Gas Strategies
Information Services

Personalised for:
Yoana Cholteeva

11 November 2021

Gas Strategies
Information Services

Personalised for: Yoana Cholteeva

Contents

Gas Strategies Group

10 Saint Bride Street
London UK
EC4A 4AD

ISSN: 0964-8496

T: +44(0) 20 7332 9900
W: www.gasstrategies.com
Twitter @GasStrategies

Editorials

+44(0) 20 7332 9957
editor@gasstrategies.com

Subscriptions

+44(0) 20 7332 9976
subscriptions@gasstrategies.com

Shell and Hydro Havrand to explore joint green hydrogen projects in Europe

Shell's New Energies Europe division and Hydro Havrand, a green hydrogen subsidiary of Norwegian aluminium and renewable energy company Norsk Hydro, have signed a memorandum of understanding (MoU) to explore the potential for joint green hydrogen projects, starting in Europe.

The pair said that the decision is motivated by wanting to produce and supply hydrogen to help decarbonise their own operations, as well as supply customers in heavy industries, the maritime sector and road transport.

Hydro Havrand said that it hopes replacing natural gas for heating purposes with hydrogen from renewables in its aluminium production will help it reduce its greenhouse gas (GHG) emissions by 30% by 2030.

Arvid Moss, Norsk Hydro executive vice president for energy said: "Hydro looks to green hydrogen as a way to reduce our aluminium's carbon footprint even further, as well as a business opportunity on its own merits in the ongoing decarbonisation of the economy."

Shell has committed to net-zero emissions by 2050 and is planning to reduce production of traditional fuels by 55% and produce more low-carbon fuels, chemicals and energy products by 2030.

Stephen Harrison, managing director at German-based sbh4 consulting, told Gas Matter Today that along with operational decarbonisation, some of the shared benefits for the companies will include "economies of scale and shared financial risk on major utility scale capex projects. Either could do this alone from a technology perspective. It is more about leveraging scale in high demand energy and power consuming locations."

Shell and Hydro Havrand did not disclose the exact locations in Europe where they plan to develop their projects but said they intend to expand into additional regions outside Europe over time.

In terms of picking strategic locations, Harrison said: "Generally, more than 50% electrolyser utilisation is essential to justify a green hydrogen project in Europe. The situation is driven by the cost of CO2 emissions. In Denmark, Sweden and Norway they are very expensive."

On the other hand, "in Poland they are at almost no cost. This favours the production of green hydrogen over grey in the nations where CO2 emissions add to the cost of grey hydrogen production," he added.

German potential

For his part, an industry expert told Gas Matters Today that, while the news about the collaboration was "positive," green hydrogen derived from electrolysis remained "a lot more

expensive” than grey hydrogen.

“I don’t think European carbon prices are high enough to bridge the gap,” which raised the question of whether Shell and Hydro Havrand “are doing something which is economically sensible or not,” he said.

Shell plans to use green hydrogen in a range of sectors and in July the Anglo-Dutch major announced the construction of Europe’s largest hydrogen electrolyser at an energy and chemicals park in the Rhineland, western Germany.

Forming part of the EC-funded Refhyne project, the 10 MW polymer electrolyte membrane (PEM) electrolyser is planned to use renewable energy to initially produce up to 1,300 tonnes of green hydrogen per year.

Armin Laschet, minister-president of North Rhine-Westphalia has previously said that there is a big drive for the development in the Rhineland region, as 30% of German demand for hydrogen already comes from the German state’s industrial sector and is forecast to double by 2030. - YC

Consulting

+44 (0) 20 7332 9900
consult@gasstrategies.com

Alphatania Training

+44 (0) 20 7332 9910
training@gasstrategies.com

Information Services

+44 (0) 20 7332 9976
subscriptions@gasstrategies.com