



European  
University  
Institute

ROBERT  
SCHUMAN  
CENTRE FOR  
ADVANCED  
STUDIES

Issue 2018/01  
February 2018

FLORENCE  
SCHOOL OF  
REGULATION  
ENERGY

# POLICY BRIEF

## *Towards a more Investment Friendly Economic Incentive Regime for Offshore Infrastructure Projects*

*By Pradyumna Bhagwat, Florence School of Regulation and Leandro Lind, Universidad Pontificia Comillas*

### Highlights

- Offshore infrastructure projects will play a key role in enabling the EU to meet its renewable energy goals. Therefore, effective economic incentives must be in place to ensure adequate investments.
- Since the liberalisation of the power sector, the use of ‘incentive regulation’ has become a standard practice among European regulators. This TSO incentive regulation is done in a ‘portfolio’ fashion.
- In the countries analysed, different risk/remuneration profiles are set according to the general regulatory regimes. These risk/remuneration profiles have not changed significantly since the previous study conducted by Glachant et al. (2013).<sup>1</sup>
- Nevertheless, in recent years, regulators are also providing dedicated incentives for specific strategically important or necessary investments, including offshore projects.
- We observe that the trend of providing dedicated incentives appears to modify the risk/remuneration characteristics, leading to a more ‘investment friendly’ environment for TSOs, at least for certain types of assets, such as offshore transmission infrastructures.

1. Glachant, J.-M., Sagan, M., Rious, V., Douguet, S., 2013. Incentives for investments: Comparing EU electricity TSO regulatory regimes. doi:10.2870/80768.



## 1. Introduction

Since the liberalisation of the power sector, the use of ‘incentive regulation’ has become a standard practice among European regulators. Furthermore, Article 13 (1) of the TEN-E regulation for PCIs mandates the use of dedicated incentives for projects that may be deemed to have higher risks for their development, construction, operation or maintenance. In the past few years regulators have opted for a case-by-case regulation as a means to incentivise necessary or strategically important investments. Nevertheless, it has not substituted portfolio regulation.

Offshore wind is expected to play a major role in enabling the EU to meet its greenhouse gas (GHG) reduction and renewable energy target in the near and long-term future. In this context, the development of a robust offshore electricity grid infrastructure has the potential to deliver many benefits. Thus, such investments may be considered ‘necessary or strategically important’.

This research extends the work of Glachant (2013), and Meeus and Keyaerts (2014).<sup>2</sup> We present the combined impact that the general regulatory regime and dedicated incentives may have on the risk and remuneration for TSOs<sup>3</sup>. Regulatory structures of Great Britain, Germany, the Netherlands and Belgium are assessed. These four countries were chosen because of their relevance to the development of offshore wind power.

## 2. General National Regulatory Regimes

In each analysed country, a general regulatory regime for transmission infrastructures sets the ‘risk and remuneration characteristics’ for the TSO. For the analysis of the general regulatory schemes, we

use the analytical framework presented by Glachant (2013). In Section 2.1 we describe the assessment framework. This is followed by an update on changes to the national regulatory regimes that have occurred since the previous study by Glachant (2013) in Section 2.2.

### 2.1 Assessment Framework

The framework presented by Glachant (2013) assesses the regulatory regime’s capability to: 1) Sufficiently remunerate TSO investments and to ensure their financeability. 2) Reduce the risk borne by the TSO. 3) Incentivise reduction the TSO’s costs. 4) Transfer efficiency gains and redistribution to final users, using five economic properties of the regulatory regimes. These properties are namely; 1) The length of the regulatory period. 2) The scope of the revenue cap. 3) The tools to define allowances and efficiency targets. 4) The practical setting of the capital remuneration. 5) The adjustment mechanisms. The results were then transposed into a graphical taxonomy to illustrate the level of risk and remuneration for each national regulatory regime.

### 2.2 Update of General National Regulatory Regimes

A literature review indicated that there is not much change in the positions of the countries since the analysis conducted by Glachant (2013). The Netherlands moved slightly up and left on the chart, as previously existing adjustment mechanisms were excluded for the new regulatory period. Also, a new decreasing WACC was established. Belgium too saw a decrease in remuneration, moving slightly to the left in the chart.

