
Press release

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New German CHP Plant to Save 50,000 Metric Tons of CO₂ Annually

MAN Energy Solutions commissions 51 MW gas-fired, combined-heat-and-power plant in Frankfurt (Oder); new facility replaces older, lignite-burning plant for exclusive natural-gas operation

MAN Energy Solutions has commissioned the new, municipal (*Stadtwerke*) CHP (Combined Heat and Power) gas power-plant in Frankfurt (Oder). At a recent ceremony, Dr Uwe Lauber, CEO of MAN Energy Solutions, symbolically handed the plant over to Torsten Röglin, Managing Director of Stadtwerke Frankfurt (Oder), and René Wilke, the city's Lord Mayor.

The CHP plant is powered by 5 x MAN 20V35/44G gas engines, which provide 51 MW of electrical energy as well as 50 MW of district heating. In addition, MAN has installed a hot-water boiler with a capacity of 20 MW, increasing the total thermal capacity of the plant to 70MW. Despite constant challenges due to the Covid-19 pandemic over the past two years, MAN and Stadtwerke Frankfurt (Oder) were able to complete the commissioning within the estimated schedule. The five engines have been test-run since mid-February of this year.

The new, gas-engine power plant replaces an older, soon-to-be-retired CHP plant, which has supplied electricity to around 33,000 households and commercial customers – as well as district heating to around 19,000 households and companies – locally since 1997. Previously, this plant was operated with both lignite and natural gas, while the new facility will supply the same distribution network with heat and electricity generated exclusively from the more climate-friendly natural gas.

Efficiency over 90%

“Through introducing this new plant, we will save up to 50,000 metric tons of CO₂ annually in the future, thus ensuring the environmentally-friendly supply of heat and electricity to the Frankfurt (Oder) region,” said Torsten Röglin. “In the old power plant, around 60,000 tons of brown coal dust were burned annually. In contrast, the new plant not only exclusively uses natural gas, which is more climate-friendly, but is also particularly fuel-efficient with an overall efficiency of more than 90%.”

Stadtwerke Frankfurt (Oder) has invested a total of almost 60 million euros in the power plant, representing the company's largest investment project in the last 20 years.

“The military attack on Ukraine by the Russian government, which is contrary to international law, is currently causing many people to view natural gas sceptically as an energy source,” said Dr Lauber. “However, we have to separate the question of the origin of the raw material from that of the technology. Flexible, gas-fired power plants like the new combined-heat-and-power plant in Frankfurt are an

indispensable technology on the way to the energy and heat transition. We need such facilities to reduce greenhouse gas emissions, phase out coal, and partner renewable energies.”

Lauber continued: “With this new, combined-heat-and-power plant, Stadtwerke Frankfurt (Oder) is proving that cogeneration with district heating is a viable, long-term, economic concept for the immediate reduction of CO₂ emissions that simultaneously ensures reliable electricity and heat supply to the local population.”

MAN Energy Solutions states that plant emissions can be reduced even further by operating the engines with a mixture of green hydrogen and natural gas, while completely climate-neutral operation is possible when operating with hydrogen-based, synthetic natural gas (SNG).

Gas engines ideal for district heating

The MAN 20V35/44G gas engines optimise the flexibility of the entire CHP plant. In combination with a 10,000 cubic-meter heat-storage facility, also newly built, waste heat from the engines can be stored when heat demand is low while continuing to generate electricity. This enables Stadtwerke Frankfurt (Oder) to react quickly and flexibly to price fluctuations in the electricity market. This is also supported by the high reaction speed of the MAN engines, which can reach full output in less than five minutes and easily cope with rapid load changes.

Post-commissioning, MAN Energy Solutions’ global after-sales brand – MAN PrimeServ – will continue as project partner and share maintenance duties with plant staff.



MAN Energy Solutions has commissioned the new, municipal CHP gas power-plant in Frankfurt (Oder) ©Stadtwerke Frankfurt (Oder)



Symbolic hand-over of the gas power-plant in Frankfurt (Oder). From left: Dr. Uwe Lauber (CEO MAN Energy Solutions), Torsten Röglin (Managing Director Stadtwerke Frankfurt, Oder), René Wilke (Lord Mayor Frankfurt, Oder), Christian Mocker (Project Manager, Stadtwerke Frankfurt, Oder), on-screen remote from the power plant Eileen Kühl (Head of Operations) ©Mausolf



The CHP plant is powered by 5 × MAN 20V35/44G gas engines.

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.