

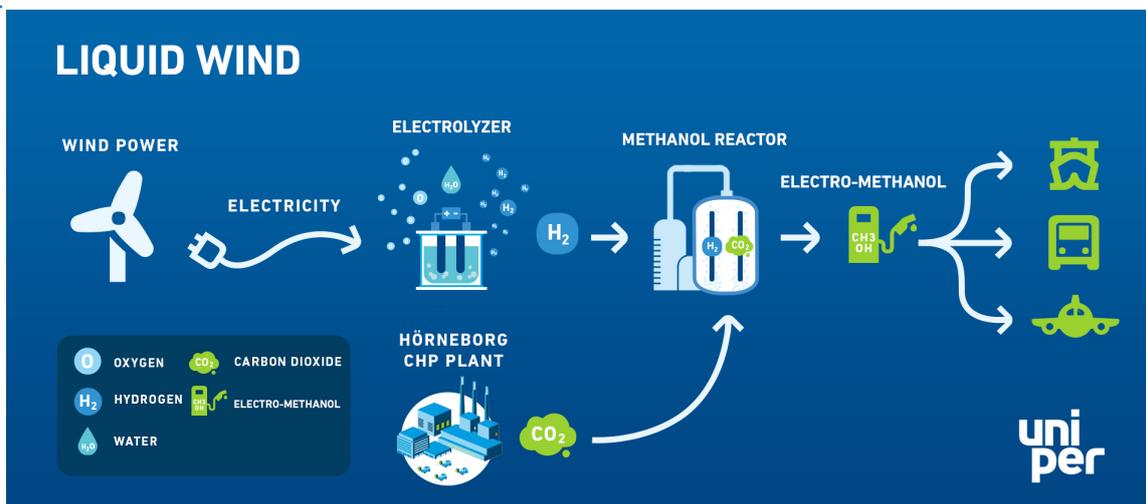
Liquid Wind

Hydrogen enables carbon neutral marine fuel

Uniper is a partner and co-owner of the company Liquid Wind, which will build one of the world's first commercial plants for the production of so-called electro-methanol. The fuel will mainly be used in shipping, and can reduce carbon dioxide emissions by 100,000 metric tons per year. Shipping accounts for about 2.5 percent of global carbon dioxide emissions, or about the same share as aviation. The new plant is planned to be built in Örnsköldsvik.

LIQUID WIND develops hydrogen-based, liquid electro-fuels that can be used, for example, as carbon-neutral fuel in shipping or for other types of heavy transport. As one of the leading hydrogen actors in Europe, Uniper actively

works with innovation. Among other things, this is demonstrated through the conversion of fossil-free electricity to hydrogen, or the storage of fossil-free energy.



FOSSIL-FREE FUEL FROM WIND AND CARBON DIOXIDE

In Örnsköldsvik, an electrolyser with a capacity of 65 MW will produce hydrogen from water using fossil-free electricity. The hydrogen reacts with carbon dioxide captured in Övik Energi's biofuel-based plant Hörneborgsverket. The result is carbon-neutral eMethanol and water.

SEVERAL POSITIVE EFFECTS

The plan is for the facility to be able to annually use upwards of 80,000 metric tons of captured carbon dioxide to produce 50,000 tons of pure eMethanol. When the eMethanol is used as a carbon neutral fuel, it reduces carbon dioxide emissions by 100,000 tonnes per year.

Other benefits are that the heat from the plant can be used in Övik Energi's district heating production, and that the power consumption in the e-fuel factory can be regulated quickly and thus contribute with valuable balancing functions to the electricity system.

INVESTORS AND PARTNERS

Uniper invested in Liquid Wind in March 2021 and is now one of the major owners of the Gothenburg-based company. Through its expertise in the energy market, hydrogen, and the construction and operation of similar facilities, Uniper can be an active partner throughout the value chain. The facility in Örnsköldsvik is planned to be completed in 2024 and Liquid Wind is planning a dozen similar facilities in Sweden by 2030.