H2-Fifty

Publieke samenvatting / Public summary

Aanleiding

The petrochemical industry and the mobility sector are two of the largest sources of greenhouse gas (GHG) emissions, in the Netherlands and abroad, due to the emission of CO2 in the exploration, processing and use of fossil fuels. Both the mobility and petrochemical sectors hence offer a vast opportunity to reduce GHG emissions to meet the climate targets as set by the Netherlands and EU. Production of hydrogen from renewable electricity results in an energy carrier and feedstock with near zero climate impact, which fits with the EU's and Dutch aim to be climate-neutral by 2050. Using green hydrogen to replace fossil hydrogen and fossil fuels used in industry and mobility can be a major contributor to the transition to net-zero. bp, operating one of Europe's largest refineries in Rotterdam and being a major hydrogen consumer as well as player in the mobility sector, brings the possibility to get the transition started. Combined with Nobian's experience in developing and running green hydrogen production facilities, the project partners can accellerate the development of green hydrogen production and use.

Doelstelling

The ultimate goal is to realise a 250 MW water electrolysis unit in Rotterdam, which converts renewable electricity into green hydrogen, which can be used to substitute fossil fuels and, in this way, avoid GHG emissions. Such first-of-a-kind facility supports the scale-up of the wider industry, resulting in cost reduction and further development of a green hydrogen eco-system. This project forms the basis for further development and engineering

Projectinformatie / Project information

Projectnummer / Project number
TESN121049
Subsidiebedrag / Grant amount
€ 500.000,00

Algemene informatie / General information

Penvoerder / Secretariat
HyCC B.V.

Publicaties en materialen / Publications and attachments

- **05.03.2024**

  Eindrapport TESN121049

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of a demonstration facility, which requires the development of a plant design and addressing several technical, commercial and regulatory challenges.

Korte omschrijving

To develop the basis for a large-scale facility for the production of green hydrogen, project partners bp and Nobian will jointly investigate the following areas: - Electrical connection & renewable electricity supply - Electrolysis technology - Dynamic production and use of renewable hydrogen - Heat and oxygen export - Permits, regulations and environmental impacts - Business case evaluation - Stakeholder engagement, communications and project follow-up

Resultaat

The project targets development of solutions to the many technical, commercial and regulatory challenges that come with a first-of-a-kind project at an unprecedented scale in a rapidly developing area. These which will form the basis for further work, being engineering and eventually investment by bp and Nobian into a 250 MW green hydrogen demonstration plant. Moreover, this project will be the first demonstration at this scale, which will support the development and realisation of more projects. This will result in a scale-up of the hydrogen eco-system (e.g. technology suppliers, contractors, infrastructure) which will drive down the cost of green hydrogen and hence support the availability of green hydrogen for decarbonisation in typically hard-to-abate sectors.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.
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