



Two campaigns at the sea in Occitania, off Leucate, to study in an integrated way the impact of floating wind farms

Two campaigns at sea took place from 2 to 8 April and from 2 to 7 September 2018 as part of the APPEAL research project, coordinated by France Energies Marines and scientifically led by the University of Western Brittany. These campaigns were conducted off Leucate - Le Barcarès, on the site of the future pilot farm of the Floating Wind Turbines of the Gulf of Lion, by the Laboratory of Eco-geochemistry of Benthic Environments (LECOB) of the Banyuls Oceanological Observatory. On the agenda: collection and observation of the fauna of the seabed of the area over 2 different seasons. APPEAL, which brings together 17 academic and private partners, including ENGIE Green and RTE, is supported by the Gulf of Lions Marine Natural Park. Through an integrated approach, field results combined with numerical modelling will strengthen the assessment of the effects of floating wind farms on the functioning of coastal ecosystems. The objective: to put these effects into perspective in a global context of climate change and the presence of various anthropogenic activities in order to ultimately propose tools to support the integration of these parks at sea.

An integrated approach to the coastal ecosystem

In the coveted and complex environments of coastal marine ecosystems, there are many technical, legal, societal and environmental challenges. The APPEAL multi-partner research project aims to build an integrated approach at the ecosystem level. The goal? Contribute to the measurement of the effects of floating wind farms on the functioning of coastal ecosystems as a whole and propose tools to assist in the integration of such infrastructures at sea.

The need for sea campaigns and the means used

As part of the APPEAL project, two campaigns were carried out in 2018, on board the Oceanographic Vessel Tethys II (CNRS/INSU), on the site of the future pilot farm of the Floating Wind Turbines of the Gulf of Lion, a project of 4 floating wind turbines selected by the State in 2016 following a call for projects from ADEME and supported by ENGIE, EDP Renewables and La Caisse des Dépôts on the one hand, and by RTE on the other hand, for the electrical connection at sea and on land.

The teams from LECOB, IFREMER de Sète and the P2A Développement environmental design office based in Montpellier were on the job. On the agenda: collection and observation of seabed fauna. Several complementary techniques and equipment were deployed: underwater videos with Pagure II, photos of cutting the first few centimeters of sediment with a SPI (Sediment Profile Imagery) and sampling of organisms living on the bottom (called benthos) with a bucket. The objective? Improve knowledge of the environment and study trophic relationships between different marine organisms. Different scenarios of the evolution of this ecosystem, after the installation of wind turbines, can then be tested.

Partners with complementary contributions

For a period of 3 years, the APPEAL project receives financial support from the State, managed by the Agence Nationale de la Recherche (ANR) under the programme of Investments for the Future (ANR-10-IEED-0006-25), and from France Energies Marines. It is scientifically managed by the University of Western Brittany and coordinated by France Energies Marines. 17 academic and private partners form a consortium with complementary skills and contributions, guaranteeing quality scientific work.

Main information about 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: National reference institute for research on marine renewable energies

Labelling: Institute for Energy Transition (ITE) co-financed by the Big Investment Plan (IA), 26 projects accredited by the Bretagne Atlantique and Méditerranée competitiveness clusters



4 scientific and technical programmes:

- Tools and methods for site characterization
- Technology design tools for MRE applications
- Environmental and socio-economic impacts
- Farm architecture and network integration

Number of employees: 30 employees (25 FTEs)

Annual budget: €2 million

Date of creation: 15 March 2012

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

www.france-energies-marines.org