

# Lhyfe



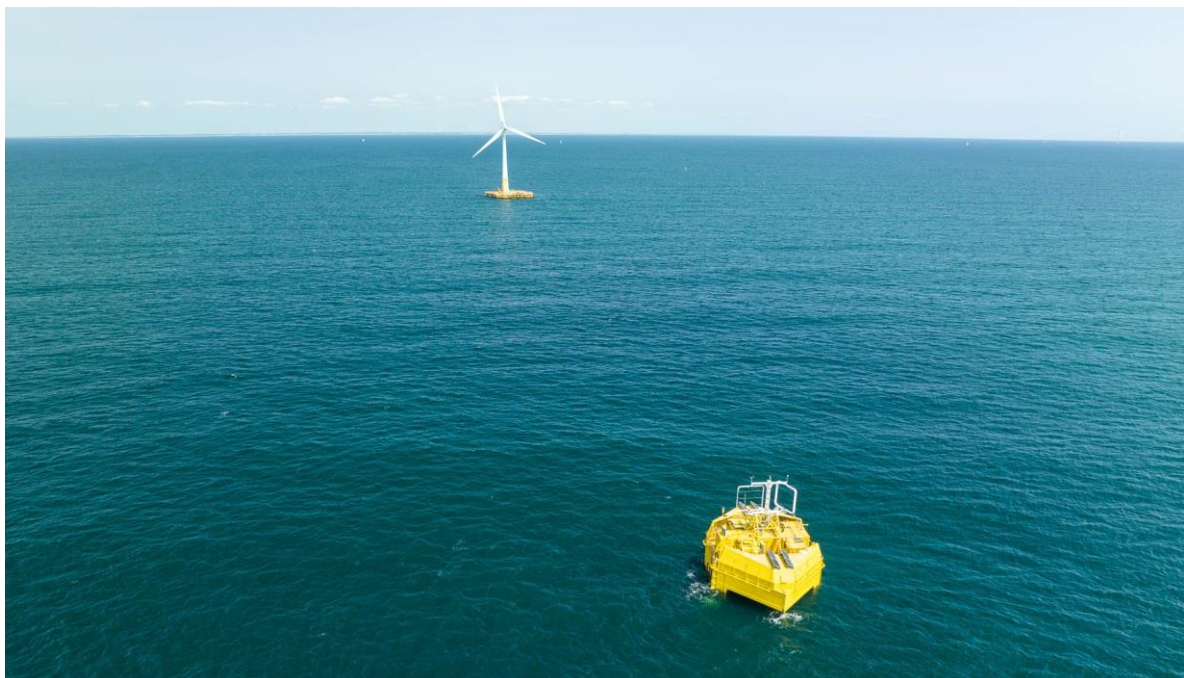
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## Lhyfe announces the return to port of Sealhyfe, the world's first offshore hydrogen production pilot platform, after achieving all the objectives set at the time of its launch

- On trial since September 2022, first at quay and then at sea at SEM-REV offshore hub test site, Sealhyfe has stored millions of data relating to the production of green hydrogen offshore and has enabled us to experiment offshore operating conditions.
- The lessons learned from this world first, made possible by the excellence of the teams, are already accelerating the large-scale offshore projects needed to decarbonise industry and mobility.

Nantes (France), 24 November 2023, 7:30 am CET – **Lhyfe (EURONEXT: LHYFE)**, one of the world's pioneers in green and renewable hydrogen production, announces that its offshore hydrogen production pilot, known as Sealhyfe, will return to the Quai des Frégates in Saint-Nazaire between this evening and tomorrow morning.



**Caption** at the top: Sealhyfe offshore hydrogen production pilot (Lhyfe), on WAVEGEM platform (GEPS Techno).  
At the bottom: FLOATGEN floating turbine (BW Ideol). On the SEM-REV offshore testing site (Centrale Nantes / OPEN-C) ©Lhyfe

In launching, on September 23, 2022, the world's first offshore hydrogen production pilot, Lhyfe wanted to prove the technical feasibility of such a project and acquire the operational experience needed to quickly scale up.

