

GOVERNING THE OFFSHORE GRID: WHICH LEGAL INSTRUMENTS FACILITATE ITS DEVELOPMENT?

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Overview

Several studies (OffshoreGrid, 2011; NorthSeaGrid, 2015) have shown that it is economically attractive to construct hybrid infrastructure or eventually a meshed offshore grid. The difference between hybrid infrastructure and an offshore grid is that hybrid infrastructure is any infrastructure combining offshore wind connection with interconnection between two (or more) North Sea countries' electricity grids, whereas a meshed offshore grid connects more than two countries' grids. The concepts are similar but an offshore grid is more complex from both technical and regulatory perspective.

There are various technical and regulatory barriers that hold back new grid developments such as hybrid infrastructure. The regulatory barriers arise due to various difficulties with the governance of such complex cross-border infrastructure. In this paper, governance denotes the steering of different interdependent actors (governments, TSOs, regulators, offshore windfarm operators), which takes place on different levels. These difficulties are often caused by the legal framework not being adapted to new technological developments, such as the possibility to combine offshore wind energy with interconnector cables. This study aims to (a) investigate which rules (or lack of rules) are holding back the development of hybrid offshore electricity infrastructure and (b) propose a legal framework for the governance of an offshore grid, facilitating the development of hybrid and meshed offshore infrastructure.

Methods

The methodology used in this study is a combination of comparative legal analysis, governance model building and stakeholder interactions. Firstly, the legal barriers are assessed that currently hold back the development of an offshore grid. This is determined by examining recent studies (PwC/Tractebel/Ecofys 2016; NSCOGI 2012) and by analysing the current legal frameworks at international, EU and national level, whereby all North Sea coastal states (BE/DE/DK/FR/NL/NO/SE/UK) are compared. These findings are verified through interaction with relevant stakeholders (such as representatives from transmission system operators (TSOs), regulatory authorities (NRAs), government representatives, and wind energy industry). Secondly, a model will be developed for deciding on which governance level (national; EU; international/regional) and with which legal instrument an issue should be addressed. Thirdly, this model is applied to the legal barriers identified earlier to come to a legal framework with the instruments that facilitate the development of offshore electricity infrastructure in the most cost-effective way.

Results

The assessment of the legal frameworks (and of earlier studies) on offshore grid governance has identified several issues as legal barriers (Nieuwenhout, 2017), such as: the position under international law of hybrid assets; the legal framework for non-EU states (Norway and in the future also the UK); the different implementation of EU rules in national law; support schemes limited only to electricity fed into the grid of the country in which sea the wind farm is located and different connection responsibilities. These findings have been confirmed through interaction with relevant stakeholders.

The model for deciding which governance level and which legal instrument should be used for which issue is developed based on key indicator questions. These indicator questions first allow for a distinction between national level and any level larger than national, then specifically between national and EU level and finally between EU and international level. International level not necessarily entails that the entire world is involved, it is also possible to use instruments of international law in a regional setting. Moreover, the international (regional) level is considered to take into account the fact that not all North Sea coastal states are EU Members (Norway; UK probably after 2019).

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Then, a distinction is made between different legal instruments per governance level. The model takes into account timing of the instruments: some issues need quick solutions in order to allow current projects to go ahead within the coming decade (such as hybrid infrastructure combining interconnection with wind farm connection), whereas the development of a meshed offshore grid will rather be on the time horizon of 2040-2050. Therefore, if issues are already regulated heavily on a certain level and if that forms a barrier to the development of hybrid assets on the short term, amendment of the current legislation at that level is faster (and thus allowing for more cost-efficient hybrid infrastructure than separate wind farm connections and interconnectors) than negotiating new instruments at different governance levels. Nevertheless, for the development of a meshed offshore grid, the long time horizon allows sufficient time to develop new instruments.

Application of the model to the legal barriers for the governance of an offshore grid leads to the outcome that for an offshore grid, the following instruments are most useful to address the identified issues:

Instrument	To Address
Mixed partial agreement (int'l law) <i>(Mixed partial agreement is an agreement to which the EU, the relevant Member-States and relevant non-Member-States are member)</i>	Establishment of formal regional cooperation, clarification of jurisdiction under international law, governance issues, long term vision
(EU?) Regulation on the Offshore Grid	Offshore Grid Operation (definitions, access, network rules)
Amendments to Directives and Regulations	Inconsistencies in current rules (priority access / capacity on interconnectors, support schemes incentives to cooperate)
Amendments to national law	Support schemes being limited to one country
IMO / OSPAR Guideline	Decommissioning of windfarms and offshore infrastructure

Conclusions

No single legal instrument can address all barriers associated with the governance of a future offshore grid. Moreover, some issues require legislative action without delay, whereas the development of a governance framework for a meshed offshore grid in the long term requires the conclusion of a new instrument. Therefore, a combination of legal instruments should be used to address the different barriers. These legal instruments together form a governance framework that facilitates the construction and operation of an offshore grid on the medium and long term.

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