

**NEW ACTION: Approach to define a methodology for the assessment of OWF impacts on fisheries activities****Short description**

This action aims to be the first step in the design of a methodology to carry out a spatial analysis for the assessment of the impact that the development of Offshore Wind Farms (OWF) may have on fishing activity in the High Potential Areas (HPA) for Offshore Wind Energy (OWE) identified in the MSP plans in Spain. The study takes into account the different effects that this new activity may have on the ecosystem, thus in the fisheries resources, and in the activity itself. Complete findings of this study are reported in a separate document.

Project partner(s) responsible for the preparation of the new action

IEO(CSIC)

Action typology

(v) Analysis

Topics addressed

A. Climate change mitigation

- A.1. Renewable energy production, storage and transportation
 - A. 1.1. Development of marine renewable energy installations

C. Sustainable sea-food production

G. Fair and just transition

Geographical scope

The aim of this study is to set the basis and establish the state of the art with regards to the characterization of the interaction between OWF and fishing activities, collecting experiences from all over the world. The final methodology to be developed aims to be applied in the High Potential Areas of OWE development identified in the Spanish MSP plans within the Spanish Marine Demarcations, subdivisions used for the implementation of the Marine Strategy Framework (MSFD) and the Maritime Spatial Directive (MSPD) in Spain.

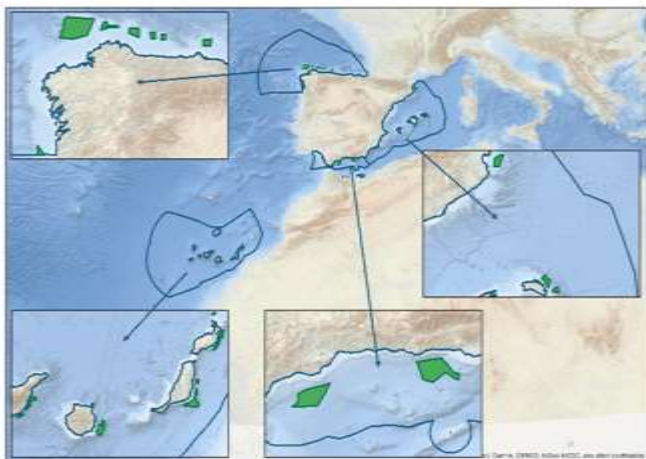


Figure 1. Marine Demarcations and High Potential Areas for OWE in Spain

Sectors/Activity involved

Fishing, offshore renewable energy, cables and pipelines, port activities, nature protection and restoration, scientific research

This study does not only focus on the fishing activity *per se* but also in other sectors/activities that are also part of this complex interaction.

How does the new action support the Green Deal in MSP

The Spanish MSP plans (Planes de Ordenación del Espacio Marítimo – POEMs) identified suitable areas for the development of OWE in the Spanish jurisdictional waters. Although the process of defining of these areas attempted to avoid potential conflicts with other activities, the interaction with the fishing activities was only partially addressed before the plans were approved. This gap has already been highlighted in Task 3.1., valuable practice “*Definition of High Potential Areas for Offshore Wind Farms*”. In fact, the POEMs include a measure to fulfil this gap: “*Analysis of the fisheries sector potentially affected by offshore wind energy development in the areas proposed in the POEMs*”. This action pretends to be a first approximation to the development of this POEM measure.

Thus, this action is related to A.1.1. Development of marine renewable energy installations because it will contribute to the process of allocation of the best areas for the development of OWF installations, while at the same time not compromising the element C. Sustainable sea-food production by implementing element G. Fair and just transition, taking into account the potential impacts that traditional uses may face due to the development of emerging activities such as OWF.

Governance context

As the action is an analysis, this study will not propose a specific governance system, but it shall be described:

This study will be developed by the IEO(CSIC), which acts as a scientific and technical advisor to the Competent Authority (CA) on MSP. This means that the results of this study will inform decisions and also stakeholders.

Other stakeholders to be involved in the new action

It would be advisable that the results of the study are discussed with the public administrations in charge of Fisheries, MSP and OWE, with experts and with representatives of the sectors involved. This would require a multilevel governance structure of the process that allow vertical and horizontal exchanges.

In the future, other kind of stakeholders with different roles could be involved, i.e. fishermen for monitoring, nature protection and restoration, port activities etc.

Description of the new action

The state of the art with regards to the interaction between OWE and fisheries activity has been revised. A report is being prepared that consists of a bibliographic review including an introduction to the current state, the types of existing offshore wind farms (OWF), the evolution of the industry over time and information related to the POEM in Spain and its issues. The report focuses on offshore wind farms in terms of all the impacts and pressures it generates in the marine environment and in relation to fishing. It considers three types of effects and explains them based on the current bibliography and available experience: (1) Effects on the fishery resource, (2) Effects on the fisheries activity itself and (3) Effects on the alteration of scientific evaluations.

It should be noted that the report aims to be objective and comprehensive, in the sense that it addresses the interaction from all points of view referring to documented experiences with regards to the negative as well as the potential positive effects of these structures, including exceptions and points for attention when trying to draw conclusions.

For instance, when talking about potential positive effects such as the artificial reef effect and the reserve effect (the latter being of



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particular interest to the fisheries sector as it can cause an overflow effect). The report draws the attention to the fact that, in some cases, these same effects may also have adverse impacts, such as alterations in the food web and the biomass of ecosystems. Conversely, there are also other more evident negative effects, such as the barrier effect, collisions of turtles and marine mammals, noise and electromagnetic waves, which can disturb the ecosystem and as such can affect the provision of the fisheries resources, although the quantitative value of these impacts are context based and difficult to address without empirical knowledge.

Finally, the report identifies different methodologies (i.e., fishing logbooks, time series studies, conceptual models, surveys etc.) to be used to assess this complex phenomenon as comprehensively as possible.

Possible challenges/risks related to the new action

This type of study, although really necessary, is really complex and therefore, time and resource consuming. A potential challenge is that this type of study could delay the process of implementing OWFs in Spanish waters.

There are not many examples from which to capitalise on, not much empirical data with regards to real effects. There are few floating windfarms installed in Europe and those are in very different environments, not only natural but also cultural and economically speaking. Without proper monitoring of the effects of a particular case, it will be very difficult to really assess the natural and socio-economic impact of this activity. This study is just an approximation to map and characterize the whole range of different variables that pertain the interaction between fisheries and OWF.

These considerations relate directly to the following section on gaps.

Gaps or elements that the new action does not consider

In these kinds of studies there is a high degree of uncertainty, there are many interrelations between factors and it is very important to be cautious when interpreting results. For example, it is difficult to assess how the movement of stock due to the presence of an OWF is going to affect the fisheries activity (changes in navigation increasing fuel and insurance costs).

Other elements (such as CC effects) may not be included in the study.

There is a temporary disconnection in Spain between administration and scientific studies, mainly due to economic interests.

Replicability /Elements which can be capitalised

Currently this methodology can be considered as a “check list” of elements that need to be addressed in this kind of assessment and a proposal for methods of implementation.