

# Integrated Transmission Planning and Regulation (ITPR) project: draft conclusions

## Consultation

**Publication date:** 29 September 2014

**Response deadline:** 24 November 2014

**Contact:** Jon Parker

**Team:** Future Networks

**Tel:** 020 7901 7408

**Email:** [ITPRMailbox@ofgem.gov.uk](mailto:ITPRMailbox@ofgem.gov.uk)

### Overview

We are consulting on our draft conclusions from the ITPR project. In this document, we set out our proposals to change the system planning and delivery arrangements for GB electricity transmission infrastructure so that they work better in the interests of existing and future consumers.

We propose that the System Operator will have an enhanced role in planning the network. We set out a more consistent approach to the delivery and regulation of different types of transmission assets. This includes increasing the role of competitive tendering to drive efficiency and clarifying where different regulatory regimes will apply. Finally, we propose mitigation measures to manage conflicts of interest that could arise under these new arrangements.

## Context

---

The Integrated Transmission Planning and Regulation (ITPR) project is a review of the existing arrangements for planning and delivering the onshore, offshore and cross-border electricity transmission networks in GB. It aims to ensure that transmission is developed in an efficient, coordinated and economic manner, with the right investments made to protect existing and future consumers.

The regulatory framework for GB's electricity infrastructure varies according to the type of transmission asset. For the onshore network, investment is planned and delivered by monopoly transmission owners (TOs), which we regulate through the RIIO price control framework. The TOs for transmission links to offshore generation are appointed through competitive tender exercises. Interconnectors between GB and other countries are currently planned and built based on a developer-led approach. Across all assets, the System Operator's (SO's) role in planning and delivery is limited at present, though recently it has informally taken a more active role. Under the ITPR project, we have been assessing these arrangements and we propose changes which are in the interests of existing and future consumers.

The proposals in this document build on changes we have already made to the regulatory frameworks to improve outcomes for consumers. These include the new RIIO price control framework, a framework to support coordination in offshore networks, and the rollout of a cap and floor approach for near-term interconnector investment. There are also links to our work on SO incentives.

## Associated documents

---

### *ITPR*

Open Letter: Planning for an integrated electricity transmission system – request for views – 23 March 2012

<https://www.ofgem.gov.uk/ofgem-publications/52756/itpr-open-letter-final-version-23-march-2012.pdf>

Open Letter: Update on the Integrated Transmission Planning and Regulation Project – request for further views and evidence – 6 November 2012

<https://www.ofgem.gov.uk/ofgem-publications/52742/itpr-second-open-letter-06nov.pdf>

Consultation: Integrated Transmission Planning and Regulation Project: Emerging Thinking – 5 June 2013

<https://www.ofgem.gov.uk/ofgem-publications/52728/itpremergingthinkingconsultation.pdf>

Imperial College London and University of Cambridge: Integrated Transmission Planning and Regulation Project: Review of System Planning and Delivery – final report – June 2013

<https://www.ofgem.gov.uk/ofgem-publications/52727/imperialcambridgeitprreport.pdf>

Open Letter: Update on the Integrated Transmission Planning and Regulation (ITPR) project following our June 2013 consultation – 18 November 2013

<https://www.ofgem.gov.uk/ofgem-publications/86622/itpr3rdopenletter1.pdf>

### *Offshore*

Statement on the proposed framework to enable coordination: An update to our December consultation – 18 July 2013

<https://www.ofgem.gov.uk/ofgem-publications/75429/statement-proposed-framework-enable-coordination-update-our-december-consultation.pdf>

Consultation: Offshore Transmission: Non Developer-Led Wider Network Benefit Investment – 10 January 2014

<https://www.ofgem.gov.uk/publications-and-updates/offshore-transmission-non-developer-led-wider-network-benefit-investment>

Conclusions of Consultation on the Evaluation of OFTO Tender Round 1 Benefits – 19 September 2014