The company therefore voluntarily chose to confront Sealhyfe under real offshore conditions during several months. It has thus been tested on a floating platform, which has been re-engineered to stabilise the production unit at sea (the WAVEGEM platform, engineered by GEPS Techno), and connected to Central Nantes' SEM-REV offshore testing hub operated by the OPEN-C Foundation, which was already linked with a floating wind turbine (FLOATGEN, engineered and operated by BW Ideol).

For this, Lhyfe and its partners designed, built and assembled all of the technology necessary for producing hydrogen offshore, including the 1 MW electrolyser supplied by Plug. The Sealhyfe platform is capable of producing up to 400 kilograms of hydrogen a day.

As soon as it was launched in September 2022, the platform underwent an initial phase of start-up trials at quay (benchmarking tests, technology and system optimisation, development of key solutions...).

Sealhyfe was then towed to the SEM-REV offshore testing site, for the second phase focused on a strict comparison with the results initially observed at quay and then on additional offshore-specific tests (reliability of offshore production of hydrogen in an isolated environment, management of the platform's movement and environmental stresses, validation of green and renewable hydrogen production software and algorithms...).

**During this testing period at sea, the platform was subjected to a wide variety of weather situations and was able to carry out a series of tests enabling millions of data to be gathered.**

**At the end of these many months of experimentation, Lhyfe has decided to bring the platform back to dock, and Lhyfe will now analyse the data in greater depth, with the main findings likely to be shared as early as January 2024. These results will benefit all Lhyfe's current and future sites, onshore and offshore, and will notably be used as part of stage 2 of its development of hydrogen production offshore: the HOPE project.**

In June, Lhyfe announced that the HOPE project, which it is coordinating as part of a consortium of nine partners, had been selected by the European Commission under the European Clean Hydrogen Partnership and was being awarded a €20 million grant. With HOPE, Lhyfe and its partners are moving up a gear and aiming for commercialisation. From 2026, this unprecedentedly large-scale project (10 MW) will be able to produce up to four tonnes a day of green hydrogen at sea, which will be exported ashore by pipeline, and then compressed and delivered to customers. **Therefore Sealhyfe will give HOPE a huge boost.**

Furthermore, Lhyfe has signed partnership agreements with wind turbine developers and offshore power specialists, such as EDPR, Centrica and Capital Energy, **as well as large-scale offshore projects, such as the Åland Energy Island project with CIP and Flexens, to develop an integrated large-scale renewable energy system based on offshore wind power, including the production of green hydrogen on Åland in Finland.**

**Matthieu Guesné, Founder and CEO of Lhyfe said:** *"We're extremely proud to have brought this unique experimentation to a successful conclusion, and to have taken a new step on the road to producing hydrogen offshore! Our teams have brought their many skills to bear on this world first. We're already benefiting from the experience we've gained and putting it to good use in our next steps towards offshore production. The production of hydrogen at sea is now a reality, and the countdown to scale up has begun!"*

#### About Lhyfe

Lhyfe is a European group devoted to energy transition, and a producer and supplier of green and renewable hydrogen. Its production sites and portfolio of projects intend to provide access to green and renewable hydrogen in industrial quantities and enable the creation of a virtuous energy model capable of decarbonising entire sectors of industry and transport.

In 2021, Lhyfe inaugurated the first industrial-scale green hydrogen production plant in the world to be interconnected with a wind farm. In 2022, Lhyfe inaugurated the first offshore green hydrogen production pilot platform in the world.

