

Energy generation and supply

Coal industry in Ukraine discovers a new way to use a dangerous gas

Investing in equipment which utilises methane gas increases the level of mine safety and cuts down energy costs.

"Our priority number one is to clear the underground working areas of methane and to make them safe to operate for the miners. Occupational safety guidelines prohibit any operations in an area with a methane concentration over 2%. At the moment, this concentration is between 33-38%!"

Eugene Kaydanovskiy, Director of Samsonivska-Zakhidna mine



EU Partners

Ministry of Energy and Coal Industry of Ukraine

Coordination Centre on Implementation of Economic Reforms

The State Service of Mining Supervision and Industrial Safety of Ukraine

Donetsk, Lugansk and Lviv Oblast State Administrations

Mining companies "Krasnilymanska", "Dovzhynska-Kapitalna", "Samsonivska-Zakhidna"

Facts and Figures

- Action: "Coal Sector Policy Support Programme"
- Project budget: € 8 746 115 (EU contribution 100%)
- Project duration: 2008-2011



Context

Coal is one of Ukraine's vital resources, but Ukrainian mines are among the most dangerous in the world. According to the State Service of Mining Supervision and Industrial Safety of Ukraine, in 2011 alone, around 4,000 miners were injured, while 155 lost their lives. One of the most common causes of accidents in mines is a methane explosion. At the same time, methane can be used as energy. As energy sources become more and more expensive, the recycling and use of methane is in fact profitable.

Objectives

- To assist the Ukrainian government in developing and implementing its coal sector and reform policy.
- To help improve mine safety standards.
- To help eliminate environmental damage from mining.

Impact

- A catalogue of 172 mines which cause the most pollution was created.
- A risk analysis was conducted for 97 mines.
- A new degasification pilot project was developed for the Samsonivska-Zakhidna mine.
- A new health and safety monitoring system was put into practice at the Dovzhynska-Kapitalna and Krasnilymanska mines.

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Eugene Kaydanovskiy, director of Samsonivska-Zakhidna mine, is proud to tell us about improvements at the mine. Thanks to EU support, Polish experts visited the mine together with their Ukrainian counterparts and jointly developed a plan to improve security and save funds. “Before, methane went straight into the air, polluting the environment; so we ended up paying high fines. Since the end of November 2011 we’ve been using this gas for heating. This winter we were able to save hundreds of tons of coal for use in our boiler house. Now, we emit only part of the methane gas. It is first combusted – which means that we’ve managed to decrease the pollution rate many times too. For the first time ever, we didn’t have to pay the ‘Kyoto fine’. In fact, we were even in a position to be able to sell an unused part of our quota,” explains Mr Kaydanovskiy.

The miners also immediately benefited from an improved heating system. Once the shortest morning shift is over, around 100 miners come back from the mines to take a warm shower. All heating costs are now self-sustained. Mr Kaydanovskiy shares the mine's plans for the future: “Within the framework of the EU project, we have launched a tender to purchase equipment to generate electricity from methane. The mine uses huge amounts of electricity, so if we manage to produce at least 20% of methane-based electricity, we’ll save a lot. The initial cost of this specialised equipment is very high, but with constantly growing prices in the energy sector, it will pay off very quickly.”



Gas installation in the boiler house at Molodohvardiysk coalmine, Luganska oblast