<https://www.ofgem.gov.uk/ofgem-publications/90352/draftletteronoutcomeofconsultationontheevaluationofoftotenderround1benefits20140919.pdf>

### *Interconnection*

The regulation of future electricity interconnection: Proposal to roll out a cap and floor regime to near-term projects – 23 May 2014

<https://www.ofgem.gov.uk/publications-and-updates/regulation-future-electricity-interconnection-proposal-roll-out-cap-and-floor-regime-near-term-projects>

Decision to roll out a cap and floor regime to near-term electricity interconnectors – 6 August 2014

<https://www.ofgem.gov.uk/publications-and-updates/decision-roll-out-cap-and-floor-regime-near-term-electricity-interconnectors>

### *Non-GB generation*

Regulation of transmission connecting non-GB generation to the GB electricity transmission system – 18 November 2013

<https://www.ofgem.gov.uk/publications-and-updates/regulation-transmission-connecting-non-gb-generation-gb-transmission-system>

Update on the regulation of transmission connecting non-GB generation to the GB transmission system – 23 May 2014

<https://www.ofgem.gov.uk/ofgem-publications/87833/openletterupdateonnongb.pdf>

### *RIIO price control*

Implementing competition in onshore electricity transmission: update – 23 April 2012

<https://www.ofgem.gov.uk/ofgem-publications/53748/compupdate.pdf>

### *System Operator incentives*

Consultation: Electricity System Operator Incentives: Incentives from 2015 – 17 June 2014

<https://www.ofgem.gov.uk/publications-and-updates/electricity-system-operator-incentives-incentives-2015>

# Contents

---

<b>Executive Summary</b>	<b>6</b>
<b>1. Overview of our proposals</b>	<b>8</b>
What we want to achieve	8
How we propose to better achieve these objectives	9
The ISO and IDA options	12
<b>2. Enhancing the System Operator’s role in system planning</b>	<b>13</b>
Identification of system needs	14
Development of options to meet system needs	16
Investment in major new transmission capacity across the GB network	17
Investment in new interconnection	24
Coordinating other aspects of system planning	26
RIIO-T2 price control	27
Impact of our proposals	27
Other options considered	30
Taking our proposals forward	30
<b>3. Regulating asset delivery</b>	<b>32</b>
Use of competitive tendering	34
Regulatory approach to interconnection	36
Non-GB connections	39
Regulating multiple purpose projects	41
Taking forward our proposals	42
<b>4. Managing conflicts of interest</b>	<b>44</b>
Ensuring conflicts of interest do not distort consumer outcomes	44
Impact	48
Other options considered	49
Taking forward our proposals	50
<b>Appendices</b>	<b>51</b>
<b>Appendix 1 – Consultation response and questions</b>	<b>52</b>
<b>Appendix 2 – Further discussion of impact</b>	<b>54</b>
<b>Appendix 3 – How our proposals will affect the planning of major reinforcements</b>	<b>58</b>
<b>Appendix 4 – How our proposals will affect offshore coordination</b>	<b>61</b>
<b>Appendix 5 – Further details on the proposed use of competitive tendering</b>	<b>65</b>
<b>Appendix 6 – Multiple purpose projects</b>	<b>75</b>
<b>Appendix 7 – Our initial thinking on licence modifications</b>	<b>77</b>
<b>Appendix 8 – Glossary</b>	<b>84</b>
<b>Appendix 9 – Feedback Questionnaire</b>	<b>91</b>

## Executive Summary

---

The need to reduce carbon emissions while replacing existing infrastructure will drive major investment in electricity transmission networks over the coming decades. System upgrades will allow increased power flows across the onshore network, and new subsea cables will connect offshore wind farms and increase interconnection to other countries. The changing energy mix, particularly increasing use of renewable energy sources, will also create new challenges to maintaining a secure and stable network.

Given these challenges, our Integrated Transmission Planning and Regulation (ITPR) project has been reviewing whether changes are needed to ensure that the regulatory framework continues to protect the interests of existing and future consumers.

