



# Hinkley-Seabank project: minded-to consultation on delivery model

## Consultation

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### Overview:

This document sets out our view that National Grid Electricity Transmission should be funded to deliver the Hinkley-Seabank project through a mechanism which seeks to reflect the outcome of an efficient competitive process for the financing, construction and operation of the project. We refer to this mechanism as the Competition Proxy model.

Under the Competition Proxy model we propose to apply a specifically determined cost of capital, derived using an updated methodology, to Hinkley-Seabank over the period of its construction and 25 years of operation. National Grid Electricity Transmission would receive a project-specific revenue allowance to deliver Hinkley-Seabank.

## Context

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The GB onshore electricity transmission network is currently planned, constructed, owned and operated by three transmission owners (TOs): National Grid Electricity Transmission (NGET) in England and Wales, SP Transmission in the south of Scotland, and Scottish Hydro Electric Transmission in the north of Scotland. We regulate these TOs through the RIIO (Revenue = Incentives + Innovation + Outputs) price control framework. For offshore transmission, we appoint offshore transmission owners (OFTOs) using competitive tenders.

The incumbent onshore TOs are currently regulated under the RIIO-T1 price control, which runs for eight years until 2021. Under this price control, we developed a mechanism for managing the assessment of large and uncertain projects called 'Strategic Wider Works' (SWW). The incumbent TOs are funded to complete pre-construction works. Once the need for and costs of projects have become more certain, the TOs bring forward construction proposals and seek funding for them. As part of our decision on the RIIO-T1 price control, we set out that projects brought to us under the SWW regime could be subject to competition.

Following our decision on the RIIO-T1 price control, we undertook the Integrated Transmission Planning and Regulation (ITPR) project, which reviewed the arrangements for planning and delivering the onshore, offshore and cross-border electricity transmission networks in GB. Through this project we decided, among other decisions, to increase the role of competition where it can bring value to consumers.

Following the ITPR project, we set up the Extending Competition in Transmission (ECIT) project in early 2015 to introduce additional competition in the delivery of *new, separable and high value* onshore electricity transmission investment. We have published a series of ECIT policy consultation and decision documents, which are available on our website.

In June 2017 we published an update on our plans to introduce competition to onshore electricity transmission, stating that we are deferring further development of the Competitively Appointed Transmission Owner (CATO) regime until the timing of the necessary legislation is more certain. We reiterated that we continue to consider that there are significant benefits to consumers in introducing competition into the delivery of new, separable and high value onshore electricity transmission projects.

Our August 2017 consultation on the Hinkley – Seabank project outlined two potential delivery models which we considered could deliver a significant proportion of the benefits of a CATO tender. Having reviewed the responses to that consultation, and completed further analysis, we now set out our minded-to position on the delivery model for Hinkley – Seabank.

## Associated documents

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Update on competition in onshore electricity transmission, January 2018

<https://www.ofgem.gov.uk/publications-and-updates/update-competition-onshore-electricity-transmission>

Hinkley – Seabank: Consultation on Final Needs Case and potential delivery models, August 2017

<https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-consultation-final-needs-case-and-potential-delivery-models>

Update on Extending Competition in Transmission, June 2017

<https://www.ofgem.gov.uk/publications-and-updates/update-extending-competition-transmission>

Extending competition in electricity transmission: arrangements to introduce onshore tenders, October 2015

<https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-proposed-arrangements-introduce-onshore-tenders>

Criteria for onshore transmission competitive tendering, May 2015

<https://www.ofgem.gov.uk/publications-and-updates/criteria-onshore-transmission-competitive-tendering>

Integrated Transmission Planning and Regulation project: Final Conclusions, March 2015

<https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions>

Strategic Wider Works Guidance, June 2013 (updated November 2017)

<https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0>

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# Executive Summary

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## The Hinkley-Seabank Project

The Hinkley-Seabank project (HSB) is an electricity transmission project to connect EDF's Hinkley Point C nuclear power station to the GB transmission network. HSB has been progressed through the planning process by National Grid (NGET) as the transmission owner (TO) for England and Wales. The cost of the project is currently estimated at close to £800m.

Alongside this document we have published our Final Needs Case decision on HSB. That decision confirms that we agree that the project is needed, and that efficient costs will be recoverable from consumers under the final regulatory arrangements for the project (referred to as the "delivery model" within this document).

In late August 2017, we consulted on our view that introducing competition into the delivery of HSB, or replicating the outcomes of doing so, could unlock significant savings for consumers in comparison to the status quo Strategic Wider Works (SWW) approach under RIIO. We identified two alternative models that we considered able to deliver such savings:

1. **SPV model:** NGET runs a competition for the financing, delivery and operation of the HSB project through a Special Purpose Vehicle (SPV)
2. **Competition Proxy:** NGET delivers the project, but Ofgem sets a regulatory model and revenue terms intended to reflect the outcome of an efficient competitive process for the financing, construction and operation of the project.

Following consideration of the responses to our consultation and further analysis into which our consultants, Cambridge Economic Policy Associates (CEPA) have fed, **we confirm that we are minded to apply the Competition Proxy delivery model to the HSB project.**

In parallel, we have also published an update on competition in onshore electricity transmission. That document confirms our intention to retain the current new, separable and high value criteria for assessing which projects are suitable for competition. It also sets out our intention to consider the SPV and Competition Proxy models for all future Strategic Wider Works (SWW) projects that meet the criteria for competition and are subject to a Needs Case assessment during RIIO-T1.

## Competition assessment

We confirm that, aside from a relatively short section of overhead conductor replacement, we consider that the HSB project meets the criteria for competition.

## Minded to position on the delivery model

We are minded to apply the Competition Proxy model to HSB because we consider this will provide considerable benefits to consumers over the project’s construction and operation. These benefits are driven primarily by lower costs of financing HSB than under the status quo RIIO (SWW) arrangements.

CEPA has produced a report (published as a subsidiary document to this consultation) which sets out its view of expected rates of return from a competitive process, and a proposed methodology for setting the rates for HSB under the Competition Proxy model. As such, CEPA’s report sets out estimated ranges for the cost of capital during construction and operations for HSB. The ranges for HSB’s cost of capital during construction are aligned with what CEPA proposes for offshore and interconnector developers. During the operational period, CEPA proposes that the HSB cost of capital should be similar to that observed from our competitive offshore transmission owner (OFTO) regime.

### Summary of CEPA estimates for cost of capital during construction and operation of HSB<sup>1</sup>

		Construction cost of capital (WACC)		Operational cost of capital (WACC)	
		Low	High	Low	High
Cost of debt	nominal	1.85%	2.80%	3.50%	3.75%
Gearing	nominal	37.50%	37.50%	85.00%	80.00%
Post-tax cost of equity	nominal	5.54%	7.57%	7.00%	9.00%
<b>Pre-tax nominal WACC</b>		4.97%	6.89%	4.27%	5.22%
Vanilla nominal WACC		4.16%	5.78%	4.03%	4.80%
<b>Vanilla RPI-real WACC</b>		<b>1.12%</b>	<b>2.70%</b>	<b>0.60%</b>	<b>1.75%</b>
Vanilla CPI-real WACC		2.11%	3.71%	1.99%	2.75%

In order to estimate the indicative level of savings, we have considered the impact on revenue of applying CEPA’s estimated ranges for the likely cost of financing HSB during construction and 25-year operating period. This analysis suggests that savings of over £100m are possible through the implementation of the Competition Proxy model for HSB.

If implemented effectively we consider that the SPV model has the potential to unlock even greater savings than the Competition Proxy. However, we note that the

<sup>1</sup> The figures representing the operational cost of capital in this table reflect CEPA’s view of the rates if they were set at the start of construction.

SPV model is reliant on NGET as the TO optimising the development and delivery of the model. We consider that in the case of HSB, there is significant uncertainty as to whether NGET would ensure that the SPV arrangements are set up and implemented in the optimum manner to ensure that the full range of savings are delivered by the model.

While our minded-to position is therefore for HSB to be delivered through the Competition Proxy model, we nevertheless welcome NGET's consideration of how it could deliver the HSB project efficiently using the SPV model. If NGET's response sets out how an SPV competition can be effectively and efficiently implemented for HSB, we will take this into account in our conclusion on the optimum delivery model to pursue for HSB. We will, of course, consider all of the information and analysis coming out of this consultation in deciding whether to implement our minded-to position.

### **Further detail on the Competition Proxy delivery model**

This consultation sets out the reasoning and analysis on which our minded-to position is based alongside further detail of what we propose the Competition Proxy model will look like for HSB. This includes how we propose to align key regulatory aspects with the offshore transmission and interconnector regimes for new assets, where appropriate, to reflect the likely regulatory arrangements that would be in place for the efficient running of a competitive process for the delivery of HSB.

As such we set out:

- that we consider a largely fixed 25-year revenue term following construction, with some revenue during construction, to be appropriate;
- how we propose to set the allowed cost of capital for the construction and operational periods;
- the two assessments we intend to run to determine efficient capital and operational costs, including incentives to minimise costs; and
- further details on proposed treatment of risks, for example in relation to high impact low probability events.

Consistent with the views expressed in CEPA's report, we consider that the Competition Proxy arrangements proposed in Chapter 4 would be seen by potential investors as attractive. We consider them sufficient to provide for an investment-grade credit rating for the project. This would be important in ensuring that the cost of capital ranges derived from CEPA's analysis are achievable.

### **Interactions with other policy areas and next steps**

CEPA's work on HSB is part of wider analysis it is providing to us on cost of capital. CEPA's analysis will feed into our work to align the methodology that we use for calculating appropriate rates of return across offshore, interconnector and new, separable, and high-value onshore transmission projects.

CEPA is also providing analysis that is feeding into our consideration of cost of capital for the upcoming RIIO-2 price controls. However, the ranges referenced in this document (including the RIIO counterfactuals) should not be read as an indication of the likely rates applicable for RIIO-2 – they are included solely for the purposes of



showing how we have estimated the benefits of the Competition Proxy and SPV models by comparing them to counterfactual scenarios. Factors that are likely to lead to different rates for RIIO-2 include: the differences between setting rates for new assets and for a price control portfolio of existing assets; the different regulatory period lengths; and the timing of relevant determinations. We expect to publish an update on RIIO-2 financial arrangements as part of a March 2018 Framework Consultation for RIIO-2.

Subject to responses to this consultation, we expect to confirm the Competition Proxy delivery model and associated methodology for setting the revenue allowance for HSB in spring 2018. At that time we intend to develop and subsequently consult on the licence condition(s) that will implement the Competition Proxy model for HSB through NGET's electricity transmission licence.

We currently expect that NGET would then submit its final cost estimate for HSB in summer 2018 to allow us to set a cost allowance for the project ahead of the main construction work beginning in early 2019.

# 1. Introduction and background to this consultation

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## The Hinkley-Seabank project

1.1. The Hinkley-Seabank project (HSB) is an electricity transmission project to connect EDF's Hinkley Point C (HPC) nuclear power station to the GB transmission network. HSB has been progressed through the planning process by National Grid (NGET) as the transmission owner (TO) for England and Wales. The cost of the project is currently estimated at close to £800m. NGET plans to start construction in early 2019 in order to meet EDF's 2024 connection date for HPC.

1.2. Alongside this document we have published our Needs Case decision on HSB. That decision confirms that we agree that the project is needed, and that efficient costs will be recoverable from consumers under the final regulatory arrangements for the project (referred to as the "delivery model" within this document).

