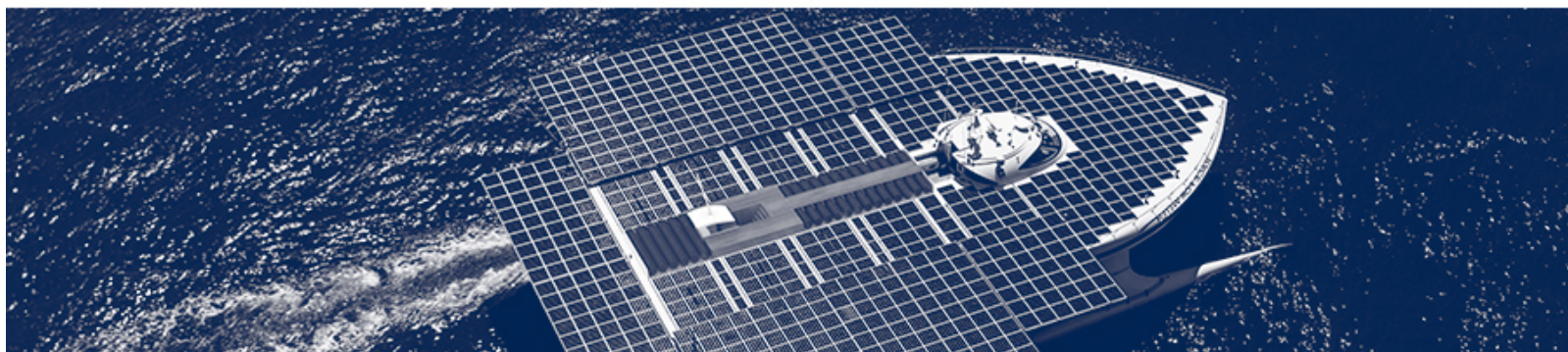


Thursday 24th of November 2016

[Press release #2](#)

# RACE FOR WATER ODYSSEY 2017-2021

A pioneering vessel, a crucial mission for the oceans



## Race for Water continues its quest for self-sufficiency thanks to a new hydrogen system

The catamaran, *Race for Water*, will be equipped with an innovative hydrogen system, which will quadruple its self-sufficiency on the next Odyssey (2017-2021), thanks to the expertise of its partner, Swiss Hydrogen. A pioneering vessel, designed specifically for scientific research, and a unique platform to raise awareness about ocean conservation, the *Race for Water* catamaran is also showcasing energy transition.

As an exceptional demonstrator vessel of clean-tech innovations, *Race for Water* will make it possible for the crew to completely free themselves of the need for fossil fuels during the new mission against the pollution of the oceans, especially that of plastic waste.

To broaden the reach of its sailing mission, the Race for Water Foundation and its partner, Swiss Hydrogen, equip the vessel with a system for hydrogen production, storage and conversion. Thus, 25 300-bar hydrogen tanks, two 30kW fuel cells, two 5kW electrolyzers will supplement the 500m<sup>2</sup> of solar panels and the four lithium ion batteries (754 kWh) on board. Altogether, the hydrogen system allows for the storage of 2,800 kWh, equal to **a gain of up to 6 days of self-sufficiency**, with a very advantageous mass balance: the hydrogen storage is 10 times lighter than the storage by battery.



### How does solar / hydrogen interaction work?

While sailing during the day, solar energy, which is collected by the solar generator situated on the deck of the vessel, is used both to provide power directly to the ship's engines and for life on board and also to recharge the batteries, to power the boat at night.