We propose changes based on two key objectives:

- that the network is planned in an economic, efficient and coordinated manner
- that capital and operational costs are efficient, and consumers aren't exposed to undue costs and risks.

### **Our proposals to enhance the System Operator's role in system planning**

Currently the parties responsible for planning the GB transmission network tend to focus on their own geographic areas or specific assets they are developing or operating. Given National Grid Electricity Transmission's (NGET's) System Operator (SO) remit across the whole of the network, it is well placed to provide an overarching view of system needs and options to meet these. We therefore propose to enhance the SO's role to promote efficient and coordinated development of the transmission network. This will ensure that the network can develop to meet future needs while keeping costs to consumers under control.

In particular, we think the SO should play an increased role in the identification of the long-term needs of the system, and in the development and assessment of options to meet these needs.

### **Our proposals for regulating transmission asset delivery**

There are currently different approaches to regulating onshore, offshore and interconnector investment. We have developed a broader framework based on a common objective for our regulation of transmission asset delivery. Our aim is to ensure that an approach is used where it can best bring about efficient capital and operational costs, and protect consumers from exposure to undue costs and risks. Following from this, we propose to use the regulatory mechanisms best designed to achieve this aim in respect of each type of transmission asset.

Specifically, we propose to increase the role of competitive tendering where it can drive efficiency. We consider that using tendering to select a party to construct and own some new onshore transmission assets is likely to create benefits for consumers. We want to apply this to new large assets that can be easily identified and separated from the surrounding network.

To support efficient investment in interconnector capacity, we propose to maintain a developer-led approach to new interconnection and extend the cap and floor regime, as long as efficient investment is enabled by this approach. The market signals for interconnection can support efficient planning and investment, while the cap and floor on revenues can support investment where it is in the interest of consumers.

We are also clarifying the regulatory treatment for new types of transmission assets that could be needed in future, in particular connections to non-GB generators and multiple purpose projects (MPPs). We propose a default position that non-GB generators pay for their connections, without consumer underwriting. We also propose that an asset should have continuity in regulatory approach throughout its life regardless of whether it later acquires multiple uses.

### **Mitigating conflicts of interest**

We propose measures to mitigate conflicts of interest arising from enhancing the SO's role. These include obligations for NGET to perform its enhanced SO roles in a transparent way that does not favour its own onshore Transmission Owner or National Grid's relevant competitive delivery businesses. They also include arrangements for business separation and informational ring-fencing.

We have considered other institutional arrangements, including that of an independent system operator (ISO). We think there could be merit in an ISO and intend to carry out further work to assess this. Enhancing the SO's role can bring important benefits to consumers now, without making it more difficult to move to other institutional arrangements in the future.

### **Next steps**

We welcome views on our proposals. The closing date for written responses is 24 November 2014. We will also be holding a workshop on our proposals on 23 October 2014. Subject to responses, we envisage publishing our final conclusions in spring 2015.

If we confirm our proposals to enhance the SO's role, then we would implement them through changes to transmission licences. We will begin developing these changes now. We aim to make our final decision on licence conditions in summer 2015 if we decide to move ahead with our proposals once we have considered consultation responses.

We are still considering whether some of the proposals (specifically, the use of competitive tendering onshore and the approach to connecting non-GB generation and MPPs) will need legislative change to be implemented. We will be working on this with the government as we progress towards final conclusions. We also expect to consult further on our detailed proposals for competitive tendering onshore.

# 1. Overview of our proposals

---

## Chapter summary

We are proposing changes to the way that electricity transmission assets are planned and delivered. Here we set out why we think change is needed and give an overview of the proposals. We also discuss alternative institutional set-ups that we have considered as part of our work.

