

Recovery of mine gas investigated at the Leopold colliery

Test extraction of mine gas at the former Dorsten colliery site starts in January

Dorsten/Essen. The site of the former Fürst Leopold coal mine in Dorsten will be examined for around four weeks at the beginning of 2024 to ascertain whether it can be developed for the recovery of mine gas as an energy source. The investigation is being carried out by Mingas-Power GmbH, a joint venture between the energy companies RWE and Iqony, which has specialized in the extraction and utilization of mine gas in the Ruhr region for more than twenty years.

Mine gas is a legacy of coal mining in the Ruhr region, which has been completely abandoned since 2018. Its chemical composition includes a high proportion of methane, a colorless, odorless and combustible gas. This makes it suitable for energy recovery through combustion, e.g. in combined heat and power (CHP) plants, which can generate not only electricity but also heat.

“As it is present in the former coal mines, mine gas is to a certain extent a domestic energy source that has played a relevant role in the regional electricity and district heating supply for decades,” says Andreas Brandt, Managing Director of Mingas-Power GmbH.

Contribution to climate protection

When mine gas escapes unburned into the atmosphere, its harmful effect on the climate is around 25 times higher than a comparable amount of CO₂ due to its high methane content. “In this respect, the extraction and subsequent combustion of mine gas is also a contribution to climate protection, because although CO₂ is produced and released in the process, that CO₂ is many times less harmful than the methane that would otherwise be released,” says Andreas Brandt.

Investigation of mine gas potential in Dorsten

Mingas Power is now investigating whether such a measure, which makes sense both economically and climatically, is also worthwhile on the site of the former Fürst Leopold colliery in Dorsten in terms of both quantity and quality: “By testing the mine gas from the shafts of the former Leopold colliery over several weeks, we first intend to clarify whether there is enough mine gas for energy use. We

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also want to determine whether its chemical composition, and consequently its calorific value, is sufficient,” says Andreas Brandt.

If both questions can be answered in the affirmative at the end of the test phase, the economic feasibility of generating energy from mine gas at the Fürst Leopold site would then be verified in a second step. Given that, it is impossible to say at this stage where a possible CHP plant could be located.

Container used during the investigation is not a long-term solution

The planned location of the container in which the equipment for investigation of the shaft system at the foot of the former winding tower is housed does not in any way influence the location issue to be clarified at a later date. On the contrary, the container will be removed at the end of the test phase.

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About Mingas Power

Since its foundation by Iqony Energies GmbH and RWE Generation SE in 2001, Mingas-Power GmbH has become one of the leading companies in the extraction and utilization of mine gas in the Ruhr region. More than 240 million kWh of electrical energy is generated annually at 17 locations and fed into the regional supply network. This corresponds to the power supply of 80,000 households. Approximately 3.1 million metric tons of CO₂-equivalent emissions are avoided each year by using mine gas. With a share of over one million metric tons, Mingas-Power makes a significant contribution to improving the energy balance and climate protection.

About Iqony

Iqony makes green energy feasible. With more than 85 years of experience in the planning, construction and operation of energy facilities, the company provides holistic solutions for the decarbonization, decentralization and digitalization of the energy supply. Iqony focuses on renewable energies and bridging technologies that can be used in a climate-neutral way now and in the future. In addition to solar, wind and geothermal energy, the portfolio includes hydrogen solutions, storage technologies, engineering services and gas-fired power plants. Around 2,300 employees worldwide implement projects for major industrial companies, utilities, cities and municipalities in numerous countries across the globe. Specializing in tailor-made solutions for complex challenges, Iqony draws on its broad and in-depth knowledge of the energy industry across the full range of technologies and services.

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