

Press release, Rostock, 3 March 2022

Start of construction for energy factory in Lübesse: world's first emission-free taxonomy gas power plant to be built by the end of 2023

- Mecklenburg-Western Pomerania's Minister for Economic Affairs Reinhard Meyer gives the go-ahead for showcase project on sector coupling
- First commercial energy factory for the production of climate-neutral synthetic fuels (e-fuels)
- Production of renewable LNG (liquefied natural gas) ensures independence from natural gas imports

Construction work for the first emission-free taxonomy gas power plant on an industrial scale has begun in Lübesse (Mecklenburg-Western Pomerania) with the symbolic "dredging". The hydrogen and methane production plant, starting with an electrolysis capacity of 4 MW in the first stage of expansion and very soon to be increased to up to 20 MW, will enable the storage and use of all green electricity from local wind turbines for the clean and cheap energy supply of the village of Lübesse and an adjacent commercial area with electricity and heat. In addition, up to 1,200 tonnes of renewable liquefied natural gas (e-LNG) will be produced in the first year of operation. "The project makes an important contribution to creating a climate-neutral economy in our state and increases acceptance for the energy transition by creating value locally," says Reinhard Meyer, Minister for Economic Affairs, Infrastructure, Labour and Tourism of the State of Mecklenburg-Western Pomerania. Together with Reinhard Meyer, the initiators of the project - the technology company EXYTRON from Rostock, the wind farm developer naturwind from Schwerin and VR Bank Nord eG from Flensburg - gave the green light for the construction of the energy factory on 2 March. "We are pleased that work has now started, following almost four years of preparation and planning," says Bernd Jeske, Managing Director of the operating company Lübesse Energie GmbH.

The Ministry of Economics in Mecklenburg-Western Pomerania is supporting the construction of the energy factory with EUR 15 million from the joint task "Improvement of the regional economic structure" (GRW).



f.l.t.r.: Prof. a.D. Dr. Karl-Hermann Busse (EXYTRON GmbH), Oke Hansen and Michael Möller (both VR Bank Nord), Burghard Engel (Mayor of Lübesse), Bernd Jeske (Lübesse Energie GmbH/naturwind GmbH), Reinhard Meyer (Minister for Economic Affairs, Infrastructure, Tourism and Labour Mecklenburg-Western Pomerania), Matthias Kaulmann (gtk GmbH) © exytron

By the end of 2023, production facilities for the generation of green hydrogen, methane and liquefied natural gas (e-LNG) as well as storage facilities and three combined heat and power plants are to be built on a 25,000 square metre site within the Lübesse industrial estate. The plants will initially be fed with green electricity from the existing wind farm, for whose plants the 20-year EEG compensation has expired. Over the next few years, old wind turbines will be replaced by new, modern 5.5 MW wind turbines.

The electricity is used in the energy factory to produce green hydrogen. Regenerative methane, produced from the hydrogen without intermediate storage using biogenic carbon dioxide, can be stored and used much more cheaply and effectively than hydrogen. The methane is liquefied into e-LNG for efficient storage and is then transported to customers for use as an emission-neutral fuel in the transport sector as well as being used in the existing combined heat and power plants as needed. In this way, green electricity and green heat are generated cheaply for the town of Lübesse, even when the wind is not blowing and the sun is not shining. This enables the world's first 100 per cent (24/7) decentralised supply of green electricity, completely independent of electricity and gas from public grids and energy imports.

The carbon dioxide produced during CHP combustion is recycled and is reused as a valuable material for the production of methane. The closed cycle in combustion also means that no harmful emissions such as CO₂, nitrogen oxides, particulate matter or methane are produced. The heat generated in the energy factory will also be used and fed into the local heating network that is being created. In Lübesse, for example, heating systems using fossil fuels are being replaced. "The

decentralised approach means that energy is consumed where it is generated. In addition, the project links the electricity transition with the transport and heating transition and shows how progress in sector coupling can already be made today. With the energy factory, we are making an important contribution to climate protection," says Bernd Jeske, Managing Director of Lübesse Energie GmbH.

Another plus point is the regional value added by this project: as a new local company, Lübesse Energie GmbH creates jobs and supplies local green and cheap energy as a location-related advantage for manufacturing companies as well. The infrastructure is being modernised and expanded.

Around 1,200 tonnes of green e-LNG will be produced annually at the energy factory from the beginning. In the further expansion stages of the energy factory, annual emissions of up to 157,000 tonnes of carbon dioxide will then be avoided.

"Renewable electricity has been produced in our community for many years. The energy factory now makes Lübesse a model village for the energy supply of the future," says Mayor Burghard Engel. This so-called taxonomy gas power plant will operate 12 years earlier than the federal government's current plans.

In the coming years, a larger number of other energy factories will be built at home and abroad, the second of which is already being planned just a few kilometres away in the village of Plate.



The excavators at work in Lübesse - the first emission-free energy factory is being built in Mecklenburg-Western Pomerania © exytron

About Lübesse Energie

Lübesse Energie GmbH was founded in 2019 as a project company for the planning and construction of an energy factory in Lübesse. Since 2017, the hydrogen system provider EXYTRON from Rostock and the wind farm developer naturwind from Schwerin have been looking for an economical solution for the local use of regionally generated wind and solar power. The result was the concept of decentralised energy factories. VR Band Nord eG from Flensburg joined the company as a further partner in 2020. Internet: luebesse-energie.de

Press contact EXYTRON GmbH

Klaus Schirmer

Telephone 03 81 / 36 76 77 16

kschirmer@exytron.com

www.exytron.com