## What we want to achieve

1.1. Consumers' interests would be better protected by ensuring that the following objectives are met:<sup>1</sup>

- **The network is planned in an economic, efficient and coordinated manner.** To achieve this, parties that have the best incentives and information to plan the network efficiently should have responsibilities for doing so, and roles and responsibilities must be clearly defined.
- **Asset delivery is efficient and consumers are protected from undue costs and risks.** To achieve this, competition should be used to deliver transmission assets where it benefits consumers. There also needs to be a clear, predictable and fair regulatory framework for infrastructure development.

1.2. There are significant benefits to consumers from achieving these objectives. Responding to the challenges of ageing infrastructure and a changing energy mix in the coming decades will require substantial investment in electricity transmission. As an indication of this, the Final Proposals for RIIO-T1<sup>2</sup> included scope for £6 billion of investment through uncertainty mechanisms to manage new demands on the network, while the first three tender rounds of the offshore transmission regime include £2.9 billion of new assets. Increasing use of renewable energy sources will also pose challenges to maintaining a secure and stable network, for example due to challenges with managing higher levels of intermittent generation sources (such as wind). Efficient network planning and delivery can ensure the right options are taken forward to meet the needs of a decarbonised energy system and minimise the costs of their delivery.

---

<sup>1</sup> We consider putting in place policies that achieve these objectives will be consistent with our duty under the Electricity Act 1989 to carry out our functions in a manner that we consider is best calculated to further our principal objective (which is to protect the interests of existing and future consumers), wherever appropriate by promoting effective competition.

<sup>2</sup> The RIIO price control (Revenues = Incentives + Innovation + Outputs) has created a framework of incentives and resources to enable network companies to deliver investment. The RIIO-T1 price control runs from 1 April 2013 to 31 March 2021.



## How we propose to better achieve these objectives

1.3. We think these objectives are not being fully achieved. We propose to address this by changing the way the electricity transmission system is planned and delivered. Our proposals will:

- Promote the efficient and coordinated development of the network by enhancing the role of the System Operator (SO).
- Ensure new transmission assets are delivered efficiently, with adequate protection for consumers, through modifying and clarifying the application of different regulatory approaches. This includes extending the use of competitive tendering to parts of the onshore network where it is beneficial for consumers.
- Implement measures to make sure the conflicts of interest created by National Grid Electricity Transmission's (NGET) enhanced SO role are appropriately mitigated.

1.4. An overview of the issues and proposals for each area is set out below, with full details in the subsequent chapters. The impact assessment of our proposals is embedded into the relevant sections of the document and supplemented by appendix 2.

### **Ensuring the network is planned in an economic, efficient and coordinated manner**

1.5. Currently, the parties responsible for network planning, including onshore transmission owners (TOs), offshore generators and interconnector developers, focus on their own geographic areas and specific projects they are developing. With no party clearly responsible for taking an overall view, the development of the transmission system is not as coordinated and efficient as it could be.

1.6. To respond to this, we propose to enhance the role of SO in planning the network. Specifically the SO will have a greater role in:

- Identifying future needs of the network.
- Supporting the development of economic and efficient options to meet these identified needs. For major new transmission capacity across the GB network and interconnection, we are proposing that the SO should undertake these roles through a new network options assessment (NOA) process.
- Undertaking early development work for some types of projects.

1.7. The precise nature of the role will vary according to the type of asset, as explained further in chapter 2. While enhancing the role of the SO, we propose that individual TOs, interconnector developers, and offshore generators continue to take investment decisions.

1.8. We believe that enhancing the SO's role will lead to improved system planning by using the informational advantages the SO has through its overview of the whole network and wider energy system. This should result in better coordination and solutions that economically and efficiently meet the needs of consumers. This change will also support our proposals for the regulation of asset delivery, as outlined below.

### **Ensuring asset delivery is efficient and consumers are protected from undue costs and risks**

1.9. We have different regulatory approaches for different parts of the network:

- The new RIIO framework for the price control regulation of onshore TOs.
- Appointing offshore transmission owners (OFTOs) through a competitive tender process.
- Enabling developers to lead interconnection investments and apply for a cap and floor around their revenues for near-term projects if they choose.