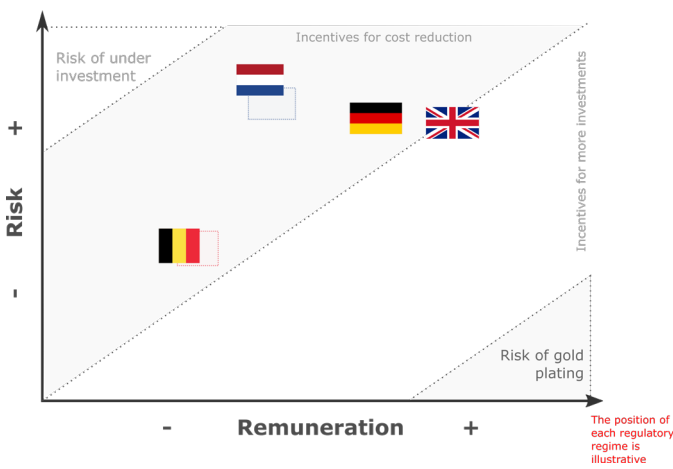
Figure 1 illustrates the position of TSOs in different countries. A high remuneration moves the flag to the

2. Meeus, L and Keyaerts, N (2014). The role of the EU and ACER to ensure an adequate regulatory framework for projects of common interest. Florence School of Regulation; 2014/05; Policy Briefs
3. One can argue that not only TSOs invest in offshore transmission infrastructures. Although this is true, our analysis is focused on the TSO, considering that investments on a future meshed offshore grid will be more suitable for TSOs, or at least they are expected to carry the greatest volume of investments in the early stage of a meshed offshore grid.



right graph, while a risky characteristic in the regulation (e.g. efficiency targets over investments) moves the flag up. For the Netherlands and Belgium, the outlined frames illustrate the initial positions from the 2013 study.

Figure 1: Assessment of the current national regulatory frameworks<sup>4</sup>



### 3. Dedicated Incentives

An alternative way of dealing with specific investments is by the implementation of dedicated incentives. These incentives are in addition to the default national regulatory framework. To analyse dedicated incentives, we use the work done by Meeus and Keyaerts (2014). The remuneration increase is mainly calibrated in two ways, either by a fixed premium for eligible project or via a case-by-case assessment and individual premium. Risk mitigation may be done by exemption from the default CAPEX efficiency benchmarking; increasing the regulatory period, and advance timing of cost recognition. Usually, an ex-ante assessment of eligibility is also implemented

to control the cost efficiency of the investments that would eventually receive dedicated incentives. In this section, we discuss the dedicated incentive schemes in four countries.

#### 3.1 Great Britain

Dedicated incentives in Great Britain are not in one package of measures. The main programme is called the Strategic Wider Works (SWW). However, other policies and decisions also serve the purpose of dedicated incentives.

The SWW scheme allows the TSO to bring projects forward once are they mature enough for consideration. Ofgem carries a project assessment to verify if the request is justified. If so, the project can be developed by the TSO, and outputs and allowed revenues are adjusted<sup>5</sup>.

Another dedicated framework for specific assets is the Offshore Transmission Owner (OFTO) model. This framework deals specifically with offshore connections. Since 2009, farm-to-shore connections are not built by the TSO, but by the developer that transfers the ownership to a competitively appointed OFTO after completion<sup>6</sup>. Now, Ofgem wants to promote the ‘OFTO build’ model, in which the construction of the connection will also be a responsibility of the OFTO.

Lastly, a separate regime may also be applied to interconnections. This was the case for the NEMO interconnector, a 1 GW subsea cable linking Belgium and GB. For this infrastructure, a ‘cap and floor’ regime was adopted, meaning that the project developer may receive revenues from the congestion of the interconnection, limited to a floor, ensuring a minimal revenue for the developer, and a cap, to





4. Note that the position of each country is illustrative, and although the axis of the graphic represents scales, no inference on the actual amount can be made. It serves rather as a comparative illustration of a qualitative analysis.

5. Ofgem, 2013. Strategic Wider Works (SWW) - Factsheet

6. Ofgem, 2014. OFTO Build : Providing additional flexibility through an extended framework Updated policy proposals



Table 1 summarises the dedicated incentives in the assessed countries.

				
Increased Remuneration	X			X
<b>Risk Mitigation Measures</b>				
Exemption from capex efficiency benchmarking		X	X	
Advance timing of cost recognition	X	X	X	
Reduced depreciation period			X	

avoid overpayment by users<sup>7</sup>. To calculate the revenue cap and floor, Ofgem used a “building block”. First, an assessment of efficient costs for the project was carried, followed by a return on capital assessment and an OPEX assessment.

### 3.2 Germany

Germany has dedicated incentives schemes for cross-regional, cross-border and offshore investments<sup>8</sup>. Large national and cross-border grid-expansion investments that support the German *Energiewende* are eligible to receive dedicated incentives.

In the case of offshore transmission lines, the TSO is mandated to proactively provide connections. Nevertheless, additional incentives are provided for risk mitigation. The offshore connections are approved by the Bundesnetzagentur (BNetzA) under the so-called investment measures. Under this category, offshore connections are qualified as permanently non-influenceable costs to which

no efficiency targets apply. Also, costs are directly included in the revenue cap based on planned costs<sup>9</sup>.

### 3.3 The Netherlands

In the Netherlands, two special risk mitigation measures are applied. Offshore grid investments are remunerated while under construction and no benchmark/theta or frontier shift will apply in this first regulatory period. The maximum depreciation period for offshore grid assets is 20 years<sup>10</sup>. The WACC though is the same as for onshore investments.

