

This Boat Will Travel the Globe with Solar, Wind, and Self-Generated Hydrogen

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The Energy Observer has been dubbed “The Solar Impulse of the seas” and could usher in a new era of ocean travel.

When the futuristic catamaran Energy Observer sets sail for its round-the-world voyage next February, it will be powered solely by renewable energy, thanks to onboard solar panels, wind turbines, and hydrogen produced from electrolysis of ocean water. This six year voyage could have big implications for the future of not just maritime transport, but also land-based energy systems, thanks to the inclusion of a renewably-produced hydrogen energy component. While the promise of the coming hydrogen economy is a contentious point among renewable energy supporters, the lessons learned in the voyage of the Energy Observer could be put to work in developing a sustainable integration of hydrogen as an energy storage medium.

The propulsion for the Energy Observer will come from electric motors, which will be powered by a battery bank fed by solar panels and wind turbines, but the addition of an electrolysis system, which will split water into hydrogen and oxygen and then store the hydrogen, the vessel

will set a precedent as the world's first boat "with an autonomous means of producing hydrogen" to help it along on its zero carbon emissions voyage.

The boat, which formerly won the Jules Verne trophy in 1994 for a non-stop voyage round the world, has been modified to become the Energy Observer, thanks to a partnership between the CEA-Liten research center in France and "a team of naval architects," and is currently undergoing the installation of the renewable energy components at a shipyard at Saint-Malo, France. The project, which was under wraps until just recently, will cost about \$4.72 million to build, and will act as a living laboratory for CEA-Liten, with a suite of sensors onboard to monitor and optimize its performance.

According to Florence Lambert, director of [CEA-Liten](#), the finished boat will be "emblematic of what will be the energy networks of tomorrow, with solutions that could even be used within five years," and gave as an example that future homes "could incorporate a system of hydrogen storage, which is produced during the summer months and then used in the winter."

The boat's 'world tour' won't be quick or cheap, as the [Energy Observer](#) team has a total of 101 stopovers across the globe planned for the voyage, where it will act as a traveling exhibition of the technology, and the annual cost of this renewable energy journey could reach "a minimum of €4m a year."

According to [the Guardian](#), one of the project's notable supporters is French environmentalist Nicolas Hulot, who praised the efforts as being "very promising" for ocean transport, and said that the voyage will demonstrate "that you can have great autonomy (at sea) and you can store and find energy when there isn't any more wind or sun."

At the risk of subverting the forthcoming comments that we already have a zero carbon emissions mode of ocean transport, otherwise known as "sailing," this project, if the systems work according to design, will be essentially proving the viability of self-powered electric boating, similar to what the Solar Impulse proved with its round-the-world solar flight. Considering the advances being made in electric vehicles on land, it certainly seems high time to adopt a similar approach to ocean travel, which has a number of different challenges than those faced by wheeled vehicles.

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