### Strategic Wider Works and the extension of competition

1.3. We set revenues for the majority of NGET's TO activities periodically through price controls. HSB was not included within the initial funding for the current price control period, RIIO-T1. This was due to uncertainty, at the time RIIO-T1 was set, about the project's economic need, scope, and final costs. HSB instead qualifies as a Strategic Wider Works (SWW) project within the RIIO framework.

1.4. Through the SWW mechanism, we can allow additional funding to be provided during RIIO-T1 for the construction of large transmission projects. We only allow such funding where we consider that it is in the interests of consumers to do so. For each SWW project, we carry out a project-specific assessment of need and of costs. We set cost allowances and then apply the prevailing RIIO financial arrangements to determine the allowed revenue. These cost allowances do not include funding for pre-construction activities. Pre-construction activities are funded through the baseline RIIO-T1 price control funding arrangements.

1.5. As part of our RIIO-T1 final proposals, we confirmed that all SWW projects, such as HSB, could be considered for delivery through a competitive process.

1.6. Subsequently, we undertook the Integrated Transmission Planning and Regulation (ITPR) project.<sup>2</sup> Amongst other considerations, ITPR reviewed the arrangements for planning and delivering the onshore electricity transmission networks in GB. In our March 2015 ITPR Final Conclusions, we decided to increase the role of competition where it can bring value to consumers.

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<sup>2</sup> <https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions>

1.7. We set up the Extending Competition in Transmission (ECIT) project in early 2015 to implement the ITPR conclusions on competition. In May 2015,<sup>3</sup> GEMA decided that we would seek to introduce additional competition into the delivery of onshore electricity transmission investments that are new, separable, and high value (our “criteria for competition”). Through 2015 and 2016 we developed the definitions of those criteria for competition. We also developed the policy and processes to run competitive tenders for a Competitively Appointed Transmission Owner (CATO).

1.8. We have been working with Government to introduce legislation which is needed to enable the CATO regime. In June 2017 we published an update on this work. This update noted that an opportunity to introduce the required legislation looks unlikely in the immediate future and that we have paused our work on the CATO model.

1.9. We remain committed to working with Government to seek an appropriate opportunity to introduce the legislative change necessary to implement the CATO regime. We may, once the timing of the necessary legislation is clearer, take forward further development of the CATO model.

### **What we said in our August consultation**

1.10. In August we consulted on our view that introducing a competitive process to the delivery of HSB, or seeking to replicate the outcome of doing so, could deliver significant benefits to consumers. We also explained that, based on its current delivery dates, we do not consider the project appropriate for our CATO regime. This is due to the delay to the necessary legislation. Waiting for this legislation could lead to significant delays to the project, which would not be in consumers interests if it leads to a delay to HPC.

1.11. In place of CATO, we identified two alternatives to the RIIO (SWW) status quo delivery model. In our August consultation we set out that both of these delivery models could deliver a significant proportion of the benefits of a CATO tender. These models were referred to as:

- 1. The SPV model:** Under this model NGET would run a competitive process (with Ofgem oversight) to appoint a special-purpose vehicle (SPV) to build, finance and operate HSB.
- 2. Competition Proxy:** Under this model we would set a revenue allowance for NGET to deliver the project based on the expected outcome of a competitive process to build, finance and operate HSB.

1.12. All non-confidential responses to the August consultation are published on our website. A summary of responses to the August consultation that relate to the

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<sup>3</sup> <https://www.ofgem.gov.uk/publications-and-updates/criteria-onshore-transmission-competitive-tendering>

criteria for competition assessment and delivery model for HSB can be found in Appendix 1 of this document. A summary of responses on questions covering the needs case for the project can be found in our accompanying needs case decision, whilst our update on competition in electricity transmission includes a summary of responses to the questions relating to the future application of the criteria for competition, and their relevance to the SPV model and Competition Proxy models.

## **What this document covers**

1.13. Following consideration of responses to the August consultation and further analysis, into which Cambridge Economic Associates (CEPA) have fed, we are consulting on our minded-to position that the Competition Proxy delivery model should be applied to the HSB project.

1.14. The remainder of this document covers the following:

- Chapter 2 summarises our assessment of the HSB project against our criteria for competition
- Chapter 3 sets out our analysis and justification for our minded-to position that Competition Proxy should be applied to HSB
- Chapter 4 sets out further detail of the Competition Proxy regulatory regime that we propose to apply to HSB
- Chapter 5 sets out next steps for the HSB project.

## **Analysis from CEPA**

1.15. Our August consultation identified a number of potential consumer savings in the financing of the HSB project that could be delivered through the SPV or Competition Proxy models. In order to further quantify these benefits we contracted CEPA to carry out a study to identify the potential cost of capital ranges it considers would result if the delivery of HSB was subject to a competitive process to build, finance and operate HSB.

1.16. This work forms one part of a wider piece of work that CEPA is carrying out for us to feed into our work unifying the framework we use to set the cost of capital across the various network assets we regulate. Alongside this consultation we have published CEPA's report, which covers its proposed cost of capital ranges for the development of both new interconnectors and new offshore transmission infrastructure during construction, as well as the appropriate ranges for the construction and operation of HSB.

1.17. Having reviewed CEPA's report and tested the assumptions underlying its analysis, we propose that it represents a well justified set of principles and proposals for setting the cost of capital for HSB. As set out in Chapter 4, subject to the consideration of responses to this consultation, we propose to use the methodology proposed in CEPA's report to set the cost of capital for HSB under the Competition Proxy model.

1.18. CEPA is also considering the methodology we will ultimately use to make a cost of capital determination for the upcoming RIIO-2 price controls. The ranges referenced in this document (including the various RIIO counterfactuals) should not, however, be read as an indication of the likely rates applicable for RIIO-2. They are included solely for the purposes of considering the indicative benefits of our proposal for HSB across a range of counterfactual scenarios. Factors that are likely to lead to different cost of capital rates for RIIO-2 include: the differences between setting rates for new assets and for a price control portfolio of existing assets; the different regulatory period lengths; and the timing of relevant determinations. We will publish an update on RIIO2 financial arrangements as part of the February 2018 Framework Consultation for RIIO2.

1.19. Further detail on how we have used CEPA's analysis in reaching our minded-to position is provided in Chapter 3.

## 2. Assessment against the criteria for competition

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### The criteria for competition

2.1. In our August consultation we explained that, as part of our work on extending competition, we have developed specific criteria to determine whether projects are suitable for competition. These are that a project is new, separable and high value and we refer to these as the criteria for competition.

2.2. Alongside this consultation we have published an update on competition in onshore electricity transmission. That update sets out that we have concluded (further to our August consultation) that the current criteria (as defined in the update) remain appropriate for identifying projects suitable for delivery through both the SPV and Competition Proxy delivery models. It also sets out our intention to consider the SPV and Competition Proxy models for all future SWW projects that meet the criteria for competition and are subject to a Needs Case assessment during RIIO-T1.

### Assessment of HSB against the criteria

2.3. We assessed the HSB project against the criteria for competition in our August consultation. We explained that, aside from the relatively short southern section of overhead conductor replacement between Bridgwater and Shurton, we consider that the HSB project meets each of the criteria. Whilst some respondents to our August consultation sought clarification of the eligibility of work on the local lower-voltage distribution network, no respondents disagreed with our assessment of the project against the criteria.

2.4. Consistent with our previous development of the criteria for the CATO regime, all third party work (including DNO works) which are driven by the requirements of the TO, continue to be considered part of the transmission project, and therefore also subject to the criteria assessment. **We therefore confirm that the HSB project, with the exception of the overhead conductor replacement referred to above, meets the criteria for competition.**

2.5. The schematic diagram in Appendix 2 illustrates the aspects of the project works that meet the criteria for competition. With the exception of the southern section of conductor replacement, we are minded to deliver the full project works, including all distribution works that would be funded through SWW under the status quo arrangements, using the Competition Proxy model.

### Treatment of works that don't meet the competition criteria

2.6. As identified in our August consultation, the value of the conductor replacement work that doesn't meet the competition criteria, accounts for 2 per cent of NGET's



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current cost estimate for HSB. We propose that this work should be included in NGET's RIIO-T2 business plan, and funded through the price control framework.

## 3. Why we are minded to apply Competition Proxy to HSB

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### Chapter Summary

This chapter outlines the analysis we have used to reach our minded-to view that the Competition Proxy model should be applied to HSB.

### Question box

**Question 1: Do you agree with our minded-to position to pursue the Competition Proxy model for HSB?**

**Question 2: What are your views on the appropriateness of the cost of capital ranges developed by CEPA (presented in Table 3.1), and where within the ranges do you consider the rates for HSB would lie?**

**Question 3: Are there any potential costs or benefits of the Competition Proxy model that we haven't considered?**

### Summary of findings and how we reached them

3.1. As set out in Chapter 1 of this document, and also in our August 2017 consultation, we do not consider HSB appropriate for our Competitively Appointed Transmission Owner (CATO) regime. This is due to the delay in the necessary CATO legislation being passed. Based on HSB's current delivery dates, waiting for this legislation could lead to significant delays to the project, which would not be in consumers interests if it leads to a delay to EDF's HPC project.

3.2. In place of CATO, our August consultation identified two alternatives to the RIIO (SWW) status quo delivery model: the SPV and Competition Proxy models. We said that we considered that both of these alternatives could deliver a significant proportion of the benefits of CATO without the need for enabling legislation.

### Responses to our August consultation and our views

#### *Responses in relation to the CATO model*

3.3. None of the responses to our consultation disagreed with our view that the CATO regime should not be considered for HSB. There was general agreement that it appears unlikely that it can be implemented without causing a significant delay.

#### *Responses in relation to the SPV model*

3.4. Most respondents agreed that the SPV model had the potential to deliver a more favourable outcome for consumers compared to the existing status quo SWW delivery arrangements. Nevertheless, a number of respondents, including the three TOs, set out in their responses that practical challenges to the implementation of the SPV model would introduce additional risks to the delivery of the HSB project, which



would not be in the interests of consumers. NGET also specifically referenced a KPMG review of Ofwat's direct procurement proposals<sup>4</sup>, which suggested that investors would be unlikely to be able to beat a regulated company's cost of capital.

3.5. We do not agree that regulated company cost of capital is representative of the best rates available in the market for the HSB project. We consider that through a competitive process, a wider range of investors and risk appetites will drive cheaper financing. This would result in lower bills for consumers. This is particularly likely in the case of a project like HSB where a model of regulatory incentives and protections would be developed and implemented, planning permission is already in place, and where the SPV model would provide a guaranteed long-term revenue stream.

3.6. Our update on onshore competition in electricity transmission, published alongside this document, sets out the work we propose to undertake to ensure the SPV model can be implemented in a timely and efficient manner in order to maximise the benefits of that model.

*Responses in relation to the Competition Proxy model*

3.7. Most respondents agreed that the Competition Proxy model had the potential to deliver a more favourable outcome for consumers compared to the status quo SWW delivery arrangements. TOs SHE Transmission and SP Transmission, however, both questioned the benefits that the model would produce. They also warned of the negative implications of the model introducing additional uncertainty into the regulatory regime. NGET set out that the cost of equity should be higher under Competition Proxy than under RIIO-T1 to reflect increased construction risk on the HSB project in comparison to its wider RIIO-T1 portfolio. NGET also set out that the level of gearing during construction should be comparable with the rates seen in Interconnector projects and Thames Tideway Tunnel water project. In addition, NGET set out that it did not consider OFTOs to be an appropriate benchmark for the operational period of HSB, due to a different allocation of risks.

