
Floating offshore wind farm in France: 2 years of scientific surveys on the Groix & Belle-Île pilot site to study its environmental impact in an integrated manner

Following the three scientific surveys carried out in April 2018, August 2018 and May 2019 on the Groix & Belle-Île pilot site, a new survey took place from 29 August to 8 September 2019 as part of the APPEAL collaborative R&D project, coordinated by France Energies Marines and scientifically managed by the University of Western Brittany (UBO). This new survey continues collecting data on the future pilot site ecosystem: measurements of environmental parameters as well as the collection of plankton and benthic animals.

By combining this information from the field with numerical modelling work, the APPEAL project will make it possible to understand the potential effects of floating wind farms on the functioning of coastal ecosystems. Tools to support the integration of such infrastructures at sea may then be proposed.

An integrated approach to the coastal ecosystem

In the complex and coveted environments of coastal marine ecosystems, there are many technical, legal, societal and environmental challenges. The APPEAL collaborative R&D project aims to build an integrated approach at the ecosystem level. The natural sciences are thus associated with the human and social sciences in order to take into account the human dimension through the analysis of activities such as fishing or maritime traffic. The goal? Measure the potential effects of floating wind farms on the functioning of coastal ecosystems as a whole and thus propose tools to assist in the integration of such infrastructures at sea.

The need for offshore surveys

As part of the APPEAL project, two offshore surveys have already taken place in 2018 on the site of the future pilot farm of the *Eoliennes Flottantes de Groix & Belle-Île*, a winning ADEME project developed by a consortium composed of EOLFI, CGN Europe Energy and La Caisse des Dépôts. The 2019 calendar includes 2 new surveys: a first one from May 8 to 20 and a second one from August 29 to September 8. The program includes measurements of environmental parameters (temperature, salinity, etc.) as well as the collection of plankton and benthic animals.

The objective? Identify changes in the ecosystem, comparing the results obtained after 2 years of campaigns (2018 and 2019) with those of the scientific work carried out in the 1960s and 2000s. These campaigns will also be used to establish the initial environmental and ecological state before the implementation of floating wind farms. Various scenarios of the evolution of this ecosystem, after the installation of wind turbines, will then be tested using numerical modelling.

Partners with complementary skills

The APPEAL project, which lasts 3 years, receives financial support from the French State, managed by the National Research Agency (ANR) under the Investment for the Future Programme (ANR-10-IEED-0006-25), and from France Energies Marines. It is scientifically managed by the University of Western Brittany (UBO) and coordinated by France Energies Marines. The project brings together 17 academic and private partners, as well as professionals from the sea such as the Fisheries Committee of Morbihan, who form a consortium with complementary skills and contributions, guaranteeing a high-quality scientific work.

Main information about the APPEAL project

Subject: Socio-ecosystem approach to understand the impacts of floating wind farms

Duration: 3 years (2018-2021)

Financial support: this project receives financial support from the State, managed by the National Research Agency (ANR) as part of the Big Investment Plan (ANR-10-IEED-0006-25), and from the Institute for Energy Transition, France Energies Marines

Coordinator: France Energies Marines

Scientific pilot: University of Western Brittany

Consortium partners:



France Energies Marines in short



Identity: Institute for Energy Transition (ITE) dedicated to Offshore Renewable Energies (ORE) and supported by Investments for the Future Programme

Activity: Research, development, innovation and services in the field of ORE

4 scientific and technical programmes:

- Site characterisation
- Technology design
- Environmental integration
- Farm optimisation

Staff: 35 collaborators (27 FTE)

Annual budget: €2.5 million

Date of creation: 15 March 2012

Headquarters: Bâtiment Cap Océan - 525, avenue Alexis de Rochon - 29280 Plouzané - France

2 regional offices: Atlantic Office in Nantes, Mediterranean Office in Marseille

france-energies-marines.org



University of Western Brittany in short



Identity: scientific, cultural and professional public institution

Activities:

- Initial and continuing training
- Scientific and technological research, dissemination and exploitation of its results
- Orientation, social promotion and professional integration
- Development of the human and social sciences and the scientific, technical and industrial culture
- Participation in the construction of the European Higher Education and Research Area
- International cooperation

Number of staff: 1,336 teachers and teacher-researchers / 965 support and assistance staff

Number of students: 21,2920

Year of creation: 1971

Headquarters: 3, rue des Archives - 29200 Brest - France

3 campus : Brest, Quimper, Morlaix

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