



HYDROGÈNE DE FRANCE

HDF Energy and ABB collaborate to jointly develop a multi-megawatt hydrogen fuel cell system, accelerating the decarbonisation of heavy maritime transport

- **Strategic alliance:** HDF Energy and ABB Marine & Ports enter a partnership to design, certify, manufacture and commercialise a scalable 1 MW+ maritime fuel cell system for vessel propulsion and auxiliary power.
- **Decarbonisation enabler:** As a seagoing technology, fuel cells can deliver significant reductions in emissions – particularly where green hydrogen is the fuel source.
- **Global market potential:** The technology aligns with both companies' positions at the forefront of the growing clean shipping market.
- **Confirmation of funding and industrial program rollout:** Following the official signing of its IPCEI contract with the French State for a maximum amount of up to €168.8 million, HDF Energy is accelerating—through this partnership with ABB—its industrial program dedicated to the design and industrialisation of high-power fuel cells for maritime, rail, and power grid applications.

Bordeaux, December 15, 2025 - HDF Energy and ABB's Marine & Ports division have signed a joint-development agreement to develop a scalable high-power maritime fuel cell system for propulsion and auxiliary power of vessels.



From left to right: ABB (Timo Keränen, Sami Kanerva, Saara Kuusisto), HDF Energy (Hanane El Hamraoui, Guilain Pédezert, Olivier Papineau) at the signing ceremony of the JDA.

Towards a New Era in Maritime Propulsion

Maritime transport generates around 3% of global greenhouse gas emissions. Supporting the IMO (International Maritime Organisation)'s ambition to reduce the environmental footprint of maritime transport, meeting this challenge requires a shift to clean propulsion and auxiliary technologies capable of enabling zero-emission operations — allowing ship operators to comply with tightening environmental regulations, cut port-side emissions, and contribute to cleaner coastal waters.

Combining Hydrogen Fuel Cell Innovation with Marine Engineering Excellence

The partnership between ABB and HDF Energy is purpose-built to help meet global decarbonisation targets. The high-power fuel cell will provide ship owners, operators, naval architects and shipyards with a proven, clean hydrogen-powered solution to propel vessels such as passenger ferries, cruise ships, container ships, offshore service vessels and coast guard fleets, while also powering their auxiliary systems (production of electricity on-board, air-conditioning power supply).

As part of the collaboration:

- HDF Energy, expert in fuel cell systems and hydrogen infrastructure, will lead overall design, certification, mechanical integration, manufacturing, testing and commercialisation of the high-power fuel cell.
- ABB, a global leader in automation and electrification, will lead the system integration, ensuring compatibility with ship power systems, and leverage its global sales network to promote and commercialise the jointly developed solution.



Building on Momentum across the Asia-Pacific region

This partnership reinforces HDF Energy's growing international presence in maritime decarbonisation. The company has already signed Memorandums of Understanding (MoUs) in Vietnam, the Philippines, and Indonesia to advance the use of green hydrogen and fuel cell technologies in maritime transport. Through these partnerships, HDF Energy is working with Governments and local stakeholders to replace conventional diesel propulsion on inter-island and coastal routes with clean, reliable hydrogen power — demonstrating both the readiness of its technology and the emergence of a concrete market for zero-emission maritime solutions.

Part of the European Industrial IPCEI Program supported by the French State

This collaborative project is part of HDF Energy's broader industrial plan to develop and industrialise multi-megawatt fuel cells for heavy maritime and rail mobility, as well as public grid electricity generation. This industrial plan has been recognised as part of the 'Hy2Move' wave of the Important Projects of Common European Interest (IPCEI) Hydrogen program, and benefits from French State aid under the France 2030 plan. The signed financing agreement now enables HDF Energy to move into the operational phase of the program.

Hanane El Hamraoui, CEO of HDF Energy, commented: "Collaborating with ABB brings together two leaders with complementary expertise. By combining ABB's world class marine systems capabilities with HDF's leadership in hydrogen-powered solutions, we will be delivering a system capable of powering the next generation of zero-emission vessels. This is more than technological development — it's about enabling a systemic transformation in how maritime transport is powered."

Rune Braastad, Division President of ABB's Marine & Ports division stated: "We are looking forward to this collaboration and are impressed about the unique capabilities of HDF Energy to design and produce a megawatt-scale fuel cell unit at their Blanquefort facilities. The scale of their factory and test field enables them to run load tests to the produced units using self-produced green hydrogen, which is extraordinary in the industry."

ABOUT HYDROGÈNE DE FRANCE (HDF Energy)

HDF Energy is a leading global player in the hydrogen industry, dedicated to developing large-scale hydrogen infrastructure and advanced multi-megawatt fuel cell technology.

These fuel cells generate electricity from hydrogen, driving the decarbonization efforts across the power generation, heavy maritime and rail mobility sectors. Set to commence production in 2026 at HDF Energy's facility near Bordeaux (France), these fuel cells serve as the cornerstone of the power plants and heavy mobility decarbonization solutions developed by HDF Energy.

HDF Energy's Renewstable® power plants deliver non-intermittent renewable, stable and baseload power by seamlessly integrating intermittent renewable energy sources with substantial on-site energy storage in the form of green hydrogen. HDF Energy is also developing extensive infrastructure for the mass production of carbon-free hydrogen.

Backed by a team of over 150 hydrogen experts boasting more than a decade of operational experience across the value chain, HDF Energy is currently developing a portfolio of advanced projects valued at over €3 billion.

Headquartered in France, HDF Energy has regional offices in Latin America, the Caribbean, Africa and the Asia-Pacific region with 35+ nationalities among its staff. Since 2021, the Group has been listed on the Euronext Paris stock market.

More information, visit: www.hdf-energy.com

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