

REFHYNE

02/04/2026

The European Commission confirms financing for the REFHYNE 2 project

Wesseling, Germany

On the 17th of March, the European Climate, Infrastructure and Environment Executive Agency (CINEA) confirmed the release of the remaining funds from the €32.4 million grant allocated to support the installation of REFHYNE 2, a 100 MW proton exchange membrane (PEM) electrolyser at Shell Energy and Chemicals Park Rheinland in Germany. This follows Shell Deutschland GmbH (“Shell”) taking Final Investment Decision (FID) to progress REFHYNE 2 on 29 July 2024.

Once operational, the electrolyser will produce up to 44 tonnes of renewable hydrogen per day. The hydrogen produced by REFHYNE 2 is expected to be classified as a renewable fuel of non-biological origin (RFNBO) and will initially be fully utilised by Shell Energy and Chemicals Park Rheinland to help reduce the carbon intensity of site operations and products.

The REFHYNE 2 project builds on the lessons learnt from the REFHYNE 1 project, which installed the first 10 MW PEM electrolyser in operation at the Shell Energy and Chemicals Park Rheinland site in July 2021. The 100 MW PEM electrolyser in the REFHYNE 2 project is 100% Shell equity. Nine consortium participants from six European countries are collaborating with a view to establishing a sustainable and viable business case for large-scale electrolysis at refineries.

The European Union has recognised the significant role hydrogen can play in decarbonising hard-to-abate sectors such as industry, heating and heavy duty transport. Its European Hydrogen Strategy sets out an ambitious renewable hydrogen production target of 40 GW of electrolyser capacity in Europe by 2030, equivalent to producing 10 million tonnes of renewable hydrogen. REFHYNE 2 will help the EU achieve its target and provide valuable insights into the challenges of scaling up.

REFHYNE 2 is supported by CINEA, whose mission is to support stakeholders in delivering the European Green Deal through high-quality programme management. This project has received funding from the European Union’s **Horizon 2020** Research and Innovation Programme under Grant Agreement Number **101036970**.

Quotes from REFHYNE 2 Consortium:

Alexandra Bech Gjørsv, CEO, SINTEF: “The European Commission’s approval of funding for REFHYNE 2 represents a significant milestone in advancing Europe’s strategic leadership in clean energy innovation. It reflects strong confidence in the European hydrogen ecosystem and acknowledges the role of the REFHYNE consortium partners in driving the development and deployment of large-scale renewable hydrogen technologies. REFHYNE 2 will demonstrate the industrial readiness of electrolysis technologies, enabling accelerated decarbonisation across key sectors and contributing directly to the objectives of the European Green Deal and the Clean Industrial Deal.”

Andrew Beard, VP Hydrogen Shell: “REFHYNE 2 is proof that when clear policy and decisive EU funding, such as support from CINEA, come together with strong partnerships, we can turn ambition

into reality. Together, we're building industrial-scale renewable hydrogen and contributing to a more resilient, low-carbon Europe."

"The realization of this project demonstrates how strong political commitment and incentives can unlock meaningful progress," said **Robert Eichelmann, Senior Vice President EMEA, Linde Engineering**. "It also highlights the power of collaboration in delivering world-scale, industry-leading projects. From concept to implementation, we are proud to contribute Linde's experience in decarbonizing energy-intensive industries utilizing supportive frameworks and drawing on decades of delivering large hydrogen solutions."

Pedram Pazouki, ITM Vice President Products and Projects: "We are pleased that CINEA has confirmed the release of the remaining grant funds for the build of REFHYNE 2. This decision is a strong vote of confidence in the project and in the role of clean hydrogen in decarbonising European industry. Thanks to the outstanding collaboration of the consortium partners, REFHYNE 2 is progressing well and remains firmly on track, with key technical and construction milestones being delivered as planned."

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Acknowledgements

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