3.8. As set out later in this chapter, CEPA's methodology proposes higher gearing during the operational period, with a construction period gearing set at a comparable level to that seen in the Interconnector Cap and Floor regime.

3.9. All non-confidential responses to the August consultation are published on our website. A summary of responses to the August consultation that relate to the criteria for competition assessment and delivery model for HSB can be found in Appendix 1 of this document.

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<sup>4</sup> [https://0980a19b0bb02fe4a86d-0df48efcb31bcf2ed0366d316cab9ab8.ssl.cf3.rackcdn.com/wp-content/uploads/2017/07/KPMG-Direct-procurement-for-customers\\_KPMG\\_FINAL.pdf](https://0980a19b0bb02fe4a86d-0df48efcb31bcf2ed0366d316cab9ab8.ssl.cf3.rackcdn.com/wp-content/uploads/2017/07/KPMG-Direct-procurement-for-customers_KPMG_FINAL.pdf)

## **Our analysis**

3.10. In order to inform our minded-to position on the delivery model for HSB, we have carried out quantitative and qualitative analysis. This was to compare the consumer impact of the Competition Proxy and the SPV models against the RIIO (SWW) counterfactual arrangements, and with each other.

3.11. Our quantitative analysis has covered the building blocks of the revenue for HSB, namely:

- financing arrangements, referred to in terms of weighted average cost of capital (WACC);
- the costs of constructing HSB ('capex');
- the costs of operating HSB ('opex'); and
- the costs of designing and running a new delivery model.

3.12. As set out in the following sections, our analysis considers capex and opex savings in order to consider the relative merits of the Competition Proxy model compared to the SPV model. These capex and opex savings are not determining factors in our proposal to move away from the status-quo RIIO approach.

3.13. Our qualitative analysis has considered the relative merits of the SPV and Competition Proxy models and the extent to which the full range of potential benefits can be delivered for HSB.

3.14. We consider that our quantitative analysis strongly supports our view that introducing or replicating efficient competition can unlock significant consumer savings in the delivery of HSB. Our qualitative assessment supports our proposal to implement the Competition Proxy model for HSB.

3.15. The remainder of this chapter sets out our qualitative and quantitative analysis. It also explains assumptions behind the analysis and provides an indicative overall quantification of the estimated benefits of the SPV and Competition Proxy models against the counterfactual RIIO approach.

3.16. Further detail on how we propose that the Competition Proxy model will be implemented and work in practice can be found in Chapter 4.

## **Comparative analysis of financing savings**

### **Introduction**

3.17. In our August consultation we identified how we considered the implementation of either the SPV model or Competition Proxy model would be able to unlock significant consumer savings relative to the SWW arrangements under RIIO. We consider the models would be able to unlock savings by providing an opportunity to:

1. reflect the historically low cost of debt available in the market in the charges consumers face for HSB;
2. lock this low cost of debt in for the length of the project;
3. ensure that the allowed cost of capital during the operational phase of HSB appropriately reflects the low rates of return that have been determined through competition (through our OFTO regime for operation of offshore electricity transmission assets); and
4. ensure that the assumed ratio of debt to equity (“gearing”) during the construction and operational phase of HSB appropriately reflects the efficient levels expected to be delivered by the market.

### **Estimating the financing rates that would result from a competition**

3.18. We have tested the above considerations by assessing the likely cost of financing HSB through a competitive process. We have compared the estimated cost of debt, cost of equity and level of gearing to the levels we might expect if the project remained within the RIIO SWW regime. As set out in Chapter 1, we contracted CEPA to carry out specialist analysis to inform this assessment.

3.19. CEPA has produced a report, which is published as a subsidiary document to this consultation. This report provides CEPA’s view of expected rates of return from a competitive process, and sets out a proposed methodology for setting the cost of capital rates for HSB under the Competition Proxy model.

3.20. CEPA’s analysis also feeds into our work to align our methodology for calculating appropriate cost of capital rates across offshore, interconnectors and new, separable and high-value onshore transmission projects. As such, CEPA’s report sets out estimated ranges for the cost of capital during construction for offshore and interconnector developers (referred to as Interest During Construction, IDC), in addition to estimated ranges for HSB.

### **CEPA’s methodology and indicative results**

3.21. CEPA has produced two separate cost of capital ranges for HSB – one for the construction phase and one for the operational phase. This approach reflects the fact that material differences in risk between these two phases have an effect on estimated cost of debt, equity and levels of gearing. The approach also reflects the different data available to CEPA concerning each phase. Direct market derived comparator rates, from OFTO bids, are available for the operational period. The construction phase requires a build-up of input assumptions from available market data.

3.22. CEPA’s report sets out a single proposed approach for determining the construction period cost of capital for HSB. CEPA set out two ways in which its proposed methodological approach for setting the operational period cost of capital can be applied. This is a result of the operational period only being due to start in 2024, five years after construction starts. These two approaches both assume that short-term debt will be raised for the length of the construction period, with longer-term debt then taken out to cover the 25-year operational period. Both approaches

assume a step down in risk between construction and operation is reflected in a higher level of gearing (debt relative to equity) during the operational period.

3.23. The difference between the two ways in which CEPA's methodological approach can be applied for the operational period relates to when the cost of capital is set. Under one approach the cost of equity and cost of debt<sup>5</sup> for the operational period are finalised at the end of construction (to reflect market conditions at the time). Under the other approach the cost of equity, cost of debt, and gearing for the operational period are fixed upfront, at Project Assessment, with rates that reflect anticipated market movements in the debt and equity markets during the construction period. CEPA have not chosen between these two approaches as they represent different interpretations of how bidders could approach the financing of the operational period under a competitive regime. In Chapter 4 we set out that we are seeking views through this consultation on which of these approaches should be taken.

3.24. CEPA's report includes an explanation of how it estimated the ranges for both these approaches through analysis of contemporary market data and historic trends, alongside a comparative assessment of regulatory regimes and risk faced.

#### *Cost of Debt*

3.25. CEPA's cost of debt ranges are based on the observed non-financial corporate debt costs revealed in short and long-term debt indexes across A and BBB-rated debt within the iBoxx index. As set out in its report, CEPA's approach assumes that short-term debt is raised upfront to cover the construction period. It assumes that a further tranche of longer-term lower-risk debt is raised to cover the full 25-year operational period, although, as referenced in paragraph 3.22, there is optionality in whether this rate for the operational period is set at the end of construction, or set upfront based on the assumed additional cost of securing the debt earlier.

3.26. We consider that the proposed indexes are the appropriate comparators for the rates that will be available to NGET within the market for raising debt for the HSB project.

#### *Cost of Equity*

3.27. Equity beta is a key aspect of the calculation of the cost of equity as it quantifies the level of risk faced in comparison to the rest of the economy. Central to CEPA's estimate of HSB's equity beta during construction is their choice of comparator companies. CEPA uses a combination of listed engineering and construction companies and regulated networks as comparators. Under CEPA's

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<sup>5</sup> CEPA propose that gearing would be fixed at Project Assessment under this approach

proposed approach this equity beta is combined with an estimate of overall expected equity market returns in the UK to set the cost of equity. CEPA's report explains that for a short-term investment, such as for the construction period of HSB, it considers forward-looking modelling<sup>6</sup>, cross-checked against long-term historical trends and investor survey data of expected equity returns is more appropriate than relying solely on longer-term average returns.

3.28. As the HSB project is a construction project that has specific regulatory protections, we agree with CEPA's proposal to use both construction companies and regulated networks to set its equity beta range for the construction period. In the context of the short-term investment horizon of the construction period for HSB, we agree with CEPA's proposed use of forward-looking evidence. Under a competitive process it is likely that this is the sort of evidence which bidders would factor in for determining an appropriate return on equity.

3.29. During the operational period, CEPA's key cost of equity consideration is the inherent level of risk faced by HSB in comparison to OFTOs. Following a comparative assessment of the risks faced by operators under the OFTO regime and our proposed SPV and Competition Proxy models, CEPA considers that the inherent level of risk faced in the operation of HSB will be comparable to that faced by OFTOs. Therefore, as detailed in its report, CEPA's cost of equity range for the operational period is benchmarked against the level observed in the second and third tender rounds of the OFTO regime.

3.30. Having carried out a comparison of the risk allocation in place under the OFTO regime compared to our proposals for HSB, we agree with CEPA that the successful OFTO bids are an appropriate reference point for setting the cost of equity for the operational period of HSB. A summary of our review can be found in Appendix 4.

#### *Level of Gearing*

3.31. CEPA considers that evidence from the OFTO regime clearly supports the view that a higher level of gearing than the 60% assumed in RIIO is achievable in the operating period of HSB. It also considers that evidence from specific regulated infrastructure construction projects suggests that, whilst the gearing during construction is likely to be lower than during operation, a level of up to at least 65% has been achieved in other regulated infrastructure projects. This is a significantly higher level of gearing than seen in the construction and engineering companies compared against. CEPA has concluded that regulatory protections allow for a higher level of gearing to be achieved than is observed in the comparator set. It has therefore selected a point between the higher 65% and the observed level from the comparator set to propose a level of gearing during construction of 37.5%.

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<sup>6</sup> In CEPA's report, this approach is referred to as the Dividend Growth Model (DGM)

*Overall cost of capital*

3.32. Table 3.1 below summarises CEPA’s estimate, in the form of ranges, of the cost of capital that would be produced by a competitive process, if run today, for HSB. We welcome views from respondents on the appropriateness of these ranges and also on where within the ranges respondents consider the rates for HSB would lie.

**Table 3.1 – Summary of CEPA estimates for cost of capital during construction and operation of HSB (Construction: 3% RPI, 2% CPI. Operational: 3.4% RPI (low) & 3% RPI (high), 2% CPI)<sup>7</sup>**

		Construction cost of capital (WACC)		Operational cost of capital (WACC)	
		Low	High	Low	High
Cost of debt	nominal	1.85%	2.80%	3.50%	3.75%
Gearing	nominal	37.50%	37.50%	85.00%	80.00%
Post-tax cost of equity	nominal	5.54%	7.57%	7.00%	9.00%
<b>Pre-tax nominal WACC</b>		4.97%	6.89%	4.27%	5.22%
Vanilla nominal WACC		4.16%	5.78%	4.03%	4.80%
<b>Vanilla RPI-real WACC</b>		<b>1.12%</b>	<b>2.70%</b>	<b>0.60%</b>	<b>1.75%</b>
Vanilla CPI-real WACC		2.11%	3.71%	1.99%	2.75%

**Our modelling of likely benefits**

3.33. We consider it important to obtain a robust estimate of the likely consumer savings of taking a different approach to the SWW status quo arrangements under RIIO. In order to do this, we first modelled the likely revenue impacts of applying various cost of capital rates within CEPA’s range to the forecast HSB project costs through a project finance model. We then compared these revenue estimates to those derived through applying a counterfactual RIIO revenue model using the rates within RIIO. To robustly estimate benefits in this way required us to estimate the future levels of rates of return under RIIO counterfactuals.

