

Press release

Symbolic start of industrial heat feed-in to Hamburg city network

» **Hamburger Energiewerke and Aurubis kick off flagship project for carbon-neutral district heating**

Hamburg, January 9, 2024 — Today Aurubis AG CEO Dr. Toralf Haag and Hamburger Energiewerke GmbH (HENW) Managing Director Michael Prinz joined First Mayor of the Free and Hanseatic City of Hamburg Dr. Peter Tschentscher in inaugurating the HENW thermal storage system, symbolically kicking off the supply of carbon-neutral industrial heat. The two companies have worked together to lay the groundwork for providing up to 20,000 Hamburg households with carbon-neutral heat and avoiding up to 100,000 t of CO₂ emissions in the future. This represents the on-schedule fulfillment of the contract the companies signed in December 2021. Both its size and complexity make the project unique in Germany.

In 2024, multimetal producer Aurubis again significantly invested in a method for extracting the surplus heat generated during a copper production sub-process at its Hamburg plant. This heat is fed as hot water into the pressure heat accumulator in Hamburg Veddel recently completed by Hamburger Energiewerke. The accumulator already holds up to four million liters of hot water from Aurubis heat today. It works a bit like a thermos, and the heat is released into Hamburger Energiewerke's over 860-kilometer-long city network when needed. The project received funding from the German Ministry for Economic Affairs and Climate Action (BMWK) and the Hamburg Investment and Development Bank (IFB). In combination with the heat accumulator, the industrial waste heat supplied by Aurubis is a building block in the Tiefstack energy park, Hamburger Energiewerke's plan to phase out coal in Hamburg by 2030. Aurubis and Hamburger Energiewerke are actively shaping the heat transition with the current project and making an important contribution to meeting Hamburg's climate targets. The heat supply is scheduled to come online in the 2024/25 heating period.

First Mayor of Hamburg Dr. Peter Tschentscher: "Using innovative technology is the best way to protect the climate. This includes leveraging industrial surplus heat to keep homes warm. In the future, Aurubis will feed the process heat generated during copper production into the Hamburger Energiewerke district heating system. Reusing this waste heat from the copper smelter drives decarbonization in the buildings sector by preventing up to 100,000 t of CO₂ emissions every year. Projects like this allow us to take giant strides forward on our path to a carbon-neutral Hamburg. We are linking industry and climate protection, strengthening our competitiveness as an industry hub and realizing our climate plan, which includes ambitious CO₂ targets for the city of Hamburg."

Christian Maaß, Director General Heat, Hydrogen and Efficiency, Federal Ministry for Economic Affairs and Climate Action: "There is huge potential in waste heat reuse, and the federal government's goal is to make it easier to realize projects like this in the future by further improving the political parameters. An enormous amount of surplus heat from artificial intelligence data centers and

Aurubis AG
Corporate Communications

Christoph Tesch
Head of Corporate
Communications
Phone +49 40 7883-3053
c.tesch@aurubis.com

Meino Hauschildt
Senior Manager
Corporate Communications
Phone + 49 40 7883-3037
me.hauschildt@aurubis.com

Hovestrasse 50
20539 Hamburg, Germany

www.aurubis.com

**Hamburger Energiewerke
GmbH**
Corporate Communications

David Kappenberg
Spokesperson
Phone +49 40 6396-2760
david.kappenberg@hamburger-energiewerke.de

Ausschläger Elbdeich 123
20539 Hamburg

hamburger-energiewerke.de

electrolyzers for producing hydrogen will enter the market in the coming years. This surplus heat should be harnessed to generate inexpensive district heating instead of being discharged into the atmosphere. The Hamburg project is an excellent example, and the government is completely behind it.”

Jens Kerstan, Senator for the Environment, Climate, Energy and Agriculture:

“Everyone linked to the Hamburg city grid will benefit from the HEnW heat accumulator: Aurubis, Hamburger Energiewerke, the environment, and especially the people of our city. We are closing a loop and enabling the direct use of energy in Hamburg households that has otherwise gone to waste. I am particularly pleased that all the surplus heat at Aurubis is now part of the heat supply. The first two segments have been in operation for several years, and we had the foresight to create the infrastructure for the additional feed-in from the third segment back then. This national flagship project is setting standards and is another success story for the heat transition in Hamburg.”

Aurubis AG CEO Dr. Toralf Haag: “With its metals, Aurubis is laying the foundation for the energy transition. The Industrial Heat project clearly shows that sustainable business activities and actions go hand in hand here and that as an industry, we are an important part of the solution for the challenges of our time. Together with our partners, we have developed an innovative solution for an environmentally friendly heat supply. To encourage more of these forward-looking projects, green industrial heat needs to receive stronger regulatory recognition in the future and be fully offset in emissions trading, and a functioning market for green proofs of origin has to be created.”