1.10. Each approach has merits in different circumstances. However, we consider that improvements can be made to our current application of these approaches to onshore transmission, offshore transmission and cross-border interconnection. We propose to broaden our framework to better ensure that capital and operational costs are efficient, and consumers are protected from undue costs and risks. In particular:

- Competitive tendering is only used for offshore transmission assets at present but it could have benefits in other areas of the network. **We propose that competitive tenders should also be used for onshore assets that are new, high value, and can be easily identified as discrete construction projects with a low number of interfaces with the existing network.**<sup>3</sup>
- We are currently rolling out a developer-led cap and floor regime for near-term interconnectors.<sup>4</sup> This regime allows market signals to support the identification

---

<sup>3</sup> Generally for 'new' we mean completely new transmission infrastructure projects, including asset upgrades that involve new transmission towers. For 'high value' an appropriate threshold is likely in the range of £50-100m. Assets that can be easily identified as discrete construction projects with a low number of interfaces with the rest of the network are referred to as 'separable' assets throughout this document.

<sup>4</sup> <https://www.ofgem.gov.uk/publications-and-updates/decision-roll-out-cap-and-floor-regime-near-term-electricity-interconnectors>.

and development of efficient projects. **We propose to maintain a developer-led approach to interconnection as long as efficient investments are enabled by this approach, and to open more cap and floor application windows in the future.**

- The regulation of connections from the GB network to non-GB generators is unclear, leading to uncertainty for project developers. **We propose a default position that the non-GB generators pay for these connections, without consumer underwriting.** We do, however, propose to leave the option of consumer underwriting open. We would consider it on a project by project basis in light of other regulatory arrangements in GB and the non-GB territory, so that GB consumers only underwrite investments when it is in their interests.
- The regulatory approach to multiple purpose projects (MPPs) also needs to be clarified to encourage and enable investment in flexible, coordinated network solutions. **We propose that assets have continuity in regulatory approach wherever possible,** even if they become part of an MPP over time. Specifically, we propose that forming an MPP should not require a change of ownership and, providing the MPP is economic and efficient, the owner should be at least as well off after forming the MPP as before.

1.11. We believe our proposals for increased use of competitive tendering would bring about more efficient investment, encourage innovation and access new sources of capital. Interconnector and MPP developers would have certainty over their investments and incentives to develop coordinated systems. Alongside this, our proposals for non-GB connections mean that GB consumers would not be exposed to undue costs or risks.

### **Changes we are proposing to mitigate conflicts of interest**

1.12. We recognise that our proposed changes to the role of the SO and the delivery of transmission assets could lead to conflicts of interest. These relate to the exercise of bias and unfair access to information, and could undermine the effectiveness of the new SO functions and our proposals on competitive tendering.

1.13. To mitigate conflicts, **we propose obligations which set out overarching principles for the conduct of NGET** to ensure that the SO's enhanced activities are undertaken without bias and NGET's relevant associated competitive businesses are treated on an equivalent basis to other delivery parties. **We also propose to require business separation of NGET and the National Grid group's relevant competitive businesses** (beyond the arrangements already in place<sup>5</sup>).

---

<sup>5</sup> Business separation requirements for offshore transmission and Electricity Market Reform (EMR) are included in NGET's electricity transmission licence (eg Special Conditions 2D and 2N respectively).

1.14. We believe these proposals will give industry more confidence in the work of NGET as SO. We also think they are proportionate to the level of the conflicts identified.

## The ISO and IDA options

1.15. In our Emerging Thinking consultation, we considered other institutional models that could be alternatives to enhancing NGET's SO role. The report prepared for the ITPR project by Imperial College London and Cambridge University also explored these models and looked into international case studies.<sup>6</sup> We have continued to consider the costs and benefits of these alternatives.