*Selecting RIIO counterfactuals*

3.34. Under the RIIO SWW regime, the construction costs of the HSB project would be recovered through revenue over a 45-year period. This revenue would include an

<sup>7</sup> The figures representing the operational cost of capital in this table reflect CEPA’s view of the rates if they were set at the start of construction

allowance for cost of capital over that period. It is not feasible to accurately forecast the allowed cost of capital that would be in place across the full 45-year period. We have, therefore, modelled more than one set of comparator financing costs figures by applying various comparator rates (our RIIO counterfactuals). The rates we used were:

1. the allowed rate from the current electricity transmission price control, RIIO-T1;
2. the mid-point of the range of rates that Ofwat has proposed for the next water price control, PR19 (this was based on Ofwat's '2019 price review: Final methodology', published on 13 December 2017).<sup>8</sup>
3. a back calculation of the likely rate under RIIO that would be required to achieve the top end of CEPA's range to consider whether the level of saving identified is likely under RIIO.

**3.35. For the avoidance of doubt these counterfactuals should not be read as an indication of the likely rates, or rate reductions applicable for RIIO-2 – they are included solely for the purposes of showing how we have estimated the benefits of the Competition Proxy and SPV models by comparing them to counterfactual scenarios.**

3.36. We applied the rates from the counterfactuals through an adjusted RIIO price control financial model to assess the full 45-year depreciation period. We note that we did not try to predict future market changes in cost of equity and debt over the 45 year period within the counterfactuals, ie we kept the the cost of capital constant under the counterfactuals for 45 years. Given that current market rates of equity and debt are low, this may mean that the second and third counterfactuals in particular could reflect a cost of capital that is unrealistically low over the 45 year period. While noting this, we consider setting out the counterfactuals in this way to be more useful than factoring in inherently uncertain potential changes to long-term market rates.

3.37. We compared the revenues produced using our RIIO counterfactuals to the revenues produced by the upper and lower end of CEPA's construction rates applied during construction of HSB, and the upper and lower end of its operational rates applied during the operational period for HSB.

3.38. We also applied the current (2017/18) OFTO and Interconnector IDC rates for construction as alternative construction rates for HSB. These IDC rates are the most recent allowed cost of capital determinations that we have made for the construction of standalone, new offshore transmission and interconnector assets. Comparing the revenues produced by these rates against the revenues produced by our RIIO counterfactuals provided a way to sense-check that the savings produced by the

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<sup>8</sup> <https://www.ofwat.gov.uk/regulated-companies/price-review/2019-price-review-final-methodology/>

CEPA rates were not being driven by overly optimistic assumptions from CEPA’s analysis.

3.39. Table 3.2 below sets out the savings identified by comparing our RIIO counterfactuals against four revenue scenarios under the SPV or Competition Proxy model. The dark blue row of the table sets out the basis for the construction cost of capital for each scenario. The light orange row of the table sets out the basis for the operational period cost of capital for each scenario. The two white rows set out the level of savings estimated (£m) to be produced solely by applying the rates of return in the blue and light orange sections relative to the two RIIO counterfactuals.

3.40. As can be seen in the table, each scenario delivers significant savings on a net present value (NPV) basis against two of the RIIO counterfactuals.

**Table 3.2: NPV savings vs. RIIO counterfactuals (£m) – Financing savings**

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Scenario 4</b>
Construction cost of capital	Bottom of CEPA range	Top of CEPA range	Offshore IDC 2017/18	Interconnector IDC 2017/18
Operational cost of capital	Bottom of CEPA range	Top of CEPA range	Mid point of CEPA range	Mid point of CEPA range
Vs. RIIO-T1 counterfactual	288.0	187.4	202.9	166.1
Vs. Ofwat PR19 midpoint counterfactual	135.9	35.4	50.8	14.1

3.41. Our analysis suggests that a cost of capital of 1.9%<sup>9</sup> under RIIO over a 45 year period would need to be realised in order to deliver the equivalent level of savings identified by the top end of CEPA cost of capital ranges for HSB. We consider that this is unlikely to be achievable as a long-term cost of capital rate, as the current historically low cost of debt and equity is unlikely to be maintained for the next 45 years.

<sup>9</sup> Vanilla RPI real WACC



3.42. Based on the figures shown above in Table 3.2, we consider that significant financing savings are achievable against the RIIO counterfactuals. This supports the case for applying the SPV or Competition Proxy regulatory models to HSB.

### **Comparative savings in the cost of constructing HSB**

#### *SPV model*

3.43. Our August consultation did not set out a specific level of capex saving that we considered could be achieved through the implementation of either the SPV or Competition Proxy models. However, it did set out that there would likely be consumer benefits from holistically competing the delivery through the SPV model in particular.

3.44. In its response to our consultation, NGET argued that it already applies competitive pressure to construction expenditure through its tendering of delivery contracts. It also detailed the procurement work that it has already undertaken for HSB and referenced the potential cost impacts of a shift in contracting approach (for example to a limited number of turnkey contracts) at this stage in the project's development.

3.45. We acknowledge that in the case of large transmission projects such as HSB, NGET will competitively tender the delivery of the majority of construction work. The SPV model does not move away from this principle. Our expectation is that the SPV model has the potential to unlock additional savings for consumers through the utilisation of a different, more holistic, contracting approach that involves contracting across construction and operation (as opposed to multi-contract procurement under a framework) and contracting with a wider pool of eligible contractors than might otherwise be interested in participating in a multi-contract approach.

3.46. NGET's current proposed approach to delivering the HSB project relies on letting several large asset-specific Engineering Procurement Construction (EPC) contracts to its pre-approved supply chain via its delivery framework, and then managing the delivery of those contracts.

3.47. Because the SPV model involves contracting out financing, construction and operations to a single party, if implemented effectively, it should allow for bidders to determine their own contracting and management approach from a wider pool of contractors. Our expectation is that this wider choice would drive savings in the construction costs of the project, which would be passed on to consumers.

3.48. Because the SPV model involves funding the HSB project on a project-specific basis it is also likely to reduce the corporate overhead costs that a large corporate entity such as NGET is likely to incur on the project.

3.49. Conversely, we are conscious that if project risks are not allocated appropriately and efficiently ahead of the competitive process, the SPV model

approach could actually increase costs, for example due to unnecessary contingency costs.

3.50. Within our modelling of the impact of the SPV model, we have assumed that an effective and efficiently run competition could drive up to 10 per cent in capex savings during the construction period, whilst a poorly managed competition could lead to a capex increase of up to 10 per cent. This 10 per cent increase or decrease in costs is reflective of a 30 per cent increase or decrease to risk contingency and overheads along with a 5 per cent increase or decrease in the efficiency of the delivery of the main contracted works.

#### *Competition Proxy model*

3.51. Similarly to the SPV model, the Competition Proxy model does not move away from the principle that NGET will competitively tender the delivery of the majority of construction work for HSB. However, in contrast to the SPV model, NGET may retain the same contracting and construction management approach as it would under RIIO (SWW). However, the combination of lower rates of return than under RIIO and our proposed post construction review of costs (see Chapter 4) may drive some different behaviour by NGET, particularly in the contractual treatment of risk. We therefore consider that a capex saving of 5 per cent is possible under the Competition Proxy model, although we will consider this more fully as part of our cost assessment process at Project Assessment, as referred to in Chapter 4. We note however that our minded-to proposal to implement the Competition Proxy model for HSB is not reliant on this capex saving.

### **Comparative savings in the cost of operating HSB**

#### *SPV model*

3.52. Evidence from the OFTO regime shows that competition drives savings in opex. Such savings have been driven through competition for long-term operations and maintenance contracts. Over time, the level of opex within bids relative to the value of the assets has fallen with each completed tender round.

3.53. We therefore expect that the effective application of the SPV model would drive opex savings. This is due to the increase in competitive pressure relative to NGET's indicative cost estimates. As with the construction costs, our analysis recognises the importance of the competition being run effectively. In our modelling, we have again considered that an effective and efficiently run competition could drive up to 10 per cent in savings during the operational period, whilst a poorly managed competition could lead to a cost increase of up to 10 per cent.

#### *Competition Proxy model*

3.54. Similarly to construction, we also consider that the Competition Proxy model may drive different behaviour by NGET, albeit with a lower level of saving (5 per cent) in opex than under the SPV model. Again, we will consider opex fully as part of

our cost assessment process as set out in Chapter 4. We note however that our minded-to proposal to implement the Competition Proxy model for HSB is not reliant on this opex saving.

### **Comparative costs of designing and implementing a new delivery model**

3.55. As both the SPV model and Competition Proxy model represent a movement away from the current regulatory approach, it is inevitable that there will be implementation costs associated with them. For example, the SPV model will require a significant amount of work to finalise the contractual and regulatory arrangements that underpin it. As a result we expect that the implementation costs for the SPV model will be higher than for the Competition Proxy model.

3.56. In our analysis we have assumed that the cost of implementing the SPV model, at least the first time it is implemented, would be within the range of £3m to £5m. In contrast, we expect the additional work required under the Competition Proxy model, relative to the status quo approach, would be in the range of approximately £150,000 – £300,000.

### **Relative merits of the SPV and Competition Proxy models**

3.57. Further to the above quantitative analysis, this section, which also draws on our qualitative analysis, sets out our consideration of the relative merits of the SPV and Competition Proxy models.

3.58. Table 3.3 below summarises the level of quantitative benefits we consider are possible from the SPV model and the Competition Proxy model. The table shows that, in terms of the costs of building and operating HSB, we consider it likely that there is the potential for greater benefits to be unlocked through the SPV model than there is via the Competition Proxy model. This is because the competitive nature of the model can drive further innovation in contractual arrangements and operating approaches across a wider pool of potential contractors.

3.59. However, we accept that there is some uncertainty associated with this level of benefit being achieved under an SPV model for HSB. The actual level of savings will be dependent on timely and efficient development and implementation of the required arrangements that would underpin an SPV competition. In particular, as a new model, effective engagement and development from NGET would be integral to enabling the SPV model can deliver the full range of benefits. If the arrangements are not appropriately developed, there is a risk that the cost would increase under the SPV model. Having discussed the principles of the proposed model with NGET, and having considered its response to our August consultation, we have concerns over whether NGET would proactively develop the SPV model to maximise the benefits for consumers.

**Table 3.3: NPV savings vs. RIIO counterfactuals (£m)**

	<b>SPV model (best)</b>	<b>SPV model (worst)</b>	<b>Competition Proxy (best)</b>	<b>Competition Proxy (worst)</b>
<b>Construction cost of capital</b>	Bottom of CEPA range	Top of CEPA range	Bottom of CEPA range	Top of CEPA range
<b>Operational cost of capital</b>	Bottom of CEPA range	Top of CEPA range	Bottom of CEPA range	Top of CEPA range
Vs. RIIO-T1 counterfactual	288.0	187.4	288.0	187.4
Vs. Ofwat PR19 midpoint counterfactual	135.9	35.4	135.9	35.4
Assumed savings on capex	-10%	10%	-5%	-5%
Assumed savings on opex	-10%	10%	-5%	-5%
Assumed implementation costs	3	5	0.15	0.3
Vs. Ofwat PR19 midpoint counterfactual with capex, opex and implementation savings/costs applied	<b>179.3</b>	<b>-10.1</b>	<b>156.2</b>	<b>60.9</b>

3.60. A number of respondents to our consultation, including EDF and NGET, raised concerns about the SPV model due to the risk of it causing project delays. This concern centred on the need for a significant number of legal agreements, with a detailed risk allocation, to be in place ahead of any competitive process being run.

3.61. NGET's delivery plan involves construction of the HSB project starting in the first quarter of 2019. NGET has already undertaken some aspects of its procurement process, with some key milestones occurring within the next 12-15 months. This suggests that the structuring and implementation of the SPV competition may need to be completed within a 12-15 month period in order to keep the project in line with NGET's current delivery timetable.

