



CRAVE H2 – Green Hydrogen Valley project in Crete

Crete, known for its abundant solar and wind resources, has experienced rapid growth in the installation of renewable energy sources. However, this is leading to intermittency issues that are impacting the reliability and efficiency of the island's electric grid.

The CRAVE H2 (Crete-Aegean Hydrogen Valley) project has set out to address the challenges associated with grid stability caused by intermittent renewable energy sources and the increasing demand for electricity.

With the aim to create a hydrogen hub on Crete, the plan calls for using renewable electricity to produce green hydrogen via electrolysis and reuse of energy stored through fuel cells.

It will showcase how hydrogen can become a vital medium on the island in order to reduce the use of polluting and externally imported fossil resources and enhance electric grid stabilization.

Technologies will be deployed to cover the entire hydrogen value chain – from production (securing dedicated renewable electricity production from the 582 MW AIGAI0 wind farm project on Crete to produce 500 tons of green hydrogen annually) to subsequent high-pressure storage and distribution to hydrogen refueling stations and potential off-takers (buses and marine vessels in the future)



Two of Ballard's 200kW FCgen-XD fuel cell modules will be installed in the container solution.

Project partners

Eunice Energy group, Greece's sole green renewable energy power supplier, is leading the project. Joining Eunice in the consortium are also **Industrie De Nora**, producer of electrolysis systems, **Solmar Tours**, the largest tourism company in Crete, the **Politecnico di Torino**, one of Europe's leading technological universities, the **National Centre for Research and Technological Development (EKETA)**, the research department of the **Greek Electricity Distribution Network Operator (DEDDIE)**, as well as the **Region of Crete** and **Ballard Power Systems**.

Project Steps:

May 2023 – Project start

December 2023 – Design and build of fuel cell system

December 2024 – Delivery of FCgen-XD modules

May 2026 – System build & commissioning

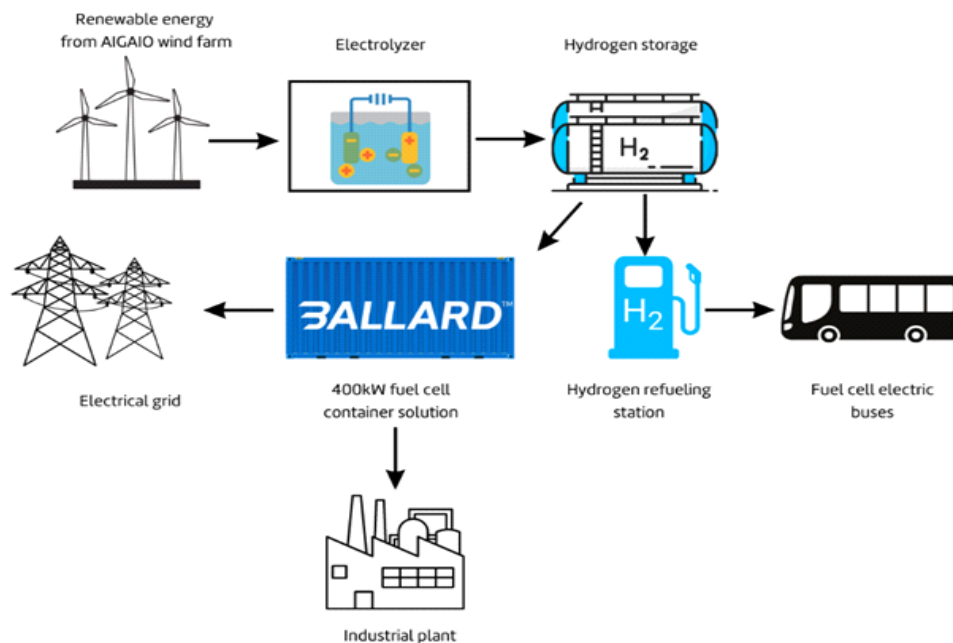
October 2026 – Training and support

May 2028 – Performance evaluation of fuel cell buses on transfer and excursion routes

Ballard's role in the project

Within the framework of CRAVE H2, Ballard will design, manufacture, and install a state-of-the-art 400kW hydrogen fuel cell container solution, ensuring a steady and reliable electricity supply for the people of Crete.

The deployment of Ballard's fuel cell container solution will enable Crete to maximize the utilization of its renewable energy sources while maintaining a stable and resilient electrical grid. The system's flexibility and rapid response capabilities, make it an ideal choice for grid stabilization, mitigating the impacts of renewable energy intermittency and contributing to Crete's transition towards a carbon-neutral future.



The CRAVE H2 project has received €7.994,812 in funding from the European Commission and the Clean Hydrogen Partnership.



Co-funded by the European Union

About Ballard Power Systems

Ballard is a world leader in the development, manufacture, sale, and servicing of PEM hydrogen fuel cells. With more than 44 years of experience, Ballard represent decades of innovation and engineering leadership in clean energy solutions. Our fuel cell technology powers buses, trucks, trains and ships, as well as stationary power systems.

To learn more about Ballard, please visit: www.ballard.com

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