



Streamlining the consent process for the implementation of offshore wind farms in Spain, considering existing regulations in leading European countries

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ABSTRACT

Despite an extensive coastline and clear potential for the use of wind energy, the development of the offshore wind sector in Spain is currently in impasse. Environmental, technical, economic, social, and legal factors have all contributed to a failure to bring wind energy projects to fruition in any meaningful way.

The main regulatory obstacles comprise excessively complex sets of procedures, with long deadlines and the involvement of numerous agencies. A lack of coordination between them has been reported to have caused significant delays and spiralling costs in the implementation of Offshore Wind Farm (OWF) projects in several States, which may well have discouraged investment by developers.

This research contains an analysis of the consent procedures necessary to implement OWFs in Spain, and provides a comparative assessment of the systems of authorization used in other European countries with better track records in the development and implementation of offshore wind energy, with the overall aim of proposing regulatory improvements that could make the procedure for developers in Spain more “attractive”, thereby encouraging greater investment in offshore wind.

In the first part of the article, the relevant characteristics of the various authorization procedures established in the domestic law of the leading European countries in terms of the development of offshore wind (the UK, Denmark, the Netherlands, and Germany) are analysed on a scheme-by-scheme basis. The second part contains a discussion of the characteristics of the process of consent used in Spain followed by European Union (EU) recommended measures for improving consent processes for other energy projects (Ocean Energy projects and Projects of Common Interest). Finally, some alternatives are proposed focusing on improving the speed and efficiency of the authorization process used in Spain, taking as a reference the different regulatory systems followed by Comparative Law and EU recommended measures, and ending with a brief analysis of the influence that maritime spatial planning can have on Spanish consent process.

1. Introduction

The Directive 2009/28/CE (part of the European Union Package on Energy and Climate Change) together with Spanish Law 2/2011 on sustainable Economy, which is a development of the content of the former, aim to encourage the use of energy from renewable sources with the twin aims of reducing emissions of greenhouse gas and of obtaining greater levels of energy independence (Rodríguez-Rodríguez et al., 2016).

Because winds at sea reach greater speeds and have more consistency than those over land masses, and taking into account the extent of the Spanish coast and its high wind potential (Colmenar-Santos et al.,

2016), offshore wind energy could well be an important means of meeting these National and European targets. However, a number of factors have hampered the development of the offshore wind industry in Spain to date.

Both from an environmental and a technical-economic point of view, the depth of Spanish marine waters, as well as the environmental restrictions on installing OWFs in shallower waters near to the coast (derived from the Strategic Environmental Assessment of the Spanish Coast for the Installation of OWFs [SEA] as well as due to the establishment of new Marine Protected Areas [MPAs]), make difficult to use the current technology based in fixed structures anchored to the sea. Thus, it is essential to promote the use of floating turbines in deeper

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waters far from the coast, by minimizing both the high current design and installation costs of such devices, and losses of energy transmission from the sea to the coast (Colmenar-Santos et al., 2016; Rodríguez-Rodríguez et al., 2016). One interesting solution that could both reduce costs and make better use of the marine space might be the implementation of Multiuse Platforms at Sea (MUPS), which could see the combination of OWFs with wave energy generators in the Cantabric Sea, or with fish farming in the Mediterranean (Stuiver et al., 2016).

Furthermore, due to concerns about possible visual effects on the landscape and conflicts with other users of the sea, such as the fishing sector, some factors related to social acceptability have impeded the development of OWFs. One solution to the landscape problem could simply be the siting of installations further offshore, and for the problem of conflict between users, the use of proper Maritime Spatial Planning via the MSP directive (2014) is an important tool that could help in "anticipating and resolving potential conflicts with the environment or with other uses of the sea" (Long, 2015).

Within the political and legal issues are the lack of public support measures – highlighting the effect of the removal of renewable energy premiums (Colmenar-Santos et al., 2016) –, as well as the lack of legal certainty, due to the sudden and unforeseen reforms in the regulation of the electricity sector in Spain on account of the economic crisis, discouraging investment in renewable energy sources (Ruiz and Delgado, 2014), and the long delays inherent in processing the complex process of consent that is necessary to obtain licenses for constructing and exploiting an OWF (Colmenar-Santos et al., 2016; Sanz, 2014). It is this last point that constitutes the focus of this paper.

Although all these environmental, technical, economic, social, and legal factors have conditioned the level of growth of offshore wind in all countries, this paper is focused exclusively on the influence of the Consent Process regulations in OWFs in Spain.

