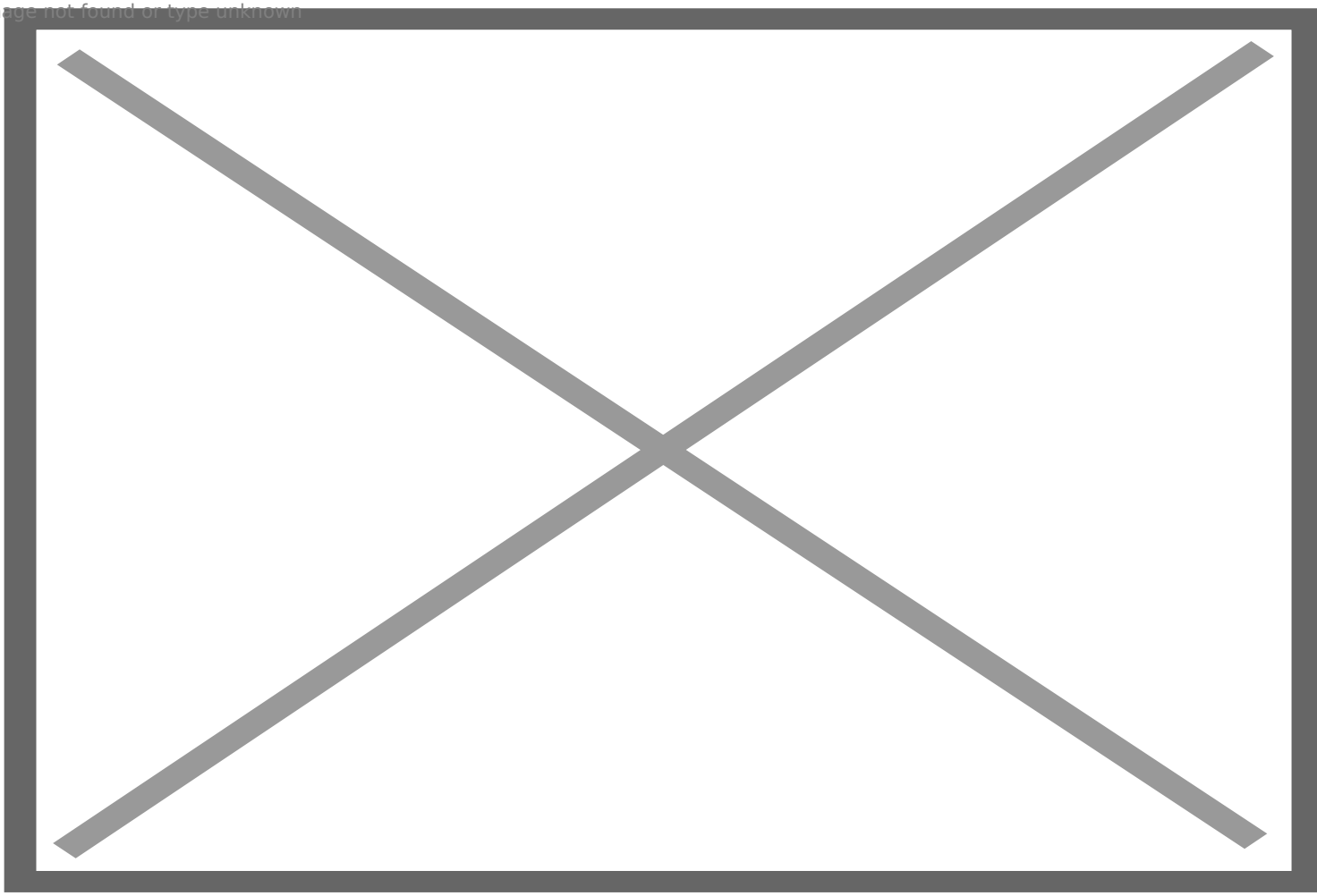


Image not found or type unknown



ProVAM is a R&D project co-funded by the Research Fund for Coal and Steel (RFCS)
GRANT AGREEMENT NO. Project 101112618 — ProVAM
Duration: 01.10.2023 r. - 30.09.2026 r.
The project is implemented by an international consortium of 8 partners:

1.GIG-PIB
2. IMG PAN, Poland
3. ITG KOMAG, Poland
4. IICH PAN, Poland
5. Universidad de Oviedo, Spain
6. Institutul National de Cercetare-Dezvoltare Pentru Securitate Minierasi Protectie Antiexploziva Insemex Petrosani, Romania
7. Durr Systems AG, Germany
8. JSW, Poland

Reduction of Ventilation Air Methane emissions in the Coal Mining Transformation Process of European underground coal mines can be effectively done if four major obstacles: dust load, humidity, variable air and methane flows, which create unfavourable conditions for efficient implementation of VAM utilisation technologies in underground coal mines are properly curbed. DURR – largest global VAM utilisation

facilities’ producer, JSW SA largest EU coking coal producer and experienced Polish, Spanish and Romanian scientific units took on this task under R&D ProVAM project, which results will be verified in in-situ conditions of GIG’s Experimental Mine “Barbara” in Poland putting it in RTL6. As the VAM units are considered to be very expensive equipment and methane gas contained in the VAM is very explosive-one the R&D approach was applied to test the impact of four above mentioned obstacles on efficient work of VAM unit. Numerical modelling and simulations of installations in mines operation will help us to reach the goal, and the real coal mine data as an input will allow validation of the models. The expected results after all laboratory and in-situ tests will help to achieve an optimal input VAM parameters considering dust load, humidity, variable air and methane flows, to be able to maximise methane contained in VAM destruction.

Even partial destruction of VAM emissions will result in tremendous environmental effects making the objectives of Global Methane Pledge for mining sector realistic to achieve. Preliminary economic assessment of ProVAM looks promising enough to draw coal mines’ attention. ProVAM project results can be disseminated in 23 gassy EU coal mines (41 exhaust gassy shafts) and globally, which is the intention of project consortium. Innovative techniques proposed in ProVAM will be subject of international patents and can be subject of industrial implementation in gassy coal mines globally. Many years’ engagement of ProVAM’s partners in activities of international platforms aiming at increasing global methane mitigation like: Global Methane Initiative, UNECE CMM Group of Experts, IMEO UNEP, World Mining Congress organisation and leadership in the first International Centre of Excellence on Coal Mine Methane established under UNECE Group of CMM experts by ProVAM’s project leader - GIG will facilitate the high level of ProVAM results dissemination. Lessons learned document and planned training and workshop will make its results easily accessible not only for the miners and practitioners but also will increase social awareness of VAM and make acceptance of coal mines’ phase out even smoother.

Project website: https://provam.gig.eu

Tagi: ventilation air methane, coal mine methane, greenhouse gases, methane emission strategy, labor safety, risk assessment, business case study

Metryczka

Published by:	Artur Wojdyła
Published at:	29.07.2025 14:25

Last edited by:	Artur Wojdyła
Last edited at:	17.09.2025 08:32
Number of views:	75