



Repsol joins international consortium to develop cutting-edge renewable hydrogen technology

- The consortium has presented an application for European Green Deal funding to develop the first 100 MW alkaline electrolyzer plant in Europe.

100 MW

Development of a large-scale electrolyzer for the first time in Europe

The H24All project, led by a consortium of fifteen partners, has presented an application for European Green Deal funding to develop Europe's first 100 megawatt (MW) alkaline electrolyzer plant which will be connected to a Repsol industrial site.

The consortium aims to pave the way for a new and competitive hydrogen industry based on European know-how through innovation by developing, building, operating, and demonstrating the sustainability of a 100 MW high-pressure alkaline electrolyzer. The technology will be demonstrated in real operation according to end-users' needs, meeting market requirements for competitive low-carbon hydrogen production.

Partners in the consortium represent the whole value chain of hydrogen from six different countries (Belgium, Denmark, Germany, Norway, Spain, and Turkey). The partners include research centers, material suppliers, engineering firms specializing in electrolyzers, electro-intensive industries, energy and automotive companies, universities, and industry associations, all of which have a high level of expertise in this field and are safety-oriented and committed to CO₂ reduction.

During the H24All project, partners will bring together different innovative solutions that together will represent, in a record time, significant progress in hydrogen technologies that improve the competitiveness and viability of an electrolyzer while reducing the investment needed as well as operating costs. The objective for the Green Deal project will be to boost the technology and the use of renewable hydrogen by reducing the cost to close to €3/kg H₂.

This project will be the validation reference of an innovative and competitive technology at pre-commercial scale. The economic and business-modelling case will provide quantitative evidence that will reduce the risk for other hydrogen infrastructure deployment across Europe. The complete timeline of the project encompasses an expected three years of research, development, and construction plus two years of the demonstration and validation phase.





This initiative will represent a major boost to the technological development of renewable hydrogen production and will have a positive effect on other industries, such as mobility, refining, synthetic fuel production, and renewable power generation

Boosting energy transition

Repsol aims to become a leader in the production of hydrogen in the Iberian Peninsula by reaching a production equivalent to 400 MW by 2025. Repsol's refining business is currently the largest consumer and producer of this product in Spain, and it will, through its Technology Lab, contribute its technological capabilities, knowledge, and experience in hydrogen to the consortium. This project represents another decisive step for Repsol in leading the energy transition, transforming its industrial complexes into multi-energy hubs, and achieving net zero emissions by 2050.