The main objective of the research discussed here is to identify and propose a set of measures aimed at increasing the confidence of investors and developers in the Spanish consent process for building and operating an OWF, with the ultimate aim of encouraging their development and implementation in Spain.

To this end, and without intending to conduct an exhaustive review, we first carry out a non-systematic overview of some of the relevant literature as described in Section 2. After explaining the methodology in Section 3, we then provide a general study of the main characteristics of the different authorization systems used by those European countries leading the development of offshore wind energy in Section 4.1, before analysing the content of the relevant Spanish legislation in Section 4.2 –Table B1 summarizes the case studies examined in Sections 4.1 and 4.2. We then analyze established and proposed measures within the European Union to streamline consent procedures for other energy projects (ocean energy projects and Projects of Common Interest) in Section 4.3 to suggest ideas which can be applied to improve Spanish OWF consent process.

Some of the measures gleaned from the comparison of national legal frameworks (attempting to improve the clarity, certainty, simplification and effectiveness of the Spanish consent procedure) are proposed in Section 4.4, with a view to saving time and cost for developers and encouraging the establishment of the marine technology needed to generate this renewable energy in Spain, also taking into account EU recommended actions. Section 4.5 briefly discusses whether or not Maritime Spatial Planning can help streamline the Spanish consent process. Finally, a summary of the objectives achieved is given in Section 5.

2. Overview of relevant previous work

2.1. Review of the current status of offshore wind energy in Spain

Colmenar-Santos et al. (2016) analysed the consent procedure followed in Spain and concluded that along with environmental,

technical-economic, and social obstacles, there are also administrative barriers and potential delays to obtaining the necessary authorizations. They also defended the regulations and measures aimed at encouraging investment in OWFs in Spanish maritime waters. Rodríguez-Rodríguez et al. (2016) studied the environmental restrictions that apply when building OWFs in Spanish maritime areas, combining the Strategic Environmental Assessment of the Spanish Coast for the Installation of OWFs (SEA) carried out by the Spanish government with the effects of the new designated Marine Protected Areas (MPAs). They considered how the emergence of new technologies such as floating turbines could open up the possibility for new sites thus addressing such environmental concerns. Vázquez et al. (2015) analysed the planning and regulations affecting projects in Spain in marine renewable energy (comparing them with the model used in the UK) and concluded that there was a need to increase public funding and streamline the consent process.

2.2. Review of regulations and policies of leading European states in offshore wind energy development

Mani and Dhingra (2013) showed the importance of policy in the development of wind energy, focusing on consent processes and existing financial incentives in Germany and the UK, and proposing ideas for improving the system in India. Snyder and Kaiser (2009) studied the major European models, comparing them with those used in the USA and concluding that financial incentives are more important in the success of offshore wind projects than the regulations relating to the authorization process and its duration. Mast et al. (2007) analysed the effectiveness of development policies and regulations affecting the consent process in the Netherlands, Denmark and the UK, and Portman et al. (2009) carried out a comparative study of the policies and regulations related to the development of offshore wind energy in the Exclusive Economic Zone (EEZ) in Germany and in the USA, highlighting the rapid development by German regulatory authorities of standards aimed at specifying and guiding the consent process and the financial support used to bolster investor confidence. Söderholm and Pettersson (2011) considered systems for the promotion and planning of offshore wind energy in Sweden, comparing them briefly with the models used in Denmark, Norway and the UK, and highlighting the differences in addressing differences between countries and defending an integrated treatment at European level. Gibson and Howsam (2010) analysed the evolution of the regulation of the consent process in the UK, considering the complexity of previous regulations to be an obstacle to the development of offshore wind energy, and finding a simpler and better coordinated procedure in the current regulations through a reduction in the number of bodies responsible for issuing authorizations. Walker (2009) also studied the modifications introduced by new UK regulations aimed at reducing the number of consents required and facilitating the development of offshore wind energy. Scarff et al. (2015) interviewed key stakeholders, finding some skeptical about the effectiveness of "the one-stop shop" system in accelerating the process in the UK, pointing out that the main delays have been due to a lack of environmental data. However, favourable responses were also found, highlighting better facilities for communicating with a single agency and an improvement in the coordination and simplification of the process.

3. Methods

In this study we used data derived from national and international legislation, the websites of public institutions, legal doctrine, and academic literature. In particular:

To identify the main factors hindering the process of obtaining regulated consent in Spain, the relevant national legislation and legal doctrine were analysed. To obtain as broad a view as possible, similar cases in other countries were taken into account as reported in the

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