



POWER-TO-GAS WERLTE GERMANY

The world's first industrial power-to-gas plant in Werlte, Lower Saxony, operated by KIWI AG, has been generating up to 1,300 m³ of green hydrogen per hour since autumn 2013 with a nominal output of 6.3 MW. In the process, the uptake of green electricity can be reliably regulated up and down from 0 to 6.3 MW. The green hydrogen produced is then mixed with CO₂ in the methanisation plant and fed into the natural gas grid as synthetic methane. The CO₂ required for the process is obtained from the waste gas stream of the neighbouring biomethane plant. The waste heat generated during electrolysis and subsequent methanation is used to meet the heat requirements of this biomethane plant.

The plant produces about 1,000 tonnes of synthetic methane per year and binds about 2,800 tonnes of CO₂. This is roughly equivalent to the amount absorbed by a forest with over 220,000 beech trees per year. The only by-products are water and oxygen. The plant thus solves the problem of storing surplus wind or solar power. The energy can be fed back from the gas grid into the electricity grid at any time. The plant produces green hydrogen not only for downstream methanisation, but also for direct use as an energy carrier in the mobility sector or industry.

KIWI AG, as the owner and operator of the plant, is sharing its entire knowledge in the production of green hydrogen with movingpower GmbH.

Owner:

KIWI AG

Project:

Power-to-Gas



Operation:

2013

Capacity:

6,3 MW

Elektrolyzer:

Alkaline

CO₂-capture:

Amine treatment

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Photos:

KIWI AG