3.62. Several potential bidders supported the view that the SPV model has the potential to deliver greater consumer benefits than the Competition Proxy or prevailing RIIO arrangements. These respondents felt that the challenging timescales were achievable due to the significant work already developed for the CATO, OFTO and Shetland Solution competitions. A key concern from bidders was the extent to which NGET, as an insufficiently incentivised party, would play a central role in the development of the SPV model.

*Our view*

3.63. In principle we do not consider that the SPV model is inherently more risky for the delivery of projects such as HSB than the Competition Proxy model or status quo SWW arrangements. We accept that there would need to be significant upfront work done to finalise the contractual and regulatory arrangements of the SPV, but consider this to be achievable within the required 12-15 month period. Having discussed the delivery risk concerns with potential bidders and relevant parties with

experience of designing similar regimes elsewhere (such as the Thames Tideway Tunnel project, and other comparable examples across Europe) we are confident the SPV model would not necessitate a delay to the delivery of the HSB project.

3.64. We therefore consider that the arrangements to support the SPV model can be put in place to deliver HSB without causing a delay. However, given the relatively advanced stage of the HSB project's development, the SPV model will be reliant on the full and timely support of NGET in optimising the development and delivery of the model. Given that NGET have so far signalled that they are reluctant to pursue the SPV model, we consider that in the case of HSB, there is significant uncertainty as to whether NGET would ensure that the SPV arrangements are designed and delivered in the optimum manner.

3.65. In comparison to the SPV model, the Competition Proxy model has the ability to deliver a broadly comparable level of benefits that are not subject to the same level of development and implementation of the competition being undertaken by NGET.

3.66. Ultimately, we consider the choice between the SPV model and Competition Proxy to be finely balanced. We consider that both models are deliverable, with neither adding significant delivery risk to the project. Whilst the SPV model has the potential to deliver savings beyond the level likely to be achievable through the Competition Proxy, in the case of HSB, delivering these benefits would be highly contingent on NGET actively supporting the development of the model. **We are therefore minded to implement the Competition Proxy model for the HSB project.**

3.67. If NGET's response to this consultation sets out how they propose to effectively and efficiently design and implement a robust SPV competition for HSB, we will take this into account in our conclusion on the optimum delivery model to pursue for HSB. We will, of course, consider all of the information and analysis coming out of this consultation in deciding whether to implement our minded-to position.

3.68. In parallel, as set out in our update on competition in onshore electricity transmission, published alongside this document, we will be further developing the detailed design of the SPV model over the next few months to ensure that for future projects, the level of consumer benefit achievable is not reliant on the TO playing a key role in its development.

3.69. We set out in the next chapter further detail on the workings of the Competition Proxy model, and how we would set the allowed revenue for the HSB project.

## 4. Outline of the Competition Proxy Model for HSB

### Chapter Summary

This chapter outlines our proposals for the design and operation of the Competition Proxy model across both the construction and operational periods of the HSB project.

### Question box

**Question 4: Do you agree with our proposed approach to setting NGET's revenue allowance for HSB, including permitting NGET a revenue allowance during the construction period?**

**Question 5: What are your views on the two alternative approaches to setting cost of debt and equity during the operational period?**

**Question 6: Do you agree with our proposed regulatory arrangements to implement Competition Proxy**

- **What do you think of our proposals in relation to setting capex?**
- **What do you think of our proposals in relation to arrangements during the operational period?**

**Question 7: Do you agree with our proposed treatment of low probability, high impact events that NGET cannot control?**

**Question 8: What are your views on whether a specific allowance set as part of Project Assessment, or a pass-through of incurred taxation constitutes the most appropriate approach for HSB?**

4.1. Under the Competition Proxy model we propose that NGET would receive a project-specific HSB revenue allowance. This revenue allowance would be calculated from appropriate costs of capital and capex and opex allowances.

4.2. As set out in chapter 3 and appendix 4, once built, we consider that the HSB assets would face a comparable level of risk to OFTOs. In our view the prevailing arrangements under RIIO for onshore transmission assets offer a comparable level of risk, reward and regulatory protections to the offshore assets under the OFTO regime. We intend to retain the RIIO principles and many of its incentives within the Competition Proxy model.

4.3. Nevertheless, the Competition Proxy model involves setting a project-specific set of regulatory arrangements for a 25-year period (rather than setting them for a portfolio of assets for the period of a price control). To reflect this, we propose to align certain key regulatory aspects of the Competition Proxy model with the existing OFTO and Interconnector regimes.

4.4. As set out in this chapter, we propose to adjust the application of the RIIO sharing factor. The RIIO sharing factor incentivises efficient delivery by allowing the TO to retain a share of cost savings (and share a proportion of any efficiently

incurred overspends) with consumers. For a project-specific regulatory regime with relatively high risk contingency allowances, this could lead to windfall gains and losses for the TO.

4.5. We also intend to allow project-specific protections during the operational period for the effects of events outside of the TO's control. This aligns with the OFTO regime and reflects the sort of arrangements that would be in place under a competitive regime for HSB. Appendix 4 sets out the comparative allocation of risks between the OFTO regime and the proposed Competition Proxy model for HSB.

4.6. Consistent with the views expressed in CEPA's report, we consider that the proposed regulatory arrangements for the Competition Proxy model for HSB, as summarised in the rest of the chapter, would be seen as attractive to potential investors. We consider them sufficient to provide for an investment-grade credit rating for the financing of the project. This would be important in ensuring that the cost of capital ranges derived from CEPA's analysis are achievable.

## **Financing arrangements**

4.7. We propose that the financing for the HSB project under Competition Proxy follows the principles for funding project-financed greenfield construction projects. This reflects the way in which we expect the project would be funded if it was subject to an efficient competition for the holistic financing, construction and operation of the HSB project.

4.8. This approach normally assumes that the full construction debt is raised upfront and then drawn upon as expenditure is incurred by NGET. During the construction period, the allowed cost of capital is applied to the annual allowed expenditure. The construction period cost of capital rate is designed to reflect the market-derived rate for financing the project during construction, and we propose that this would be determined through CEPA's proposed methodology for determining the construction period cost of capital for HSB.

4.9. The full construction capex allowance will be uplifted by the annual construction cost of capital to determine a total capex value at the end of construction. This capex value will be recovered by NGET over the following 25-year operational period with the operational cost of capital applied.

4.10. We will also set an annual opex allowance that will apply during the operational period. We propose to add this annual allowance to the annual recovery of the construction capex value across the full 25-year revenue term. The annual revenue allowance during the operational period will be based on this total amount including returns distributed evenly on an NPV neutral basis across the full revenue term. At the end of the 25 year operating period, the HSB project will transfer to NGET's RIIO Regulatory Asset Value (RAV) at a value of zero.

4.11. We consider that, under a competitive delivery model, a 25-year revenue period is the optimum revenue period over which the full value of the HSB project should be recovered from consumers. This view was supported by various potential

SPV investors who said, in their responses to our August consultation, that a recovery period beyond 25-30 years would be significantly less attractive to lenders.

4.12. A 25-year term is shorter than the 45-year period over which costs are currently recovered under RIIO. Some respondents to our August consultation questioned whether a shorter revenue period would create an intergenerational transfer by increasing costs to current consumers whilst future consumers receive the cost savings. Our analysis suggests that in addition to significantly benefiting future consumers (by reducing the project costs to zero over 25 rather than 45 years), the annual revenue figure will also be slightly lower during the 25-year revenue term than it would be under RIIO (SWW), thereby also benefiting current consumers. In any case, we consider that as long as intergenerational transfer is relatively modest, it is appropriate to focus on the overall long-term impact on consumer bills. Our analysis suggests this long-term impact will be reduced through the application of the Competition Proxy model for HSB.

### **Setting the allowed rates**

4.13. Consistent with our prevailing approach to setting allowed rates of return for RIIO price controls, and for offshore and Interconnector developers, we propose to utilise the Capital Asset Pricing Model (CAPM) to set the construction cost of capital. This approach requires the selection of a cost of debt and cost of equity. An appropriate gearing level is then used to determine how these rates translate into the cost of capital during construction and operation.

4.14. As set out in Chapter 3 and in CEPA's supplementary report, we are considering whether it would be more appropriate to:

4.14.1. Option 1: fix the cost of capital for both the construction and operational periods at the Project Assessment stage for HSB (before construction starts), or

4.14.2. Option 2: fix the allowed construction cost of capital at Project Assessment but only set an indicative cost of capital for the operational period at that time. Under this approach the cost of capital for the operational period would be fixed at the completion of construction, and would be determined in line with CEPA's proposed methodology, subject to market conditions at the time.

4.15. As we propose to set indicative capex and opex cost allowances at the Project Assessment stage (as set out in the next section), under either of the above options for fixing cost of capital, the resulting revenue allowance for HSB will not be fully finalised until the post-construction review process has been completed at the end of construction, as set out in 4.22-4.24.

4.16. We propose that the methodology for setting both the construction and operation rates of return will be set in our decision on the delivery model for HSB, following consideration of the responses to this consultation.



### **Allowed revenue during the construction period**

4.17. Given the extended construction period, which is expected to be approximately 5 years in the case of HSB, we consider that there are consumer benefits in allowing NGET to recover a revenue allowance during the construction period. This is informed by our previous work on the CATO regime, which suggested that for projects with a construction period of at least 4-5 years, revenue during construction can help reduce the cost of capital by reducing the cash-flow limitations on the developer. A majority of respondents to our August consultation also supported the approach of allowing some revenue during construction.

4.18. We propose that the revenue during construction allowance covers only the allowed cost of debt during construction, based on the upfront costs set at our Project Assessment. This allows debt to be serviced during construction, but retains the delivery incentives consistent with project finance principles.

### **Adjustments for inflation**

4.19. Consistent with the principles under RIIO, we propose that the revenue allowance for HSB will be adjusted for inflation. In RIIO-T1 the inflationary adjustment is tied to the Retail Price Index (RPI). Since the Government now uses the Consumer Price Index (CPI) to measure inflation, other regulators, such as Ofwat, have proposed future shifts (or partial shifts) towards the use of a version of CPI to track future adjustments for inflation. We propose to align the approach undertaken for HSB with the wider approach that is ultimately taken forward for RIIO-T2. We will confirm our approach ahead of our final decision on Project Assessment in 2019.

### **Capex**

4.20. Similar to the status quo SWW arrangements, under Competition Proxy we intend to formally review and set an indicative upfront construction allowance at our Project Assessment stage for HSB. We currently expect NGET to make their Project Assessment submission in summer 2018 to allow us to make a decision on indicative construction allowance by early 2019.

4.21. During construction, we consider it important to retain a sharing factor on the more certain costs that NGET can control. NGET would share underspend or efficient overspend in these more certain cost areas with consumers. This will retain the incentive on NGET to drive down the construction costs. Without such an incentive on it under the Competition Proxy model, NGET would not face the same natural commercial pressure to limit its cost exposure as offshore windfarm developers or Interconnector developers.

4.22. Our Project Assessment will distinguish between the more certain costs that can be benchmarked, and other cost areas that are less certain or outside NGET's control. We intend to carry out an expenditure review at the end of the construction

period on the less certain costs and all cost areas deemed to be outside of NGET's control to determine which of these costs should be included in an updated revenue allowance for HSB. This review will be comparable in scope to the post construction review that takes place under the Cap and Floor Interconnector regime.

4.23. We expect that this post-construction review will focus on cost areas such as risk contingency for severe weather and uncertain ground conditions. Unlike under RIIO, these costs would no longer be subject to a sharing factor or a re-opener mechanism during the construction period.