Lhyfe is represented in 12 European countries and had 192 employees at the end of June 2023. The company is listed on the Euronext market in Paris (ISIN: FR0014009YQ1 – LHYFE). [Lhyfe.com](https://www.lhyfe.com)

[Click to access the Lhyfe Media Kit \(press kit and visuals\)](#)

#### About Plug

Plug is building an end-to-end green hydrogen ecosystem (production, storage, delivery) to help its customers achieve their business goals and decarbonize the economy. In creating the first commercially viable market for hydrogen fuel cell technology, the company has deployed more than 60,000 fuel cell systems and more than 165 fuelling stations, which is more than anyone else in the world. Plug is also the largest buyer of liquid hydrogen. With ambitions to build and operate a green hydrogen highway across North America and Europe, Plug is building a state-of-the-art Gigafactory to produce electrolyzers and fuel cells, as well as several green hydrogen production plants that will produce 500 tonnes of liquid green hydrogen per day by 2025. Plug will provide its green hydrogen solutions directly to its customers and through joint venture partners across multiple industries, including handling, e-mobility, energy production and industrial applications. For more information visit [www.plugpower.com](https://www.plugpower.com)

#### About Chantiers de l'Atlantique

Thanks to the expertise of its staff and its network of sub-contractors, combined with first-rate industrial facilities, Chantiers de l'Atlantique is a key player in the fields of design, integration, testing and turnkey delivery of cruise ships, military ships and electrical substations for offshore wind farms, and fleet services. The company is addressing tomorrow's challenges head on, offering ships with proven high energy efficiency, which go beyond the most drastic environmental regulations, as well as offshore wind systems that make it a major player in energy transition.

[www.chantiers-atlantique.com](https://www.chantiers-atlantique.com)

#### About GEPS Techno

The blue economy Innovation Lab, GEPS Techno, is an incubator for new isolated offshore applications. The company draws on the results of its research on autonomous solutions, its teams of experts and its test platforms to support customers from the expression of their needs right through to commercialisation. Since 2011, the systems developed by GEPS Techno have accumulated more than 250,000 hours at sea, across the globe. Its design office and operational department, staffed by experts in their field, offer a complete solution for the successful completion of offshore projects. The company caters for the needs of a wide range of markets, including offshore wind energy, oil & gas, defence, submarine cables and ocean science. [www.geps-techno.com](https://www.geps-techno.com)

#### About Centrale Nantes

Centrale Nantes is a French engineering school founded in 1919. It ranks among the best French engineering schools (Le Figaro, L'Etudiant) and in the top 250 worldwide (Times Higher Education). It also came No. 1 in the Les Echos Start and Change Now ranking of schools changing the world. Its graduates engineers, masters and doctoral students that have completed academic courses involving very high level scientific and technological development work. It is an international school with 43% international students, representing over 87 nationalities. Agreements have been signed with 178 universities in 48 countries and two-thirds of students follow a dual degree course. Research and training at Centrale Nantes are organized around three major growth and innovation challenges: sustainable development, digital transition and health. With research platforms ranging from digital simulation to experimentation on prototypes, some of which real sized, and an incubator with 20 years of experience, the school has excellent tools for innovation and collaborations with the business world. As part of a proactive research policy that integrates research labs with industry, Centrale Nantes has 15 industrial chairs and joint laboratories with leading economic players.

For more information: [www.ec-nantes.fr](https://www.ec-nantes.fr). Media library: <https://phototheque.ec-nantes.fr/> @CentraleNantes

#### About the OPEN-C Foundation

The OPEN-C Foundation, created in March 2023, is Europe's largest offshore testing centre for marine renewable energy. It brings together all the French offshore testing resources for floating offshore wind, tidal power, wave energy, offshore hydrogen and floating photovoltaics. Over the next three years, the OPEN-C Foundation will undertake key innovation work, such as the testing of new prototypes of second-generation floating wind turbines. The OPEN-C Foundation is a high impact project which contributes to a more rapid energy transition and to enhancing France's position on these strategic issues.

[www.fondation-open-c.org](https://www.fondation-open-c.org)

#### Contacts:

##### Lhyfe:

##### Industry Press Relations

Nouvelles Graines

Clémence Rebours:

+33 (0)6 60 57 76 43

[c.rebours@nouvelles-graines.com](mailto:c.rebours@nouvelles-graines.com)

##### Financial Press Relations

ACTUS

Manon Clairet

+33 (0)1 53 67 36 73

[mclairet@actus.fr](mailto:mclairet@actus.fr)

##### Investor Relations

LHYFE

Yoann Nguyen

[investors@lhyfe.com](mailto:investors@lhyfe.com)