



The influence of regulatory framework on environmental impact assessment in the development of offshore wind farms in Spain: Issues, challenges and solutions



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ABSTRACT

It is clear that renewable energies, and particularly offshore wind power, constitute an opportunity to meet international and national commitments and targets for the reduction of greenhouse gas emissions as established by the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement, and they therefore constitute an element of the approach necessary to address global warming in general. However, such sources of energy are not without drawbacks, given that their installation, operation and decommissioning may potentially cause damage to and threaten the marine environment. It is therefore important to achieve a balance between the environmental benefits of using the oceans and the need for protection of the environment.

Scientific uncertainty and lack of initial data on the potential effects of these facilities, have led to long delays in processing Environmental Impact Assessments, and public opposition to these projects has contributed to stagnation in terms of its development in Spain. Furthermore, incomplete environmental impact studies and inappropriate environmental impact statements (such as those that fail to assess the synergistic effects of nearby facilities and all components thereof) can lead to delays in processing applications, the inadmissibility of wind projects, and ineffective protection of the marine environment.

The current regulations on Environmental Impact Assessment (EIA) -along with case-law decisions-, are an attempt to solve several of these varied problems and clashes of interests between promoters, citizens, and administrators, while protecting biodiversity and fighting climate change. However, some regulatory gaps and legal uncertainties still require regulatory improvement in this respect.

The main objective of this research is therefore to assess the real and potential future legal and factual problems in the field of environmental assessment associated with offshore wind farms in Spain, in an analysis of the responses and solutions provided by the Directive 2014/52/EU and the 21/2013 Environmental Assessment Law. Regulatory improvements are proposed, which could help to boost the development of marine renewable energy facilities, promoting greater public consensus, while at the same time protecting biodiversity and the marine environment.

The main proposed improvements consist of establishing a joint or coordinated processing of EIA with other assessments and procedures (such as the evaluations derived from birds and habitats directives); elaborating guidance documents which help promoters in analyzing synergistic and cumulative effects in their Environmental Impact Studies, hereafter EIS; enhancing the role of the scoping phase and, specially, considering the inclusion of this stage in the regulation of the simplified EIA procedure; improving public information and participation in the EIA process through the establishment of the obligation of disseminate relevant information through electronic means, the expansion of the legal concept of “interested persons” and the inclusion of public participation phases both in early stages of the procedure and after substantial modifications of the project or the study of EIA.

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1. Introduction

The use of renewable energy is well known to help reduce concentrations of greenhouse gases in the atmosphere and thus mitigate the effects of climate change, but the technologies involved are not totally harmless to the environment (Rodríguez-Rodríguez et al., 2016). The marine environment can be affected throughout the different phases of the life cycles of marine renewable energy schemes (specifically of offshore wind farms, hereafter OWFs), during installation, maintenance, operation and decommissioning (Soria-Rodríguez, 2016). Each element that make up the installation -and their combined effects and their synergies with other facilities nearby (García, 2014) - can generate impacts (e.g., wind turbines can cause noise and collisions of birds and bats and the submarine cables can generate electromagnetic fields) (Rodríguez-Rodríguez et al., 2016).

Many of the impacts of OWFs are similar to those derived from onshore wind facilities, although others are specific to the offshore case, mainly those associated with the effect of noise on marine animals (Snyder and Kaiser, 2009).

In addition to acoustic disturbance, electromagnetic fields, impact on the landscape, and the loss or reduction of biodiversity (changes to and the destruction of wild marine habitats, which can affect marine mammals, sea turtles, and benthic and pelagic species, or cause bird and bat collisions) have been reported as the major impacts of OWFs (Rodríguez-Rodríguez et al., 2016; Soria-Rodríguez, 2016).

In light of the potential negative effects derived from the life cycles of these facilities, several regulations have been implemented to establish preventive mechanisms aimed at protecting the environment, at various different levels.

