

Energy transition through fuel switch

STEAG converts two district heating boilers from coal and oil to natural gas // In addition, state-of-the-art technical upgrades for plant operation

Essen/Duisburg. Mitsubishi Power Europe received an order from STEAG Fernwärme GmbH, the largest district heating company in North Rhine-Westphalia, Germany, for switching two existing plants from fossile fuel-fired to natural gas.

The combined heat and power plants, Essen-Nord and Essen-Rüttenscheid, will benefit from Mitsubishi Power Europe's fuel switch solutions, changing operations from oil to gas and coal to gas respectively. Energy generation from natural gas represents an important bridging technology in the coming decades to achieve the agreed climate goals and to ensure security of supply as long as renewable energies are not available in fully sufficient quantities.

Plants cover peak loads or supply hospitals

While the Essen-Nord heating plant serves in particular to cover peak load requirements for the district heating supply, especially during the heating period in the fall and winter months, the STEAG plant in Essen-Rüttenscheid primarily supplies the local university hospital as well as the Alfried Krupp Hospital with district heating all year round.

The scope of service includes a partial conversion of the boilers during the change from coal to gas, replacement of the existing control system at the Rüttenscheid site, dismantling and disposal of the existing components, and installation, commissioning and trial operation of the new components. Both plants will comply with the latest emission requirements in accordance with the Federal Emission Control Act (13.BImSchV) and will be upgraded for operation in so called BOP mode (operation without permanent supervision). The fuel switch solution particularly contributes to reducing carbon emissions.

Fuel switch significantly reduces CO₂ emissions

“Whenever we think of effective means of energy transformation, we should also think of fuel switch. It is a very efficient way to help existing plants reduce their emissions, especially given the time to achieve global decarbonization goals. We have been successfully driving conversion projects over the past years,

Joint press release November, 11 2021

helping our clients to make use of less emissions-intensive fuels”, comments Andreas Rupp, Head of Sales Business Unit Service at Mitsubishi Power Europe.

STEAG relies on engineering expertise from Mitsubishi Power

"The goal of reaching climate neutrality by 2045 can only be achieved by using the latest technical options. Particularly with respect to maintaining security of supply, this includes switching from coal or oil to natural gas, which is a much less CO₂-intensive energy source. We are pleased to be working with Mitsubishi Power Europe and to be able to draw on their excellent engineering expertise on these important projects for the climate-friendly supply of heat to our customers," adds Dirk-Michael Fabinger, Head of Heating Plants and Supraregional Networks at STEAG Fernwärme.

About Mitsubishi Power EMEA

Mitsubishi Power Europe, Ltd. is a leading provider and innovator of technology and solutions for the energy sector, who with its predecessor companies have had a presence in the region since 1908. Today, there are more than 1,000 employees across Europe, the Middle East and Africa (EMEA), with centers of excellence in Germany, the United Kingdom, Saudi Arabia and the United Arab Emirates, in addition to customer support capabilities in countries across the region. Mitsubishi Power designs, manufactures and maintains equipment and systems that drive decarbonization and ensures the delivery of reliable power. Among its solutions are a wide range of gas turbines, including hydrogen-fueled gas turbines and solid-oxide fuel cells (SOFCs), and an experienced services business with an extensive reach across the entire region. Committed to providing exemplary service and working with customers, Mitsubishi Power's TOMONI™ intelligent solutions leverages advanced analytics, adaptive control technology, artificial intelligence and machine learning to make power plants smarter, lowering emissions, increasing flexibility and supporting decarbonization. Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI), whose engineering and manufacturing businesses span energy, infrastructure, transport, aerospace and defense. For more information, please visit:

<https://power.mhi.com/regions/emea/>

About STEAG

For over 80 years, STEAG has stood nationally and internationally for efficient and reliable power generation. As an experienced partner, we support our customers comprehensively in all phases of power supply. We design, develop, implement, operate and market highly efficient energy solutions – from distributed generation facilities and those based on renewable sources to large-scale power plants and their by-products. Together with tailor-made solutions in the field of electricity and heat supply, we also provide a wide range of energy services – increasingly on the basis of renewables. Successfully so: From 1990 to the present day, STEAG has permanently reduced its own CO₂ emissions by approximately 85 percent. For more information please visit: www.steag.com

About STEAG Fernwärme

As a regional energy provider, STEAG supplies private households, public buildings, hospitals, industrial and commercial enterprises and real estate companies in the Ruhr area with environmentally friendly district heating, mostly from highly efficient cogeneration. Per year, STEAG provides around 1.6 billion kilowatt hours of thermal energy – equivalent to the needs of more than 275,000 households – making it the largest district heating supplier in North Rhine-Westphalia. More than 90 per cent of our heat is generated according to the principle of combined heat and power (CHP). The heat is distributed to the inner-city district heating networks in Bottrop, Essen and Gelsenkirchen via the first supraregional district heating network in Germany, the Fernwärmeschiene Ruhr. Via this extensive supply network with a total length of more than



Joint press release November, 11 2021

700 kilometers, STEAG ensures that flats, public buildings, swimming pools, hospitals as well as industrial and commercial enterprises are supplied with 'ready-to-use' heat in line with their needs. The reduction in CO2 emissions achieved through the use of district heating makes a significant contribution to relieving the burden on the environment. District heating is safe, clean and convenient - a likeable energy. Since 2018, MEAG - MUNICH ERGO AssetManagement GmbH has held a 49 percent stake in STEAG Fernwärme. Find out more at www.steag-fernwaerme.de

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