SPURUP

Sustainable Peri-Urban framework for Climate Neutral development

SOLUTIONS PROVIDER

Water treatment system for green hydrogen production

Funded by the European Union

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General Information

Solution Name

Water treatment system for green hydrogen production

Solution Type

Water Treatment System

Solution Owner

Aalborg Universitet

TRL Level

TRL 5 - 7

Challenge solved

Target Pain Point

The solution produces ultrapure water from pretreated domestic wastewater for green hydrogen production where quality requirements are extremely stringent

The Innovation

Core Functionality

- The system uses a special membrane that lets only water vapor pass through while blocking all impurities.
- It operates using low-grade heat, which can come from sources like an electrolyzer, making it energy-efficient.
- The system will be combined with pre-treatment and post-treatment steps to ensure the water meets the required high purity standards

Beyond State of the Art

The proposed water treatment system has already demonstrated its potential for efficient freshwater production from various water sources. SpurUp will demonstrate its applicability for producing ultrapure water—meeting the stringent quality requirements for green hydrogen production—when using pretreated domestic wastewater as feed.

User value - Benefits

01 Contribution to sustainable fuel production i.e. green hydrogen

02 Environmental improvement due to efficient water treatment

Implementation and validation

Living Lab Aalborg

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