### 3.4 Belgium

Belgium offers dedicated incentives for ‘strategic investment projects’, that mainly consists of an additional remuneration over the project. Strategic investments are primarily aimed at improving EU integration and may be entitled to receive an additional mark-up. According to Elia,<sup>11</sup> “this additional remuneration is calculated

7. Ofgem, 2014. Decision on the cap and floor regime for the GB-Belgium interconnector project Nemo.

8. *Op. cit. fn. 2*

9. TenneT, 2017. Fixed-to-Reset Rate NC7.1 Perpetual Capital Securities Prospectus.

10. *op. cit. fn. 9*

11. Elia, 2017. Making the energy transition happen - Annual Report 2016.



as a percentage of the cumulative actual amount dispensed (investment amounts are capped per year and per project).” The additional incentive, however, is linked to the OLO rate (free-risk rate). The markup is applied at full rate if the OLO rate is equal to or below 0.5%. If the OLO is higher, the markup is reduced proportionally, capped at 2.16%. The application of the additional remuneration is also conditioned to the on-time commissioning of the investment, subject to penalties otherwise.

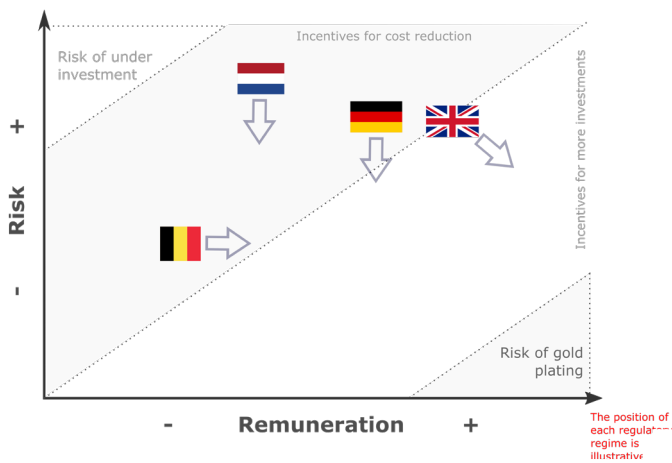
### 3.5 Summary

The impact of these incentives on risk and remuneration is illustrated in Figure 2. We categorise dedicated incentives into two groups: increased remuneration and risk mitigation measures. In Germany and the Netherlands, the schemes are focused on reducing the risk for TSOs (downward arrow). Belgium provides additional remuneration indicated by a rightward pointing arrow. In Great Britain additional remuneration along with the risk mitigation measures is provided, the combined effect indicated by a right downward-pointing arrow.

## 4. Conclusions & Policy Implications

Since the previous study by Glachant (2013), the default regulatory frameworks of the countries analysed have not changed significantly in terms of their risk and remuneration characteristics. However, it is observed that in the past few years regulators have started providing additional dedicated incentives for necessary or strategically important investments. The trend of providing dedicated incentives modify the risk and remuneration characteristics set by the general national frameworks to provide the TSO with a more “investment friendly” environment, at least for certain types of assets, such as offshore transmission infrastructures.

Figure 2: Impact of dedicated incentives on risk and remuneration of TSOs



Florence School of Regulation  
Robert Schuman Centre  
for Advanced Studies

European University Institute  
Via Boccaccio, 121  
50133 Florence  
Italy

Contact:

email: [fsr@eui.eu](mailto:fsr@eui.eu) website: [fsr.eui.eu](http://fsr.eui.eu)

## Robert Schuman Centre for Advanced Studies

*The Robert Schuman Centre for Advanced Studies, created in 1992 and directed by Professor Brigid Laffan, aims to develop inter-disciplinary and comparative research on the major issues facing the process of European integration, European societies and Europe's place in 21<sup>st</sup> century global politics. The Centre is home to a large post-doctoral programme and hosts major research programmes, projects and data sets, in addition to a range of working groups and ad hoc initiatives. The research agenda is organised around a set of core themes and is continuously evolving, reflecting the changing agenda of European integration, the expanding membership of the European Union, developments in Europe's neighbourhood and the wider world.*

## The Florence School of Regulation

*The Florence School of Regulation (FSR) was founded in 2004 as a partnership between the Council of the European Energy Regulators (CEER) and the European University Institute (EUI), and it works closely with the European Commission. The Florence School of Regulation, dealing with the main network industries, has developed a strong core of general regulatory topics and concepts as well as inter-sectoral discussion of regulatory practices and policies.*

*Complete information on our activities can be found online at: [fsr.eui.eu](http://fsr.eui.eu)*

Views expressed in this publication reflect the opinion of individual authors and not those of the European University Institute

© European University Institute, 2018  
Content © Pradyumna Bhagwat, Leandro Lind, 2018

doi:10.2870/947336  
ISBN:978-92-9084-599-7  
ISSN:2467-4540