

Multi-megawatt floating system soon to be set up near Le Croisic, France

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Floating wind turbines for offshore use are seen by many as embodying the future of the sector: they circumvent the problem of unsuitable seabeds and may even cost less than grounded alternatives. A consortium working under the FLOATGEN banner is looking for a share of the pie with the first-ever floating wind turbine to be set-up in the Atlantic close to the French coast.

FLOATGEN is looking to pioneer the expected burgeoning of offshore floating wind farms in European waters. To do so, it will set up a 2 MW turbine in the Atlantic Ocean, at the SEM-REV test site located 12 nautical miles from the city of Le Croisic. The seven-strong consortium hopes that this groundbreaking set-up—on a site which features an electrical substation connected to the national grid—will demonstrate the technical and economic feasibility of floating [wind turbines](#) and enable their development in windy and deep waters that are currently not commercially viable.

The demonstrator is using a cost-efficient, ring-shaped floating platform patented by Ideol. It boasts novel hydrodynamic properties that, according to its manufacturer, 'make its performance exceptional compared to other floating platforms.'

Paul de la Guérivière, CEO of Ideol and coordinator of the project, discusses the technology while the construction of its floating foundation is taking place.

Why is it important for France and Europe to invest in floating offshore wind turbine systems?

At a time when [offshore wind power](#) is undergoing major developments, it is also confronted, in many countries, with a shortage of appropriate sites. As a result, floating wind power is slowly but surely establishing itself as a viable alternative to bottom-fixed [wind power](#). Within this framework, Europe, and especially France with its Mediterranean deep waters, has to be ready to not only compete in this burgeoning market, but actually seize the opportunity to become true market leaders.

What can you tell from the project's results so far?

Several tank tests have been performed and the engineering studies have now been completed. FLOATGEN is currently under construction: the floating foundation is taking shape, the wind turbine and more than 80 % of the mooring material have already been delivered to the Saint-Nazaire harbour.

What were the main difficulties you faced and how did you overcome them?

The project will see an offshore wind turbine connected to the grid by the end of the year. This short timing—four years—has been very challenging for us, as we had to find a site where we could obtain the necessary permits and authorisation, to cope with the different changes in wind turbines, and to ensure that construction would be viable. On the technical side, the most challenging factor has been the interface with the different partners, for construction optimisation, for turbine supply. The strong interest of all partners for our technology and our aligned interests have been key when overcoming these difficulties.

What were your criteria for selecting the test site?

A combination of criteria has led to the choice of the SEM-REV test site off Le Croisic operated by Centrale Nantes: connection to the grid, water depth, distance from the shore... SEM-REV is indeed the world's first multiple MRE test site connected to the grid.

What have you learned so far with regards to the performance and cost of this technology?

We have no doubts about the performance of the floating system: our engineers have been working hard for 5 years and the tank test campaigns have already confirmed the outstanding performance of the overall system. Regarding costs, FLOATGEN gives us valuable experience and knowhow and allows us to define methods and processes for the construction, installation and operation of the floating system, and thus to identify cost reduction levers. We're also working on several R&D projects in order to continue optimising the mooring system which is a key part of the project.

What are your plans once the wind turbine is in place?

The demonstration time will last 2 years in SEM-REV waters. This period will allow us to assess the performance of our floater, to validate the operational and maintenance costs and to prepare for the industrialisation of this solution.

Any advice for other organisations tempted by offshore wind turbines?

To hurry up because the market is becoming structured and because our technology is ready to support commercial projects!

More information: Project website: floatgen.eu/

Provided by CORDIS

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