With the approval of the Marine Strategy Framework Directive 2008/56/EC, transposed into Spanish law by Law 21/2013 on the Protection of the Marine Environment, and with the Maritime Spatial Planning Directive 2014/89/EU, hereafter the MSP 2014 Directive, transposed into Spanish law by Royal Decree 363/2017, there is a central role for marine spatial planning in establishing a balance between the protection of the marine environment and the sustainable development of activities therein, including the generation of energy from renewable energy sources (The European Parliament and the Council, 2014a). In Spain, the Strategic Environmental Assessment of the Spanish Coast for the Installation of OWFs, hereafter SEA, was drawn up in 2009 by the ministries of environment and energy. Based on environmental criteria, it establishes suitable zones, exclusion zones (in which OWFs are not permitted), and suitable zones with conditions (in which special precautions must be taken at a later stage in the project) (Spanish Government, 2009). However, this strategic study has now become obsolete because does not take into account the designation of further Marine Protected Areas (Rodríguez-Rodríguez et al., 2016).

Furthermore, for wind power installations with more than 50 MW of installed capacity, Spanish regulations require a prior “wind farm characterization”, consisting of the issuing of reports by various potentially affected administrations and containing previous analyses of the environmental effects of the OWFs within the different sites comprising a predetermined marine area (known as a “marine offshore area”) [L1].

Then, an Environmental Impact Assessment, hereafter EIA, acts as a more focused mechanism of protection, placing special emphasis on the effects of a specific marine wind farm project in the environment in which its the application was made. The appropriate use of EIAs could ensure the sustainability of specific developments in coastal or marine areas (Rodríguez-Rodríguez et al., 2016).

The present research focuses on this last point, having as its aim the analysis of important legal and factual problems facing the development of offshore wind energy installations in Spain in relation to possible solutions provided by the regulations at national and international levels in EIA and other related regulations (such as those relating to

biodiversity protection), with the intention of proposing regulatory improvements aimed at enhancing the development of these facilities, promoting greater public consensus as well as protecting biodiversity and the marine environment.

2. Methods

The Spanish and European regulations on EIA have been used as the primary sources in the preparation of this research, as have other legal texts regulating other closely related aspects, especially those governing the installation of marine renewable technologies and the protection of biodiversity. Jurisprudence and scientific literature have also been referred to in respect of the detection of the main legal and procedural conflicts. Due to the underdevelopment of marine renewable energies in Spain, several of the conflicts analysed and identified here relate to terrestrial wind power. These aspects, together with the responses of the courts on these matters, can be extrapolated to the field of offshore wind power, providing adequate analysis and effective solutions. Scientific articles have also been consulted in an attempt to remove environmental and procedural obstacles to the development of offshore wind reported in other nations where the industry is more developed. Doctrinal articles, websites of public institutions, and soft law texts have also been used.

The main normative and procedural interactions between the EIA and the procedure necessary to obtain the required authorizations for the construction, exploitation and withdrawal of an OWF have been analysed in Section 3.

The key legal and procedural problems in environmental impact assessment faced by offshore wind farms in Spanish waters are shown in Section 4, both in terms of the obstacles reported in other countries in which wind energy is more widespread, and the barriers to the development of offshore and onshore wind facilities in Spain. Some solutions derived from jurisprudence, doctrine and legal texts have also been considered, mainly within the field of the Directive 2014/52/EU, hereafter the EIA 2014 Directive, and the 21/2013 Environmental Assessment Law, hereafter LEA. Some of the challenges and ideas for regulatory improvement in this respect are then exposed.

In addition, a practical analysis of the EIA of an OWF project in Spain (taking “FLOCAN 5 Project” as a case study) have been conducted in Section 5.

The main conclusions have been summarized in Section 6. These are expressed in the form of proposals reached after the analysis of the legal problems and regulations regarding EIA for OWFs.

Key pieces of legislation and Court Judgements in Spain and the EU connected with each of the identified problems are presented in tabular form and via a reference list in Annex I.

3. Interaction between the environmental impact assessment of projects with the life cycle of offshore wind farms

EIA is defined by the LEA as an “instrumental procedure” of “another substantive procedure” [L2].

In the case of offshore wind power, the installation and decommissioning procedures are the substantive procedure, as driven by the General Directorate for Energy Policy and Mines, hereafter GDEPM, which is the substantive body responsible for issuing the relevant authorizations for Installation and decommissioning - [L1].

The EIA procedure is driven by the environmental body, the General Directorate of Quality and Environment Assessment and Natural Environment, hereafter GDQANE, and provides the assessment and environmental judgment necessary to allow GDEPM to reach a decision on whether to authorize the project. [L1], [L2].

3.1. Environmental impact assessment for investigating the wind resource

In an OWF with more than 50 MW of installed capacity, there is a

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