



Leading the world in energy transition to pioneer the decarbonisation of maritime transport. Setting the standards for regulation of hydrogen installation technologies.

The future of sustainable passenger and cargo vessels

Electro-hydrogen Propulsion



**Green
NAVY**

Designers of clean
maritime transport

Green, clean, viable

On-going developments in hydrogen technology and infrastructure are creating commercially attractive options for passenger and cargo transport industries worldwide - fueled by public awareness and demand.

By designing catamarans equipped with electro-hydrogen propulsion, **Green Navy** is a major player in the energy transition and the decarbonisation of maritime transport. Our team of engineers has re-engineered the propulsion system and the vessel architecture to reduce mass and optimise energy efficiency.

Green Navy offers adaptable, efficient and environmentally-friendly solutions for operators to buy or lease.

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Electro-hydrogen propulsion from Green Navy

How?

This clean, green and renewable, power source generates electricity via a fuel cell which combines hydrogen stored on board with oxygen from the air to create electricity and water. The electricity charges the on-board battery bank to power the vessel's electric engines.

Electro-hydrogen propulsion is cleaner than diesel or other fossil fuels because it does not produce harmful emissions like CO₂ or sulphur which contribute to air pollution and climate change. It is quieter and more efficient, making it better for the environment and closer to the global goal of cleaner and more sustainable transportation on water.

The Green Navy solution goes much further

Green Navy is the first company in Europe to implement this technology on board in the context of the transport of passengers and goods which makes our passenger catamaran unique in the marketplace. The vessel will be supplied with green hydrogen to ensure a complete carbon-free chain. In addition, we have developed an innovative transmission system, with an optimised reduction system that develops greater torque and reduced propeller rotation speed. This improves the efficiency and reduces the energy consumption of our vessels.

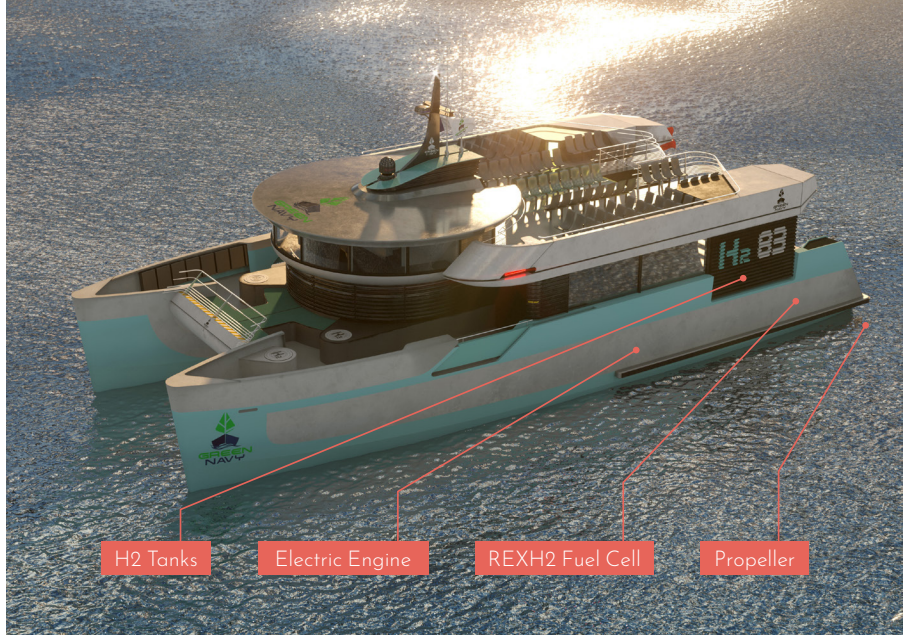
Green Navy also offers an extremely advantageous ratio in terms of energy consumed, weight of vessel and distance travelled.

Specifications

Length overall: 25 m
Beam overall: 10,30 m
Lightship displacement: 60 t
Draught max: 1,75m
Persons on board: 196 + 4 crew
Construction: Aluminium 5083
Power: 2x 130kW @ 3000rpm
Max. quantity of batteries 42kWh: 16
H2 storage: 201 kg (24 x 8,4 kg)
Fuel cell: REXH2 2x 70kW
Top speed: 11,2 kn

Maximum autonomy

At 8,3 kn: 300 nm
At 9,3 kn: 244 nm
At 10 kn: 200 nm



Electro-hydrogen propulsion from Green Navy

Why?

Our commitment to efficiency has seen us work closely with G-Sea Design on the ultimate precision of structural calculations. This has resulted in a lightweight catamaran with exceptional strength and rigidity – tested in all weather conditions and in passenger/cargo/ and combined configurations.

We have a clean technology vessel that is carbon-free with low energy consumption, offers full marine capacity, is made in France and available at short notice.

What differentiates Green Navy is our flexibility

The **Green Navy** electro-hydrogen solution is uniquely adaptable to every operator's budget. Any PAX, CARGO or PAX/CARGO layout can be built with a carefully calculated and optimised weight/autonomy ratio that dictates the number of batteries and hydrogen bottles required.

Electro-hydrogen propulsion from Green Navy

The future is yours today

Choosing electro-hydrogen propulsion can be driven by several compelling commercial reasons as the maritime industry is increasingly looking for cleaner and more sustainable propulsion options:

Environmental Regulations: Stricter environmental regulations are being implemented globally to reduce emissions from maritime transport. Electro-hydrogen propulsion can help ships comply with these regulations by eliminating greenhouse gas emissions, including CO₂ and NO_x.

Growing Demand for Sustainable Shipping: There is a growing demand for eco-friendly transportation in the maritime sector. Professional shipowners can talk to **Green Navy** about a range of electro-hydrogen solutions to meet this demand, especially in regions with a focus on sustainable tourism and transportation.

Lower Operating Costs: Electro-hydrogen propulsion systems are more efficient and cost-effective. They can offer lower operating costs and reduced maintenance requirements because the propulsion system maintenance is simpler and does not require oil changes.

Government Incentives: Many governments are offering incentives, grants, and subsidies to promote the adoption of clean energy technologies in the maritime industry.

Competitive Advantage: Being an early adopter of electro hydrogen technology in the catamaran market can provide a competitive advantage. It can set your business apart and attract environmentally conscious customers.

In July 2023, 175 International Maritime Organisation member countries signed a 'FuelEU Maritime' agreement to reduce greenhouse gas emissions from maritime freight.

To meet these objectives, **Green Navy** is proud to offer solutions to professional operators of passenger and freight ocean transport.





'Prometeo'

Europe's first electro-hydrogen powered PAX and CARGO catamaran. Production started - September 2023.

Carbon-free | Silent | Vibration-free | Odour-free | Easily manoeuvrable

Collaborating with governments, research institutions and industry partners to showcase the advantages of hydrogen storage and fuel cell technologies across a range of marine applications from regular island hopping, to growing eco-tourism.

Our design credentials

'Prometeo' has been designed by our naval architect, Guy Saillard. His expertise in the maritime arena includes development of innovative vessels such as Planet Solar, Energy Observer and the scientific schooner 'Tara'. He has defined the propulsion, structure and performance characteristics for **Green Navy** vessels to create the best power-to-weight ratios and the best efficiency, thus increasing the operational freedom of the fleet whilst lowering energy consumption.

Our partners

TOYOTA



EODev

Eneria

MERRÉ

Green Navy SAS
Route de la Porte
La Forêt-Fouesnant 29940
Brittany
FRANCE
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