4.24. We consider that this proposed approach to setting cost allowances for the project will ensure that NGET is appropriately incentivised to minimise the costs it can control, whilst avoiding NGET receiving windfall gains from risks it cannot control not materialising.

### **Treatment of late delivery**

4.25. If NGET does not deliver HSB on time we would consider whether the late delivery constituted a breach of the licence condition. In considering whether this is the case or not, we would follow our usual processes and policies for enforcement.<sup>10</sup>

4.26. Irrespective of whether any delay is treated as a breach of licence requirements, we propose that additional costs incurred during a delay will not be reflected in the revenue allowance during construction. Subject to the capex arrangements set out in paragraphs 4.20 to 4.24, only unavoidable cost incurred during delays will be reflected in the revenue stream that is then recovered over the 25-year operational period. Where it can be shown that a construction delay was unavoidable and outside of NGET's control, we propose that NGET would be able to earn the allowed construction cost of capital during the length of the delay.

4.27. Our proposed treatment of late delivery is broadly aligned with the prevailing RIIO approach, whilst the allowance of the cost of capital return only during delays that are outside of control is directly comparable to the approach undertaken in the Cap and Floor Interconnector regime.

## **Arrangements during the operational period**

### **Opex**

4.28. We propose to set opex costs for the 25-year revenue term at the Project Assessment stage. This will provide NGET with a degree of confidence as to what

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<sup>10</sup> A copy of the guidelines can be found here:  
[https://www.ofgem.gov.uk/system/files/docs/2016/12/enforcement\\_guidelines.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/12/enforcement_guidelines.pdf)

cost allowance to expect during the operational period. Depending on how clearly and accurately these costs can be estimated at the Project Assessment stage, we may decide to finalise the opex cost allowance as part of the post-construction review of costs once costs are more certain.

### *Incentives*

4.29. As the HSB assets will remain under NGET's ownership, we propose that during the operational period, the prevailing RIIO incentives (eg Energy Not Supplied) remain applicable.

### **Cost reopeners**

4.30. Similar to OFTOs and Interconnectors, we propose to include a cost reopener mechanism to compensate NGET for low probability, high impact events that NGET cannot control (eg force majeure events) that trigger a sufficient increase in opex costs. The exact threshold we set for reopening the opex costs will depend upon the quantum and nature of the opex costs identified at Project Assessment. NGET would be able to make a claim for any efficiently incurred additional costs beyond the relevant threshold where a qualifying event occurs during the operational period.

4.31. In addition, in line with the OFTO regime, we propose that the Competition Proxy model for HSB will provide protection against unanticipated changes in law. Under these arrangements NGET would be able to claim for material increases in costs associated with specific changes in law that impact directly on the cost it incurs on HSB.

### **Additional capex requirements during the operational period**

4.32. During the revenue term it is possible that the HSB assets in place will need to be upgraded to accommodate additional capacity or connections. Where any upgrade is demonstrated to be needed, and the upgrade is forecast to meet the competition criteria, we expect the regulatory treatment will mirror the prevailing arrangements in place at the time. This could mean the CATO, SPV model or Competition Proxy are implemented to deliver the upgrade.

4.33. Where such a network upgrade is demonstrated to be needed but does not meet the criteria for competition, we propose setting a cost allowance for the work based on prevailing RIIO arrangements and market conditions at the time the cost allowance is set.

### **Allowance for tax liabilities**

4.34. We propose to set a project-specific allowance for the tax liability incurred by NGET through the construction and operation of HSB. We welcome views on whether a specific allowance set as part of Project Assessment, or a pass-through of incurred taxation constitutes the most appropriate approach for HSB. If we set an up front allowance for tax when we finalise cost allowances at the project assessment stage

for HSB, we will update the calculation to reflect any changes in tax law, interpretation of an associated existing law by HMRC or relevant change in accounting interpretation.

### **Identifying HSB costs**

4.35. It will be important to ensure that costs associated with HSB assets incurred during the operational period are identifiable as separate from the remainder of RIIO-T1 and any future price controls. This will ensure that costs during the operating period are appropriately captured as relating to HSB, rather than the wider RIIO portfolio. Where it is efficient to fund HSB-specific operational costs through an allocation of cost from a wider recorded cost covering work within RIIO, we will expect NGET to propose and adhere to a clear and consistent allocation approach.

## 5. Next steps

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5.1. Subject to responses to this consultation, we expect to confirm the delivery model and methodology for setting the revenue allowance for HSB in Q1 2018. At that point we intend to develop and consult on the changes to NGET's licence needed to implement the Competition Proxy model for HSB.

5.2. We currently expect that NGET would then submit its final cost estimate for HSB in summer 2018 to allow us to set a cost allowance for the project ahead of the main construction work beginning in early 2019.

5.3. Our Project Assessment will set the appropriate cost allowance for the efficient delivery of HSB.

# Appendices

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## Appendix 1 – Summary of consultation responses

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This appendix summarises the responses to questions 6, 7, 8 and 9 of our HSB consultation which dealt specifically with the Competition Proxy and SPV delivery models.

### **Question 6: Do you agree with our assessment of HSB against the criteria for competition, including our view on potentially re-packaging the project so that it meets all the criteria?**

All respondents to this question agreed with our conclusion that aside from a relatively short section of overhead line replacement, the HSB project meets each of the competition criteria. A few respondents to the consultation sought clarification of the eligibility of work on the local lower-voltage distribution network.

### **Question 7: Do you agree that the SPV model or Competition Proxy model would deliver a more favourable outcome for consumers relative to the existing status quo SWW delivery arrangements under RIIO?**

Most respondents agreed that the SPV model and Competition Proxy model would deliver a more favourable outcome for consumers relative to the existing status quo SWW delivery arrangements, with most stressing that the SPV model had the potential to deliver the greatest benefits. However, over a third of respondents highlighted that implementing the SPV model at such a late stage in the project's development may present a significant risk to the timely connection of HPC due to the time required to organise and run an efficient SPV tender.

NGET outlined that it does not agree that either of the alternative delivery models would deliver a favourable outcome for consumers. It argued that the SPV model still requires significant policy development, that the CATO regime was developed over several years, and that as such the SPV model would introduce a range of risks to the project which increase costs to consumers, principally the risk of delaying the connection of HPC. NGET agreed that the Competition Proxy model may be able to deliver savings on the cost of debt, but stressed that savings on cost of equity and levels of gearing would not be attainable on an isolated project such as HSB and that as such the consumer benefit in pursuing the Competition Proxy model would be significantly less than identified in our consultation.

Scottish Power Transmission Ltd (SPT) stated that it did not agree with the range of consumer benefits presented and flagged that although it is possible that a lower cost of capital may be achieved, the risk of implementing an untested regulatory framework for assets that provide connection for a nationally significant project such as HPC is not justified by the scale of the potential cost savings.

Scottish Hydro Electric Transmission Ltd (SHET) argued that the alternative delivery models would not provide the stated benefits because SWW already incentivises TOs to deliver projects that represent value for money for consumers.

EDF agreed that Competition Proxy would probably deliver a favourable outcome for consumers, but raised concerns that the SPV model is likely to introduce construction delay risk for both the HSB and HPC projects.

**Question 8: What are your thoughts on the SPV model, including:**

- (a) The structure of the model and length of revenue term?**
- (b) Should construction funding start during construction, or once it has completed?**
- (c) The contractual and regulatory arrangements?**
- (d) The identified benefits?**
- (e) Any potential downsides or implementation risks?**
- (f) Any other considerations?**

The majority of respondents agreed that a 25-year revenue term was appropriate and that this would secure a positive outcome for consumers. SHET raised concerns that a 25-year term may not be acceptable under EU competition law and that a revenue term shorter than the life of the asset may disadvantage current consumers. NGET flagged that committing consumers to a 25-year revenue term may be disadvantageous if future market conditions make any deal that is committed to now look less favourable in hindsight.

On the issue of revenue starting during construction, there was a mixed reaction. Several respondents indicated that starting revenue during construction would be likely to be beneficial to consumers as it would appeal to investors, thus lowering financing costs. However, others highlighted that allowing revenue during construction may de-incentivise prompt or high quality completion of the project. Numerous respondents acknowledged that there are good arguments on both sides and that this issue required further consideration.

The majority of respondents flagged that risk allocation will form a key part of the contractual and regulatory arrangements and indicated that further consideration needed to be given to this. NGET in particular highlighted that the SPV model inherently carried a series of complex and unclear accountabilities which would be hard to regulate and hence detrimental to consumers. Several respondents identified that NGET holding an equity stake in any SPV should incentivise efficient behaviour, though some of these responses also warned that any conflicts of interests that emerge as a result of such an arrangement will need to be carefully considered. One respondent argued that rather than an equity stake, NGET should receive a percentage of any consumer savings.

Two respondents indicated that protections for relevant generators should be incorporated into the SPV's contractual arrangements and that generators should be made aware of any savings achieved by the delivery model as early as possible.



The SPV model was very well received by potential bidders with many respondents agreeing that the model could provide significant benefits for consumers as a result of access to lower costs of debt and equity, likely innovation in construction and contracting, and a longer revenue term. A couple of respondents caveated this by stating that the benefits provided by an SPV would be inferior to those that a full CATO competition could elicit.

One respondent raised concerns that only running a funding competition for an SPV may not produce significant savings relative to the RIIO counterfactual and that in order to attain genuine consumer value it would be necessary for the SPV to be involved in all aspects of project delivery. Similarly, another response argued that the widest possible remit should be given to the SPV's procurement role.

Several respondents outlined that the SPV timescales detailed in our consultation appeared reasonable and in line with other energy and infrastructure projects. However, several other respondents argued that the proposed timescales to run an SPV tender appeared very tight. One respondent in particular argued that Thames Tideway was not necessarily a project that should be used as a comparator because of the fact that it had longer lead-times and was partially de-risked by government backing.

**Question 9: What are your thoughts on the Competition Proxy model, including:**

- (a) The structure of the model and length of revenue term?**
- (b) Should construction funding start during construction, or once it has completed?**
- (c) How we identify comparable benchmarks?**
- (d) The identified benefits?**
- (e) Any potential downsides or implementation risks?**
- (f) Any other considerations?**

As with the SPV model, respondents generally agreed that a 25-year revenue period would be appropriate, though NGET and SHET both flagged that, as with the SPV model, a 25-year revenue term may result in an intergenerational transfer of consumers costs. One respondent questioned why it wasn't possible to subject the operational period to a full (or at least SPV) competition like under the OFTO regime.

One respondent argued that no funding should be released until the project is completed, and another suggested that funding should only be provided during construction for particularly long construction periods. SHET suggested that there would be no consumer benefit in only releasing funding upon project completion under the Competition Proxy model and five other respondents stated that funding should start during construction given the high investment costs and the potential to achieve lower financing costs.