Hamburger Energiewerke GmbH Managing Director Michael Prinz: “Waste heat from Aurubis gets us another step closer to phasing out coal in Hamburg. It encompasses the huge surplus heat potential at the Hamburg site that we will be extracting for our new energy park and the completely climate-neutral district heating system of the future. Together with Aurubis, we are setting a new benchmark for the heat transition in Germany with the feed-in of industrial heat on this scale.”

The origin of heat at Aurubis

The heat is generated in Aurubis’ contact acid plant in Hamburg in which sulfuric acid, a by-product of copper refining, is formed in multiple process steps. This process is an exothermic chemical reaction that generates CO₂-free heat at a temperature suitable for carbon-neutral district heating. The technology has been successfully used at the Aurubis plant since 2018 to supply heat to enercity to cover HafenCity East and Rothenburgsort, and is now being significantly expanded. The Industrial Heat project highlights the multimetal company’s ambitious decarbonization targets and underscores Aurubis’ efforts to pioneer solutions for ecological and sustainable business activity.

Integrating industrial heat into the HEnW district heating network

Heat is not always generated at Aurubis exactly when district heat customers need it. So the extracted industrial heat is temporarily stored as 105 degree Celsius water in the nearby Hamburger Energiewerke pressure heat accumulator. A

network pump system can then feed the heat into the over 860-kilometer city network. To deliver the industrial heat to Hamburg households, Hamburger Energiewerke is using an existing enercity Contracting Nord GmbH pipeline to cover the first segment from the Aurubis plant to the Elbe River crossing. Starting at Billhorner Brueckenstrasse, a 2.8-kilometer HEnW district heating pipeline continues to the heat conversion plant at Spaldingstrasse. The heat conversion plant serves as an interface for integrating various heat sources into the district heating network. The final steps for integrating the industrial heat supply into the city network will be carried out before the actual launch.

In addition to industrial heat and waste heat from the Borsigstrasse waste recycling plant (MVB), river water heat pumps and another heat storage tank are used to reliably generate climate-friendly heat for the city.

Facts and figures

HEnW pressure heat accumulator on Georgswerder Damm, Hamburg-Veddel

- » Size: 35 meters high, 14 meters in diameter
- » Volume: four million liters
- » Water temperature: up to 105 degrees Celsius
- » Weight of domed roof: 72 tons

Aurubis heat extraction

- » Two intermediate absorbers, each weighing 250 tons, installed — this is where heat is generated when sulfuric acid, a copper refining by-product, is produced
- » Special heat exchangers installed
- » Length of heat pipes on the plant premises: around one kilometer

Results

- » Carbon-neutral heat for up to 20,000 households
- » Up to 100,000 t of CO₂ emissions avoided

Further information, videos and photos are available in our digital press kit at the following link: www.aurubis.com/presskit

Aurubis - Metals for Progress

Aurubis AG is a leading global provider of non-ferrous metals and one of the largest copper recyclers worldwide. The company processes complex metal concentrates, scrap metals, organic and inorganic metal-bearing recycling materials, and industrial residues into metals of the highest quality. Aurubis produces more than 1 million tons of copper cathodes annually, and from them a variety of products such as wire rod, continuous cast shapes, profiles, and flat rolled products made of copper and copper alloys. Aurubis produces a number of other metals as well, including precious metals, selenium, lead, nickel, tin and zinc. The portfolio also includes additional products such as sulfuric acid and iron silicate.

Sustainability is a fundamental part of the Aurubis strategy. "Aurubis responsibly transforms raw materials into value" — following this maxim, the company integrates sustainable

conduct and business activities into the corporate culture. This involves a careful approach to natural resources, responsible social and ecological conduct in everyday business, and sensible, healthy growth.

Aurubis has around 6,900 employees, production sites in Europe and the US, and an extensive distribution network around the world.

Aurubis shares are part of the Prime Standard Segment of the German Stock Exchange and are listed in the MDAX, the Global Challenges Index (GCX), and the STOXX Europe 600.

More information at www.aurubis.com

Hamburger Energiewerke GmbH

Hamburger Energiewerke GmbH is an energy utility completely owned by the city of Hamburg. The company supplies over 160,000 customers in Hamburg with green electricity and gas. Hamburger Energiewerke also operates one of the largest district heat networks in Germany and delivers city heat to over 525,000 residential units for heating and hot water. Over 1,000 employees at the municipal energy utility company are committed to the success of the energy and heating transition. By 2030 at the latest, no black coal will be used to generate heat and the heat supply will be carbon-neutral by 2045. The renewable energy plant portfolio is being expanded at the same time. Hamburger Energiewerke are the largest contributor to achieving the Hamburg climate targets.