

Vattenfall's Sewage Water Heat Pump Plant at Reuter West, Berlin

Commitment to Climate Neutrality Requires Heat Transition



Challenge

- Vattenfall Wärme Berlin AG operates Western Europe's largest district heating network in Berlin
- The company is committed to achieving climate neutrality by 2040, which will require a major transformation of the city's heat generation
- Coal-fired heat generation at Reuter West will be phased out by 2030 and replaced by a combination of different technologies
- Industrial heat pumps are expected to make up about a fifth of Vattenfall's generation mix by 2040

Technical solution

- Vattenfall will build a sewage water heat pump plant at Reuter West, with a total maximum heating capacity of up to 87 MW_{th}, and connect it to an existing heat storage facility
- Siemens Energy will supply four large low-temperature heat pumps from Finspang, Sweden, and will be responsible for the design, installation and commissioning
- The heat pumps will use heat from treated wastewater with a temperature range of 12°C to 27°C
- The new heat pump plant will supply district heating to about 45,000 households and save about 50,000 tons of CO₂ per year

Vattenfall's commitment to climate neutrality contributes to a cleaner environment by phasing out coal-fired power plants.

Benefits

The heat pump plant will have an average thermal output of around 75 megawatts (MW), making it the largest of its kind in Germany. It will be able to supply around 45,000 households per year with district heating. Annual CO₂ savings will be around 50,000 tons.

For the project, Vattenfall plans to take part of the treated water from the Ruhleben sewage treatment plant before it is discharged into the River Spree and feed it into the heat pump system on the site of the Reuter West cogeneration plant.

The plant is scheduled to be commissioned in spring 2026.

“Our goal is clear: to phase out coal by 2030 and achieve climate neutrality by 2040. To achieve this, we are working hard to transform our heating business.”

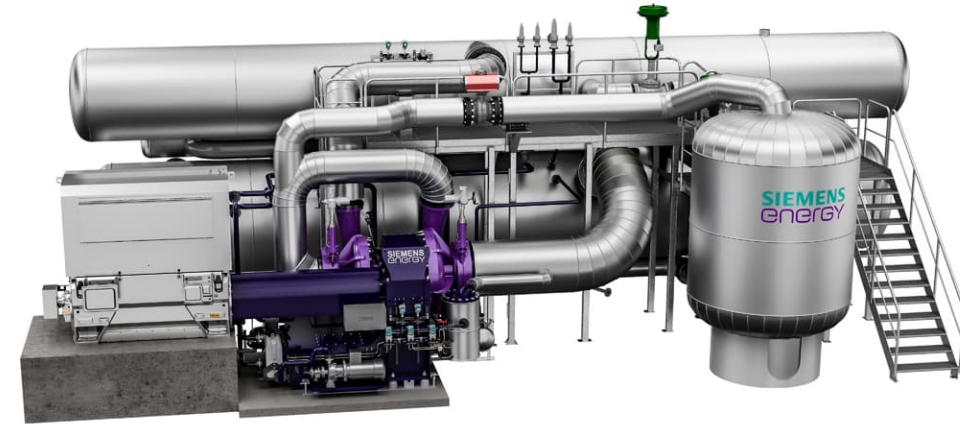
Christian Feuerherd, CEO Vattenfall Wärme Berlin AG

The implementation of the heat pumps ensures a sustainable and efficient heat supply for Berlin's district heating network, resulting in energy savings and reduced emissions.

The successful collaboration between Vattenfall and Siemens Energy on numerous projects, including the Potsdamer Platz high-temperature heat pump pilot project, reinforces their strategic partnership, opening doors for future joint ventures in the pursuit of climate neutrality.

About the customer

Vattenfall Wärme Berlin AG is a provider of climate-friendly heat and energy generation from renewable energies and non-fossil sources for Berlin. Vattenfall is building on a technology mix of power-to-heat, waste heat utilization through large heat pumps, heat storage, sustainable biomass, heat from thermal waste recycling, possible geothermal potential and modern gas-fired power plants that are planned to be "hydrogen-ready".



Industrial low-temperature heat pump

Published by and copyright © 2023

Siemens Energy Global GmbH & Co. KG
Business area
Otto-Hahn-Ring 6
81739 Munich, Germany

For the U.S. published by

Siemens Energy, Inc.
Business area
15375 Memorial Drive, Suite 700
Houston, TX 77079, USA

For more information, please visit our website: www.siemens-energy.com/heatpumps

E-Mail: gs.sales@siemens-energy.com

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract. All product designations may be trademarks or product names of Siemens Energy Global GmbH & Co. KG or other companies whose use by third parties for their own purposes could violate the rights of the owners.