Seven respondents indicated that there is a pool of comparable benchmarks that Ofgem could use to set appropriate financial parameters on HSB. These included OFTOs, Interconnectors, onshore transmission projects in the UK and abroad, Thames Tideway and policy development work undertaken in relation to the CATO

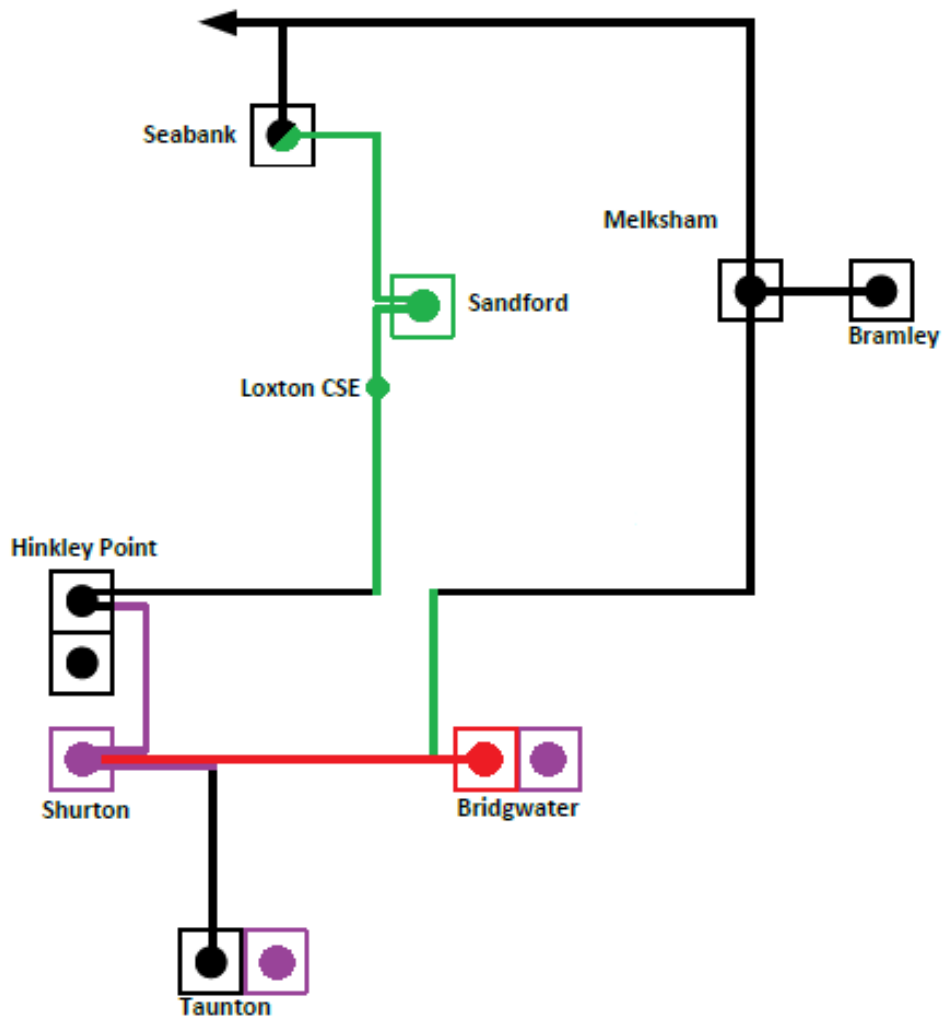
regime. However, five respondents indicated that the proposed approach of utilising benchmarks from the OFTO and Interconnector regimes appears to be flawed given the different financial and regulatory characteristics of these regimes relative to HSB.

Respondents generally accepted that Competition Proxy would provide some consumer benefit relative to SWW and that it presented less of a risk to the construction timetable than the SPV model. However, around half of respondents felt that Competition Proxy would not be able to offer the same benefits for consumers as the SPV model because retaining delivery through NGET would result in higher costs of debt and equity, and less innovation in construction and contracting. SHET outlined that Competition Proxy would provide limited benefit because the incentive mechanisms under RIIO already ensure that consumers benefit fairly from efficiencies delivered by TOs and that they already incorporate competitive methods in the appointment of contractors. NGET suggested that rather than pursuing the Competition Proxy model in the relatively limited time available before construction begins, it may be sensible to re-evaluate the regulatory treatment of HSB and other SWW projects as part of the broader conversation regarding RIIO-2.

## Appendix 2 – Schematic of HSB showing new and separable criteria assessment

The diagram below is a schematic of HSB that relates to our criteria assessment in Chapter 3 of this consultation.

- Lines in green represent sections we consider are *new*.
- Lines in red represent sections we consider are not *new*.
- Lines in black represent the existing transmission assets, that are outside the scope of HSB, and therefore outside the scope of our criteria assessment.
- Lines in purple represent transmission assets works for which NGET is not seeking funding through SWW, and are therefore outside the scope of our criteria assessment.



## Appendix 3 – Impact Assessment

<p><b>Title:</b> Hinkley – Seabank Delivery Model Impact Assessment</p> <p><b>Division:</b> Networks <b>Team:</b> New Transmission Investment</p> <p><b>Associated documents:</b> N/A</p> <p><b>Coverage:</b> Full coverage. This IA considers the full costs and regulatory implications of Ofgem’s proposed approach on Hinkley – Seabank.</p>	<b>Impact Assessment (IA)</b>
	<b>Type of measure:</b> Regulatory model
	<b>Type of IA:</b> Qualified under Section 5A Utilities Act 2000.
	<b>Contact for enquiries:</b> James Norman, Head of Commercial Policy, Networks <a href="mailto:NTIMailbox@ofgem.gov.uk">NTIMailbox@ofgem.gov.uk</a>

### Summary: Intervention and Options

In late August 2017, we consulted<sup>11</sup> on our view that introducing competition into the delivery of HSB, or replicating the outcomes of doing so, could unlock significant savings for consumers in comparison to the status quo Strategic Wider Works (SWW) approach under RIIO. We identified two alternative models that we considered able to deliver such savings:

1. **SPV model:** NGET runs a competition for the financing, delivery and operation of the HSB project through a Special Purpose Vehicle (SPV)
2. **Competition Proxy:** NGET delivers the project, but Ofgem sets a regulatory model and revenue terms intended to reflect the outcome of an efficient competitive process for the financing, construction and operation of the project.

Following further policy development and a review of the responses to our August consultation, we are now consulting on a minded-to position that delivering HSB through Competition Proxy would be the best option to secure value for consumers.

This Impact Assessment outlines the benefits, and potential costs, of our proposal to pursue the Competition Proxy model relative to delivering HSB under the status quo RIIO Strategic Wider Works (SWW) arrangements. It also considers the impact of Competition Proxy compared to the potential consumer outcomes that the SPV model may have delivered.

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<sup>11</sup> <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-consultation-final-needs-case-and-potential-delivery-models>

**What is the problem under consideration? Why is Ofgem intervention necessary?**

As set out today<sup>12</sup>, we consider that there is a clear economic and technical needs case for the HSB project.

We consider that HSB meets our new, separable and high value criteria for competition and that there is a strong case to consider competitive delivery models, or models that seek to replicate the outcomes of competition, for HSB.

In June 2017 we announced<sup>13</sup> a pause to the development of the Competitively Appointed Transmission Owner (CATO) regime. We are now considering the merits of alternate models intended to deliver the benefits of competition: SPV and Competition Proxy.

As outlined in this consultation, our analysis indicates that pursuing the Competition Proxy or SPV delivery model for HSB may deliver greater consumer benefit than the status quo RIIO (SWW) arrangements. These benefits are driven primarily by lower costs of financing HSB than under the status quo RIIO (SWW) arrangements.

**What are the policy objectives and intended effects including the effect on Ofgem's Strategic Outcomes<sup>14</sup>**

Consistent with Ofgem's Strategic Outcomes and regulatory stances, the main effect of our proposals would be to lower bills for energy consumers. As referred to further down in this Appendix, we consider that our proposals could save consumers over £100m.

**What are the policy options that have been considered, including any alternatives to regulation? Please justify the preferred option**

Option 1: SWW- This represents the 'status quo' or 'do nothing' option and would involve NGET receiving revenue for delivering HSB under the prevailing RIIO arrangements.

Option 2: SPV- NGET run a tender to appoint an SPV to finance and deliver HSB. We have elected not to recommend this option on this project because its success would be highly contingent on NGET actively supporting the development of the model.

Option 3: Competition Proxy- Ofgem utilise benchmarks from the OFTO and Interconnector regimes, alongside other available information from industry, to set a cost of capital that we consider could have been achieved through an efficient competition. Capex and opex costs are confirmed following a post construction review.

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<sup>12</sup> <https://www.ofgem.gov.uk/publications-and-updates/hinkley-seabank-decision-needs-case>

<sup>13</sup> <https://www.ofgem.gov.uk/publications-and-updates/update-extending-competition-transmission>

<sup>14</sup> <https://www.ofgem.gov.uk/ofgem-publications/92187/corporatestrategy.pdf>

**Preferred option - Monetised Impacts (£m)**

<b>Business Impact Target Qualifying Provision</b>	Non-Qualifying (Price control measure)
<b>Business Impact Target (EANDCB)</b>	Not relevant
<b>Net Benefit to Ofgem Consumer</b>	>£100m
<b>Wider Benefits/Costs for Society</b>	N/A
<b>Explain how was the Net Benefit monetised, NPV or other</b>	
NPV in 2016/17 prices covering the period 2016 – 2051. The base date for discounting was 2016.	

**Preferred option - Hard to Monetise Impacts**

**Describe any hard to monetise impacts, including mid-tem strategic and long-term sustainability factors following Ofgem IA guidance**

A potential positive impact is that the approaches developed for setting the cost of capital on HSB could be utilised on future New, Separable and High value projects. There is therefore a considerable 'learning by doing' benefit, which may be significant when considering the future treatment of other onshore transmission projects that meet the criteria for competition and come forward in this and future price controls.

A potential impact is that investors view the cost of capital assumptions in this consultation as an indicator for what to expect in RIIO-2. We don't consider this to be very likely because we have been clear elsewhere in this consultation that the potential costs of capital referenced in our analysis for HSB should not be read as an indication of the likely rates applicable for RIIO-2. Ofgem will be publishing its view on financing in RIIO-2 in Spring 2018.

It's possible that not pursuing the SPV option on this project will disappoint potential bidders and create a reluctance to engage on further development of the SPV model. However, given the consistent active engagement that we've seen from potential bidders during the development of both the CATO and SPV frameworks, we don't anticipate this being an issue, particularly given our ongoing work to further develop the SPV model. Our intention is for NGET (SO) to continue to highlight as part of its annual Network Options Assessment (NOA) report future projects that meet the criteria for competition – this should help maintain interest in a potential pipeline of future projects.

**Key Assumptions/sensitivities/risks**

CEPA's work on cost of capital has formed the core of the assumptions regarding the financing benefits of the SPV and Competition Proxy models that we've used in our own analysis of the benefits of the respective models. More information on this can be found in the CEPA report, published as a subsidiary document to this consultation.

Another key assumption under Competition Proxy is that our cost assessment under this model would produce capital and operational costs that are 5 per cent lower than if the project was assessed under SWW. This is on the basis that the Competition Proxy arrangements as set out in Chapter 4 (eg post construction review, treatment of risk contingency) result in changes to NGET’s capex and opex costs compared to SWW. It’s worth highlighting however, that as set out in paragraphs 3.51 and 3.54 of this consultation, our minded-to proposal to implement the Competition Proxy model for HSB is not reliant on this saving.

The savings range presented in relation to the SPV model contains a sliding scale of assumptions relating to the efficiency of the competition run by NGET, and the likely capex and opex savings (or additional costs) that the SPV would be likely to deliver.

There is some risk that the Competition Proxy model could raise costs for consumers in the long run by reducing regulatory confidence. However, we consider that this risk is mitigated by the fact that we have been clear that the Competition Proxy model could only apply to projects that meet the criteria for competition, not across the rest of RIIO.