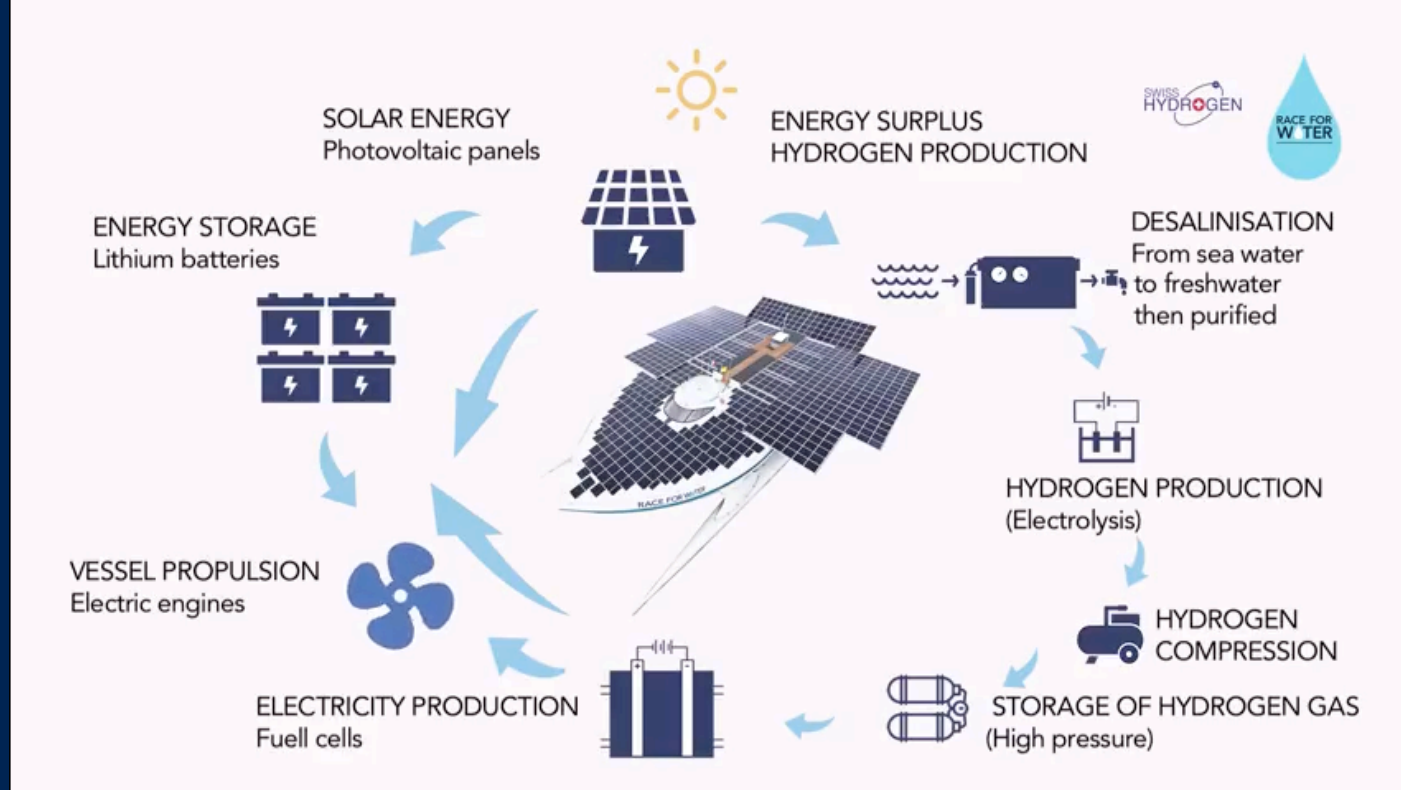
When the boat is not sailing, the surplus solar energy will be used to produce hydrogen. When necessary, the hydrogen is converted into electricity through the fuel cell system that will power the engines or recharge the batteries.

The operating system can be summarised as follows:

1. Sea water is pumped, desalinated and stored on board
2. This fresh water is then purified before being electrolysed thanks to the surplus photovoltaic energy available.
3. The electrolyser produces hydrogen at 50 bar, which is dried, compressed at 350 bar and then stored in specially dedicated cylinders. There is capacity for nearly 200kg of hydrogen to be stored.
4. Hydrogen will be converted to electricity, as required, by the two 30kW fuel cells, which will maintain the charge level of the batteries or can directly power the electric engine (propellers).

The *Race for Water* vessel therefore has infinite clean and reusable energy for its propulsion as well as for living on board.





Download the rights-free infographic from the [Race for Water Foundation press corner](#)



#### Alexandre Closset, President of Swiss Hydrogen SA

*“As a specialist in hydrogen solutions, Swiss Hydrogen is proud to put its expertise to the service of conserving the oceans. Beyond providing our technology, we are passionately committed to the cause being championed by Race for Water. This vessel is an essential component of the new odyssey and it had to complement the message being carried by the Foundation. Combatting plastic pollution with a vessel that is 100% energy self-sufficient brings the mission to life. By equipping this Odyssey, we are also showing the maritime world that a clean energy solution is possible. Hydrogen technologies are now mature, reliable and sustainable, including in the marine environment.”*

#### An eco-responsible platform for scientific and oceanographic research

Without any negative impact on the environment, the *Race for Water* vessel manages to be an exceptionally welcoming platform that enables scientists to carry out their work without olfactory, visual or aural pollution. The interior layout has been improved to provide optimal working conditions.

For more information on the availability of the *Race for Water* vessel please contact the Foundation.

The start of this Odyssey in the service of the oceans, science and energy transition is scheduled for April 2017.



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### PRESS AREA

[www.raceforwater.org/press](http://www.raceforwater.org/press)

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Race for Water remains committed and head back to sea with the Race for Water Odyssey : a 5-year expedition around the world dedicated to science and energy transition, using the ocean, the sun and the wind as its sole sources of energy.

The Race for Water Foundation is an organization dedicated to the preservation of water and the ocean in particular. This indispensable resource is under massive threat from plastic pollution and must be protected. The Foundation aims to identify, promote and implement solutions that will give end-of-life plastic a value and create new sources of income for the people most affected by pollution. Using this innovative approach inspired by the principles of a circular economy and social entrepreneurship, Race for Water Foundation seeks to prevent plastic litter from reaching waterways and leaking all the way down to the ocean.

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