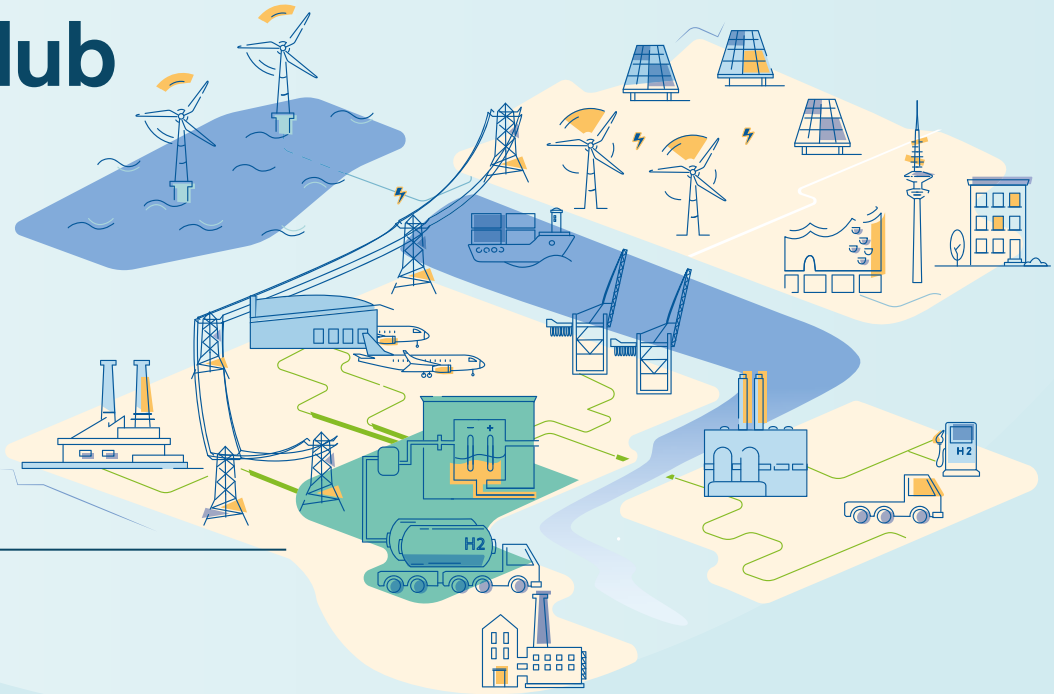
# Hamburg Green Hydrogen Hub

Green hydrogen for Hamburg

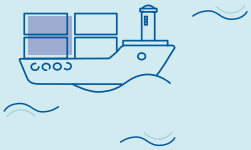


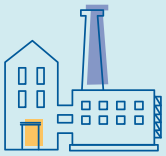

HGHH
Hamburg Green Hydrogen Hub

## About the project

An exciting transformation is taking place on the site of the former Moorburg power plant. The property at Moorburger Schanze is being developed into a green hydrogen infrastructure site. The Hamburg Green Hydrogen Hub (HGHH) project, with consortium partners Luxcara (74.9%) and Hamburger Energiewerke (25.1%), is building a 100 MW electrolysis plant here, in the heart of the Port of Hamburg. The plant is expected to start commercial operation in 2027 and produce around 10,000 tonnes of green hydrogen per year. With this project, the consortium is making a significant contribution to the decarbonisation of the port, industry and transport.

Since autumn 2023, the HGHH consortium has been working hard to expedite the detailed planning. The production of green hydrogen will be ramped up gradually later on to ensure stable operation of the hydrogen distribution grid. The consortium is targeting a portfolio of hydrogen users across a range of industries and is in advanced negotiations with many of these companies. The green hydrogen will be transported via the HH-WIN hydrogen distribution grid and the planned truck loading station.





## Transforming the Moorburg site

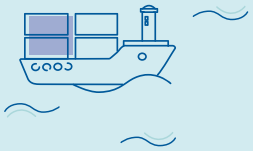
Hamburger Energiewerke acquired the former Moorburg power plant in March 2023. The power plant is currently being dismantled to make way for the electrolysis plants. Energie Hub Moorburg GmbH, a wholly owned subsidiary of Hamburger Energiewerke, is responsible for the dismantling of the power plant. The first phase will be completed by mid-2025, and the second by 2027. This will form the basis for scaling up electrolysis capacity to 800 MW. Much of the power plant's existing infrastructure can continue to be used. These include the water treatment plant and the workshop and storage buildings. The existing connection to the extra-high voltage grid is to be rebuilt and relocated.

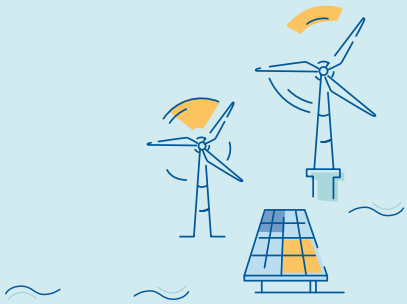
## Electrolyser

In September 2024, HGHH GmbH awarded Siemens Energy a contract for the supply and installation of the 100 MW electrolyser, consisting of six units with 24 stacks each. Construction is scheduled to begin in mid-2025. The stacks – the heart of the electrolyser – will be manufactured at Siemens Energy's new Gigafactory in Berlin and assembled at the Mühlheim site and at the site of another European partner. The electrolyser chosen is based on proton-exchange membrane technology, which uses electricity to split water into hydrogen and oxygen along a membrane. The flexible operational mode of this technology makes it particularly suitable for use with electricity from renewable sources.

Photo: Siemens Energy

These stacks will form the heart of the electrolyser.





## Project Partners

Luxcara

Luxcara is an independent asset manager and project developer based in Hamburg, Germany focusing exclusively on clean energy infrastructure projects in order to accelerate the energy transition. For over 15 years, Luxcara has acquired, structured, planned and operated a broad portfolio of over 100 sustainable energy infrastructure projects with a current capacity of six gigawatts. Its portfolio comprises solar parks, onshore and offshore wind farms, battery storage facilities, electric vehicle charging stations, green hydrogen production and the associated grid infrastructure in twelve European countries, with a total investment volume of over six billion euros. The capital to fund the projects comes from institutional, professional investors such as pension funds and insurance companies, whose clients benefit from the long-term project returns.

Hamburger Energiewerke

Hamburger Energiewerke GmbH is a fully municipally-owned energy supply company. The company supplies green electricity and gas to more than 160,000 customers in the Hanseatic city. Hamburger Energiewerke also operates one of the largest district heating systems in Germany, supplying heating and hot water to an estimated more than 525,000 homes. More than 1,000 people work for the municipal energy supplier to ensure the success of the energy and heating transition. Coal-fired heat generation will be completely replaced by 2030, and the heat supply will be carbon-neutral by 2045. At the same time, the portfolio of renewable energy plants is being expanded. Energy plants in Hamburg make the largest single contribution to the achievement of Hamburg‘s climate goals.

**We would be glad to be of assistance and answer any questions you may have.**

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