<b>Will the policy be reviewed?</b> No	<b>If applicable, set review date:</b> N/A
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<b>Is this proposal in scope of the Public Sector Equality Duty?</b>	No
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**Summary Table for all options**

<b>Summary of options</b>	<b>Main effects on Ofgem outcomes</b>	<b>Benefits</b> (consumer saving relative to RIIO counterfactual)	<b>Costs</b>	<b>Key Considerations</b>
Option 1 – RIIO SWW (Ofwat PR19 midpoint) counterfactual	Of the options considered this would likely deliver the least consumer benefit	£0 –This represents our status quo ‘do nothing’ option.	£0 relative costs – Lowest relative implementation costs of any of the options.	Higher financing costs set under RIIO make it very unlikely that this could deliver as great a benefit for consumers as the other options.
Option 2a – SPV best-case scenario	Would deliver highest possible savings for consumers	£176.3m relative to Option 1	Implementation costs of around £3m.	In the case of HSB, delivering the benefits of the SPV model would be highly contingent on NGET actively supporting the development of the model.
Option 2b – SPV worst-case scenario	Delivers a small saving relative to Option 1, but is inferior to the savings offered by	£0 – This option performs worse than Option 1	£15.1m relative to Option 1, £171.2m relative to Option 3a,	

	Competition Proxy and an efficiently run SPV competition.		£191.4m relative to Option 2a.  In addition, implementation costs of around £5m.	
Option 3a – Competition Proxy best-case scenario (bottom of CEPA range)	Risks forgoing some of the consumer benefit that could be achieved under an SPV. However, delivery of savings more certain than under SPV model as does not require active support from NGET in development of the model.	£156.1m relative to Option 1 and £171.2m relative to Option 2b.	£20.2m relative to the best-case SPV model.  In addition, implementation costs of around £0.1m.	Exact savings will be dependent on the final cost of capital and capex/opex that we set.
Option 3b – Competition Proxy worst-case scenario (top of CEPA range)		£60.6m relative to Option 1 and £75.6m relative to Option 2b.	£115.7m relative to the best-case SPV model.  In addition, implementation costs of around £0.3m.	



## Appendix 4 – Comparison of Risk allocation: OFTO & HSB

Risk	Description	Allocation in OFTO	Allocation in Competition Proxy	Comparison
<b>Construction risk</b>	Cost overruns during construction, or failure to complete the assets on time (or at all)	<p><b>Risk is predominantly borne by the windfarm developer under the generator build option</b>, whereby the windfarm developer has responsibility for constructing and commissioning the assets and can't export power (and earn revenue) before assets are constructed.</p> <p>Developer is allowed to recover efficiently incurred costs associated with uncontrollable events.</p> <p>IDC recovered at the end of construction/ start of operation</p>	<p><b>Construction and delivery risk remains with NGET with sharing factor for controllable costs.</b> Costs outside the licensee's control (eg flooding and force majeure events during construction) will be subject to an ex-post review with no sharing factor, but with a materiality threshold.</p> <p><b>Late delivery impact remains as under RIIO status quo.</b> Construction cost of capital recovered during period of any where that delay is outside the control of NGET.</p> <p><b>Some revenue is recovered during construction.</b> Full revenue (including IDC uplifts) is recovered over the 25 year period.</p>	<p><b>Broadly the same.</b></p> <p>Competition Proxy risk is slightly lower than Offshore due to revenue during construction, lower delay risk (NGET doesn't face same extent of financial penalty as offshore developer if delivery is not on time), and sharing factor for controllable costs.</p>
<b>Demand risk</b>	<p>Generating station shuts down or generates lower amount of power than expected.</p> <p>Higher or lower than expected demand for transmission capacity</p>	<p><b>So long as the OFTO makes the transmission assets available the OFTO is entitled to its revenue stream</b> (subject to an availability incentive – see later), and is not exposed to the performance of the generator.</p> <p>During the revenue term the OFTO is under no obligation to offer terms to undertake additional capex to meet higher demand if the capex would exceed 20% of the original investment.</p> <p>No stranding risk is borne by the OFTO. If generator shuts down before end of OFTO revenue period, revenues</p>	<p><b>So long as NGET makes the transmission assets available it is entitled to its revenue.</b></p> <p>During the revenue term any additional works that meet competition criteria would be funded/delivered under prevailing arrangements at the time (eg CATO, SPV model, Competition Proxy).</p> <p>During the revenue term any additional works that don't meet competition criteria would be funded under prevailing RIIO arrangements</p> <p>No stranding risk borne by NGET.</p>	<p><b>Broadly the same.</b></p> <p>Competition Proxy risk is slightly higher due to increased probability of additional capacity requirements</p>

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		for transmission services continue to be paid.		
<b>Operational risk</b>	Unexpected asset failure due to technical reasons that increase cost	<p><b>Risk is borne by the OFTO, and a failure to make assets available may result in penalties</b> under incentive mechanism (up to 10% of base revenue p.a.).</p> <p><b>The OFTO can mitigate this risk through maintenance contracts and insurance</b>, passing off some of the risk to other parties. Due diligence on assets prior to acquisition in the generator build model can also help to ensure fit-for-purpose assets are transferred to the OFTO.</p> <p><b>The exceptional events mechanism manages risks which impact availability</b> and can be demonstrably proved to be outside the OFTO's reasonable control.</p>	<p><b>NGET would face some risk under the Energy Not Supplied incentive (3% of revenue p.a downside risk)</b></p> <p>NGET can mitigate this risk through maintenance contracts and insurance.</p> <p>Bespoke exceptional events reopener mirroring ENS for HSB assets in NGET licence for events demonstrably proved to be outside of NGET's control</p>	<p><b>Broadly the same.</b></p> <p>Competition Proxy risk is slightly lower due to lower level of exposure to ENS incentive, although this is mitigated to some extent by exposure to other incentives (eg SF6) not faced by OFTOs – albeit these other incentives are less likely to apply to new assets.</p>
	An unexpected increase in the cost of operating and maintaining the transmission infrastructure	<p><b>Risk borne by the OFTO that higher costs may decrease equity returns.</b></p> <p><b>The OFTO can mitigate this risk through medium term (5–10 year) fixed price O&amp;M contracts</b> with credible third party contractors.</p> <p><b>Linking contracts to RPI inflation</b>, as with the tender revenue stream, can also help to mitigate the risk of above inflation cost increases.</p>	<p><b>Risk borne by NGET – can be mitigated through medium term fixed price O&amp;M contracts or diversified across wider network assets</b></p> <p><b>Option to index contracts</b></p>	<p><b>Broadly the same</b></p> <p>Competition Proxy risk is slightly higher due to 25 year revenue period.</p>
<b>Force majeure during operational period</b>	Force Majeure events lead to increased costs and decreased availability	<p><b>The OFTO licence includes an Income Adjusting Event condition which protects the OFTO against force majeure.</b></p> <p>albeit only for costs above a specified threshold level (which is dependent on project size and currently varies between £500,000 and £1 million).</p>	<p><b>There will be a reopener in the NGET licence to reflect impact of high-impact occurrences outside of NGET's control for HSB</b>, subject to a materiality threshold</p>	<p><b>Broadly the same.</b></p>
<b>Counterparty risk</b>	Risk of non-receipt of TRS	<b>TRS is received from NETSO, a ring fenced subsidiary of National Grid,</b>	<b>NGET recovers revenue directly through licence from NETSO, a</b>	<b>The same.</b>

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		which is regulated by Ofgem and with an investment grade credit rating. NETSO receives its funding from all users of the electricity system.	<b>ring fenced subsidiary of National Grid</b> , which is regulated by Ofgem and with an investment grade credit rating. NETSO receives its funding from all users of the electricity system.	
<b>Low inflation (or deflation) risk</b>	Lower than expected inflation reduces interest coverage ratios	<p><b>The OFTO bears the risk of inflation being lower than expected.</b> If revenue does not increase as quickly as expected, this may be detrimental to interest cover and other debt service ratios.</p> <p>Ofgem allows bidders to choose the proportion of their TRS that will be linked to inflation, which reduces the need for bidders to employ hedging agreements with financial intermediaries.</p> <p>In practice all OFTOs have chosen 100% indexation to date, however all OFTO's put in place hedging arrangements to protect themselves from inflation risk.</p>	<b>The revenue is fully indexed during the revenue term</b>	<b>The same.</b>
<b>Financing costs</b>	Interest payable by OFTO may increase or decrease over project life	<p><b>The OFTO bears the risk of financing costs being higher than expected.</b></p> <p><b>Refinancing:</b> Debt refinancing gain sharing factor at 50% (with consumers) (equity IRR used as discount rate for calculation of gain)</p>	<p><b>Financing rates are benchmarked by Ofgem</b></p> <p>Assumed debt refinancing is factored into reduction in rate for operational period.</p> <p>Ability for NGET to outperform debt costs without any gain sharing mechanism with consumers.</p>	<p><b>Broadly the same.</b></p> <p>Competition Proxy risk is slightly higher due to delivery party not having control over rates – albeit has chance to outperform benchmarked rates.</p>
<b>Tax risk</b>	Tax payable is higher or lower than expected over project life	<p><b>Risk borne by OFTO:</b> Any unfavourable change in tax legislation over the 20-year period is for the OFTO's account (and any favourable change, for the OFTO's benefit). Because there are no regular pricing reviews, there is no mechanism for the TRS to be adjusted to reflect changes in tax legislation.</p>	<p><b>Tax allowance/ pass through supported by tax trigger events:</b></p> <p>Reopener for changes in corporate tax rates or capital allowance rates and/ or changes in HMRC interpretation/ accounting approaches or legal precedent</p>	<p><b>Competition Proxy risk is lower</b> due to having protections against tax changes</p>

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<b>Change of Law</b>	Change in law imposes additional (or reduces) costs of operator	<b>Licence includes a clause which means some pre-specified changes in law, such as in respect of decommissioning obligations, are passed-through to the TRS.</b> General changes in law, where not deemed an Income Adjusting Event, are borne by OFTO.	<b>Licence will include a condition which means some pre-specified changes in law, such as Health and safety standards changing are passed-through to consumers</b> General changes in law, where not covered, are borne by NGET	<b>Broadly the same.</b>
<b>Change in government policy</b>	Government decide that generation triggering the connection is no longer a high priority	The OFTO is protected against this risk because a licence has been issued with a fixed revenue stream for 20 years. The licence can be revoked only if the OFTO is found to be in breach of its licence conditions.	NGET is protected against this risk because the licence will include a fixed revenue stream for 25 years. The licence can be revoked only if NGET is found to be in breach of its licence conditions.	<b>The same.</b>

## Appendix 5 - Feedback on this consultation

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We want to hear from anyone interested in this document. Send your response to the person or team named at the top of the front page.

We've asked for your feedback in each of the questions throughout it. Please respond to each one as fully as you can.

Unless you mark your response confidential, we'll publish it on our website, [www.ofgem.gov.uk](http://www.ofgem.gov.uk), and put it in our library. You can ask us to keep your response confidential, and we'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. If you want us to keep your response confidential, you should clearly mark your response to that effect and include reasons.

If the information you give in your response contains personal data under the Data Protection Act 1998, the Gas and Electricity Markets Authority will be the data controller. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. If you are including any confidential material in your response, please put it in the appendices.

### **General feedback**

We believe that consultation is at the heart of good policy development. We are keen to hear your comments about how we've conducted this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

Please send your comments to [stakeholders@ofgem.gov.uk](mailto:stakeholders@ofgem.gov.uk)