MAN Energy Solutions



Press Release

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RheinEnergie and MAN Energy Solutions Sign Supply Contract for Europe's Largest River-Water Heat-Pump

150 MW large-scale heat-pump to provide climate-neutral heating to ~50,000 households in Cologne

At a signing ceremony in Germany, Dr. Uwe Lauber – CEO of MAN Energy Solutions – and Andreas Feicht – CEO of RheinEnergie – have signed the supply contract for Europe's largest river-water heat pump at RheinEnergie's Cologne-Niehl production site. The project is valued at EUR 280 m.

At the signing, Feicht said: "We rely on heat-pump technology because it is proven, reliable, and highly efficient. Of itself, the plant would already be exemplary in terms of tapping the dormant energy-potential of Germany's major rivers. But by choosing this location and the opportunity to combine it with facilities based on gas- and steam-turbine technology, we are creating an energy system of the future for Cologne's centre that balances sustainability and climate protection with security of supply and affordability. After all, the different systems and energy sources complement each other perfectly."

Cologne decarbonisation

With its investment, RheinEnergie is making a major contribution to the decarbonisation of the largest district-heating network in Cologne, to which the German federal government and the European Union are contributing a total of EUR 100 m. This covers the entire city centre, including the Deutz district on the right bank of the Rhine, characterised by high-density apartment buildings.

Feicht added, "We are decarbonising at the source of the heat, thus transforming the entire system behind it in one go. This is a great relief for tenants whose options for taking climate action themselves are limited. We are largely taking on this task for them."

Innovative heat pump

With a heat output of 150 MW, the heat-pump system will be the largest fluvial heat pump in Europe and will supply around 50,000 households in Cologne with climate-neutral district heating. The heat-pump solution from MAN Energy Solutions uses water from the Rhine as an energy source and works with a natural refrigerant in a closed circuit. Driven by electricity, the heat pump will use the thermal energy of the river water to heat the water in the district heating system to up to 110°C, thus meeting the requirements of the Cologne network.

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Lauber said: "The heating market in Germany is a sleeping giant. It is estimated that 39 million tons of CO_2 can be saved by decarbonising district heating alone. Therefore, it is all the more important that there are bold pioneers in Germany, like RheinEnergie, that are taking the lead and acting. The Cologne heat pump is a flagship project for all of Germany and impressively demonstrates the contribution this technology can make to climate-friendly heat supply. It is an example that will hopefully soon be followed by many other cities in Germany."

Niehl harbour preparations

Preparatory work is already underway on the construction site next to the Niehl harbour basin where water from the Rhine will be extracted to serve as the environmental energy source for the plant. In the meantime, experts from RheinEnergie and MAN Energy Solutions are working intensively on preparing the approval documents. According to the current planning status, the plant is expected to be operational by the end of 2027.



The 150 MW large-scale heat-pump will supply around 50,000 households in Cologne with climate-neutral district heating.

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Andreas Feicht, CEO of RheinEnergie, and Dr. Uwe Lauber, CEO of MAN Energy Solutions, sign the supply contract for Europe's largest river water heat pump.

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.