European Commission

MANUFACTURING OF COMPONENTS FOR ENERGY INTENSIVE INDUSTRIES

INNOVATION FUND

Deploying innovative net-zero technologies for climate neutrality

H2-GIGA: Large scale production of high performing electrodes

The Innovation Fund is 100% funded by the EU Emissions Trading System

| Project Factsheet

H2-GIGA is an innovative project focused on producing high-efficiency electrodes for high-pressure alkaline electrolysis-based hydrogen production at a large scale, while insourcing the production of the nickel-foam, the material used for the manufacturing of electrodes. It will implement a production technology that is scalable and efficient, allowing for the production of high-quality electrodes at a lower cost and with better performance. The project will thus support the competitiveness of the EU industry via the production of high value components for more efficient alkaline electrolysers.

H2-GIGA introduces proprietary electroplating innovations, that not only advance electrode technology but also integrate scalable, sustainable production methods. The nickel foam production insourcing and high-performing electrode production in Europe will contribute to the reduction of the dependency on imports. The facility will produce electrodes for a minimum of 0.5-gigawatt (GW)

COORDINATOR
HYDROGENPRO ASA

LOCATION
Denmark

CATEGORY
Energy intensive industries (EII)

SECTOR
Manufacturing of components for energy intensive industries

AMOUNT OF INNOVATION FUND GRANT
EUR 16,497,815

EXPECTED GHG EMISSIONS AVOIDANCE
2,680,676 tonnes CO2 equivalent

STARTING DATE
01 July, 2024

ENTRY INTO OPERATION DATE
30 April, 2027

FINANCIAL CLOSE DATE
28 February, 2026

**Calculated vs. the 2021-2025 ETS benchmark of 6.84 tCO2e/tH2, not taking into account additional carbon abatement due to substitution effects in the H2 end use application, i.e. conservative estimate.*

electrolyser capacity, with a future expansion to one GW planned.

Aligned with the EU's climate and industrial policies, H2-GIGA supports the European Green Deal by supporting high-volume production of green hydrogen via the establishment of high-efficiency electrodes production in Europe, particularly critical for heavy industries aiming to decarbonize. By fostering European-based supply chains for green hydrogen technology, H2-GIGA contributes to the goals set in the Net-Zero Industry Act (NZIA), to EU's goal to achieve net-zero emissions by 2050 and to the REPowerEU Plan to phase out Europe's dependency on Russian fossil fuels. The project is scalable and aims to expand to U.S. and Asian markets, further amplifying its impact.

Located in Randers, Denmark, the H2-GIGA facility will create approximately 70 high-quality jobs in the production plant when operating at full capacity, plus indirectly to another 75 jobs in the hydrogen supply chain. The project will stimulate regional development in the area, contributing to the growth of the local economy and improving the quality of life for residents.

| Participants

HYDROGENPRO ASA	Norway