

How can energy-intensive companies sustainably limit their gas dependency?

Minister visits experts in environmental technology in industry



On April 1, 2022, the Minister for Economic Affairs, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia, Prof. Dr. Andreas Pinkwart, visited KMA Umwelttechnik GmbH in Königswinter. During the company visit, he also spoke with Dr. Holger Wagner, Managing Director of KMA Umwelttechnik, about economic policy issues, such as the explosive gas dependency of the state's industrial companies, the increasing demand for energy-efficient environmental technology and the challenges of the energy transition.

The NRW Minister for Economic Affairs, Innovation, Digitalization and Energy has had to deal intensively with the question of how to reduce gas consumption in industry since the start of the Ukraine war. This is because energy-intensive industry in NRW, which accounts for 40 percent of total gas consumption in the Federal Republic, would be particularly affected by a Russian gas supply stop. It was therefore no wonder that he was particularly interested in the energy-efficient filter technology presented to him during his visit by the Königswinter-based company KMA Umwelttechnik. Founded in 1958, the medium-sized family-owned company develops customized systems for the purification of emission-laden process exhaust air for a wide range of industries, such as the metalworking, food and textile industries. There, complex exhaust air streams are often treated with thermal afterburning - an energy-intensive and thus expensive process. The principle of thermal afterburning (TNV) is based on the complete combustion of the organic carbon compounds in the exhaust air to H₂O and CO₂. In the food industry, for example, afterburning systems must be operated at high temperatures above 750 °C in order to adequately separate emissions and odours. In particular, compliance with CO limits requires operation at high exhaust air temperatures. The permissible limits for the purified exhaust air can thus be achieved, but at the expense of the environment: The supply of fossil fuels required for these high temperatures consumes immense natural resources and releases secondary emissions such as CO₂ and NO_x.

KMA Umwelttechnik, on the other hand, relies on electrostatic filter systems, in which a strong electric field is generated with little energy input, electrostatically charging the dust particles, smoke and aerosols. "The particles are attracted and separated in the electrostatic precipitator as if by a magnet." An automatic cleaning system, similar to an integrated dishwasher, removes these deposits regularly so that filter

replacement is not necessary," said KMA Managing Director Dr. Holger Wagner, explaining the principle of the long-lasting and low-maintenance KMA technology. In addition, the system can be equipped with heat recovery to utilise the energy of the exhaust air flow and UV light treatment against the odours. The proven process technology uses integrated heat recovery systems to extract the heat from the exhaust air and make it usable for customer-specific recycling (for example, for heating fresh air in winter to reduce heating costs). Thus, by installing KMA filter technology, around 80 percent of energy consumption and up to 90 percent of CO₂ emissions can be saved compared to conventional systems.

During the tour of the factory, Economics Minister Pinkwart was impressed by the diverse products and the energy benefits of the innovative environmental technology.

He announced that he would bring the KMA technology to the attention of the national company Energy4Climate. Since the beginning of the year, this organisation has bundled all operational energy and climate protection activities in NRW and advises companies and municipalities on their way to climate neutrality. "We must not only implement the climate protection goals, but also ensure security of supply. This requires a fast and broad roll-out of technologies for energy transition and climate protection. And it is precisely this technology that your company provides," praised the Minister.



The environmental technology company with its 100 employees at the headquarters in Königswinter and the branch office in Shanghai (China) has been developing special systems for environmentally conscious industrial companies for 60 years.

The Königswinter-based company, which as a leading solution provider for energy-efficient exhaust air filter systems exports 70 percent of its systems to customers all over the world, has registered a strong increase in demand in recent weeks. "We are getting more and more enquiries from companies and also from associations that have hardly dealt with this topic so far," reports Managing Director Wagner. Because energy savings have suddenly moved to the top of the priority list in many companies in view of current developments. As is usual in special production plant engineering, KMA almost exclusively manufactures



customised systems. "There is no blueprint for our exhaust air systems, because each customer's production plant is different and, in addition, we have to comply with local legal requirements for air quality or emission discharge into the environment. But innovation is part of our company philosophy. When a new problem arises, we are always convinced that we will find a solution," Wagner explains. And so the innovative family-owned company develops environmental technology solutions for leading companies with a wide range of industrial applications, advises the Federal Environment Agency on industry-relevant committees or supports industrial associations and trade journals with best-practice recommendations. Minister Pinkwart shares KMA Umwelttechnik's optimism: "The current situation presents us all with great challenges. But we have great companies, outstanding research institutions and many bright minds in NRW who are taking on this challenge. Therein lies a great opportunity for all of us."

About KMA Umwelttechnik GmbH

KMA Umwelttechnik GmbH is a leading global manufacturer of energy-efficient exhaust air purification systems for industrial applications. With innovative system technology, KMA provides its customers with clean air at production plants, improves the carbon footprint at the same time and generates considerable cost advantages. In this future-oriented industry, the environmental technology company occupies a strong position with an international reputation. For further details and information about KMA, please visit: www.kma-filter.de

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