Evonik’s new natural-gas power plant will end coal-fired power generation in Marl, saving up to one million metric tons of CO2

- Evonik to replace last coal-fired power plant at Marl Chemical Park with a modern, flexible gas and steam turbine power plant
- Construction partner is Siemens
- Key element in safeguarding the future of Marl Chemical Park

Essen, Germany. Evonik is to install a new advanced high-efficiency gas and steam turbine power plant at Marl Chemical Park. The specialty chemicals group is thus, after more than 80 years, ending hard-coal based power and steam generation in Marl, which will reduce its CO2 emissions by up to one million metric tons annually. Direct greenhouse gas emissions of its plants worldwide will then be reduced annually by almost one fifth.

Evonik and its partner Siemens signed agreements for the construction of the two-block power plant on August 30th. Construction is slated to start before the end of this year. The high-efficiency and very flexible plant, produces power and steam in a cogeneration process, is expected to come on stream in 2022. Its total system efficiency will exceed 90 percent.

The project cost is in the three-digit million-euro range. Siemens Gas and Power is the main contractor and, jointly with its internal partner Siemens Financial Services, is responsible for the planning and construction of the entire power plant, including a new central control station building. Evonik will operate the plant in conjunction with the existing natural gas power plants.

“The modernization of our power plant park is a key element in achieving Evonik’s sustainability targets,” says Thomas Wessel, Chief Human Resources Officer and Industrial Relations Director of Evonik. “The main climate target of Evonik is to halve our absolute greenhouse gas emissions by 2025 relative to base year 2008.” Willibald Meixner, CEO of Siemens Gas & Power, Power Generation
Operations, said: “Siemens is actively helping to shape the energy transition in Germany. Decentralized industrial power plants that are equipped to meet the requirements of digitalization are an important component of our portfolio for the reduction of CO2 emissions. This is well illustrated by the Evonik order, which gives us immense satisfaction.”

With the new power plant Evonik is securing cost-efficient and sustainable energy for its Marl Chemical Park, Evonik’s largest production site, over the long term. Apart from power, steam generation is also important for production in the Chemical Park. The plant has a power output of 180 megawatts—which corresponds to the power requirement of almost 500,000 households—and can produce up to 440 metric tons of steam per hour. The load control of the plant is highly flexible. This means it can contribute toward balancing out fluctuations in power feed from renewable energies into the grid—which is an important and indispensable element for the energy transition. About 2,000 households will continue to be supplied with district heating from the site’s integrated steam network.

_Picture_: Model representation of the new advanced high-efficiency gas and steam turbine power plant, which Evonik is to install at Marl Chemical Park.
Company information
Evonik is one of the world leaders in specialty chemicals. The focus on more specialty businesses, customer-oriented innovative prowess and a trustful and performance-oriented corporate culture form the heart of Evonik’s corporate strategy. They are the lever for profitable growth and a sustained increase in the value of the company. Evonik benefits specifically from its customer proximity and leading market positions. Evonik is active in over 100 countries around the world. In fiscal 2018, the enterprise with more than 32,000 employees generated sales of €13.3 billion and an operating profit (adjusted EBITDA) of €2.15 billion from continuing operations.

Siemens Gas and Power (GP) is a global pacesetter in energy, helping customers to meet the evolving demands of today’s industries and societies. GP comprises broad competencies across the entire energy value chain and offers a uniquely comprehensive portfolio for utilities, independent power producers, transmission system operators and the oil and gas industry. Products, solutions and services address the extraction, processing and the transport of oil and gas as well as power generation in central and distributed thermal power plants and power transmission in grids. With global headquarters in Houston in the U.S. and more than 64,000 employees in over 80 countries, Siemens Gas and Power has a presence across the globe and is a leading innovator for the energy systems of today and tomorrow, as it has been for more than 150 years.

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