

PRESS RELEASE | 23 June 2021

## Publication of a synthesis report on the potential interactions between subsea power cables of ORE projects and coastal benthic ecosystems.

Originally published in French on 21 May 2021, the synthesis report of the [SPECIES](#) project documents the potential effects associated with subsea power cables of ORE projects, a recurring concern in consultative processes. The [report](#) is now available in English. The results of this project, coordinated by France Energies Marines and scientifically led by Ifremer, do not show any major negative impacts but call for further studies, particularly with regard to the impact of electromagnetic fields *in situ*.

### Environmental concerns

The first commercial offshore wind farms will soon be built in France and their potential environmental impact is subject to impact studies prior to their authorisation and to environmental monitoring throughout the operating period. However, among the concerns of citizens and scientists, the question of the potential effects of subsea power cables regularly comes up during the consultation phases. This point is carefully examined by the environmental authority, which issues an opinion on the regulatory impact studies for offshore wind energy projects

### A closer look at the benthos

The [SPECIES](#) collaborative project, carried out between 2017 and 2020, aimed to answer this question. Within the framework of the project, studies focused on the potential interactions between the subsea power cables of ORE projects and benthic organisms (benthos), which live on the seabed, are not very mobile and are therefore the marine organisms likely the most exposed. The research was conducted along three main lines: *in situ* measurement of the physical effects generated by the cables (modification of the habitat, emission of electromagnetic fields, thermal radiation), study via *in situ* approaches of the impact of these cables on the fauna and flora living on the seabed in coastal areas, and laboratory study of the potential effect of electromagnetic fields on the behaviour of the European lobster and the great scallop.

### No major negative impact demonstrated

The project made it possible to better characterise the physical disturbances during the operational phase. The heating generated by the cables laid on the seabed (not buried) is negligible, while the electric fields are only perceptible at a short distance (a few metres) from the cables. The intensity of the magnetic fields emitted by the various cables studied is also weak and localised (of the order of a few nT at 10 m, to a few  $\mu$ T at 2 m, when the earth's magnetic field varies around a value of 50  $\mu$ T at our latitudes). Furthermore, the protective structures of unburied cables can provide a favourable habitat for many fixed and mobile species, including structural and commercially important species. Therefore, no drastic negative impact of submarine power cables on benthic ecosystems has been demonstrated. Nevertheless, the impact of the electromagnetic field, which is *a priori* weak for the benthos under experimental conditions, remains to be evaluated *in situ* in the most exposed sectors

(dense networks of cables) before being excluded from the debates on environmental concerns associated with ORE projects.

## New perspectives

The project developed and tested tools both for measuring electromagnetic fields at sea and for conducting laboratory experiments. It has also permitted to propose sampling and experimentation protocols and to formulate clear and effective recommendations for studying the effect of electric cables on the invertebrate communities living on soft or rocky seabeds. The research effort initiated must nevertheless be pursued in order to examine in greater depth certain issues that are still insufficiently documented, such as the characterisation of sensitivity thresholds to magnetic and electric fields, or the effect of cumulative impacts. These questions must be addressed in light of the increase in the number and power ratings of subsea power cables that will be deployed in French coastal waters.

### About SPECIES

The SPECIES or *Submarine Power Cables Interactions with Environment & associated Surveys* project was initiated in 2016. Coordinated by France Energies Marines and scientifically led by Ifremer, the project brought together a consortium of nine academic and private partners with complementary skills and contributions.

Press contacts: Ronan Rousseau - [ronan.rousseau@france-energies-marines.org](mailto:ronan.rousseau@france-energies-marines.org) - T. 02 98 49 98 27  
Arthur de Pas et Julie Danet - [presse@ifremer.fr](mailto:presse@ifremer.fr) - T. 06 49 32 13 83 / 06 07 84 37 97

### The SPECIES project partners

(Submarine Power Cables Interactions with Environment & associated Surveys)



*This project is supported by the French government, managed by the National Research Agency as part of the Investments for the Future Programme, by the France Energies Marines's associates and contributors and by public funding from the Brittany and Normandy regions.*

[france-energies-marines.org](http://france-energies-marines.org)