1.16. An independent system operator (ISO) would be an independent body with responsibility for planning and operating the transmission system. ISOs are separate from TOs and do not own any transmission assets. We think there could be merits to this model, as it could bring greater focus to the SO role and mitigate conflicts of interest. We need to consider the implications further, as moving to an ISO model would involve significant change and needs to be considered in the context of institutional arrangements for the GB energy industry as a whole. We will continue to explore the ISO model in that context, but think that there are benefits that can be gained immediately by enhancing the SO's role now. In addition, the changes proposed to the SO's role in this document will not make it more difficult to move to other institutional arrangements in future, and could support such a change by more clearly setting out what the SO's role should be.

1.17. A further alternative is an independent design authority (IDA) which would be a separate body responsible solely for system planning. NGET would remain responsible for system operation and an IDA would not own any transmission assets. We see less merit in this model: setting-up an IDA would involve significant institutional change and, although it may help mitigate conflicts of interest in planning, there would be a loss of synergies between system operation and system planning.

1.18. We are aware that other parties are exploring the challenges associated with the future planning and operation of the electricity system as a whole given the implications of greater distribution connected generation, storage and demand-side response (DSR). In particular, the Smart Grid Forum has initiated a detailed study of the future distribution system and the Institution of Engineering and Technology has proposed that a 'system architect' might be required to provide a holistic oversight of issues that impact the whole system. We are actively engaged in these initiatives and will consider their outputs in our further thinking and decisions.

---

<sup>6</sup> Imperial College London and Cambridge University, *Integrated Transmission Planning and Regulation Project: Review of System Planning and Delivery*, June 2013.  
<https://www.ofgem.gov.uk/ofgem-publications/52727/imperialcambridgeitprreport.pdf>

## 2. Enhancing the System Operator's role in system planning

---

### Chapter summary

We propose to enhance the role of the SO in planning transmission and interconnector investment. The SO will be given specific additional responsibilities to identify system needs, and coordinate and develop options to meet those needs.

**Question 1:** What are your views on our proposed enhancements to the SO role in system planning, including the specific roles we have proposed the SO would undertake for onshore, offshore and interconnection planning?

**Question 2:** Are there other roles that you think an enhanced SO could or should undertake in order to better support the development of an efficient transmission and interconnector network?

**Question 3:** What are your views on the specific obligations for TOs that might be needed to support our proposed enhanced SO role?

**Question 4:** What are your views on our proposal that, as part of its enhanced role, the SO should lead gateway assessments for offshore projects that include investment to provide wider network benefit?

2.1. Currently, the parties responsible for planning transmission and interconnector investment (including TOs, offshore generators and interconnector developers) focus on their own geographic areas<sup>7</sup> and specific assets they are developing. The SO currently has a relatively limited role in system planning, though recently it has informally started to take a more active role.<sup>8</sup>

2.2. We are proposing changes that will build on and formalise the SO's existing roles. Specifically the SO will have an expanded role in:

- **Identifying the needs of the network.** This will include providing additional information and analysis to TOs, and interconnector and offshore developers.

---

<sup>7</sup> TOs have transmission areas defined in their licence. Where we refer to 'onshore' transmission assets, we mean those that under current arrangements would be developed by National Grid Electricity Transmission, Scottish Power (SP) Transmission and Scottish Hydro Electric (SHE) Transmission. Some 'onshore' assets are in the waters around GB, such as the Kintyre-Hunterston link currently under construction.

<sup>8</sup> The SO's main existing roles in system planning are to provide the primary customer interface by managing the connections process and to produce the Electricity Ten Year Statement (ETYS). In both of these roles, to a large extent, it coordinates input from TOs rather than undertaking modelling for the whole of GB. However, it has recently begun to work more with Scottish TOs on strategic wider works submissions and in identifying potential coordination opportunities in offshore transmission.

- **Supporting other parties in developing options to meet these needs.** This will include coordinating across relevant parties (for example TOs and offshore developers). The SO will also provide its assessment of options for major new transmission capacity through a proposed new network options assessment (NOA) process.
- **Leading the development of some options.** This will include developing options for onshore projects that would be subject to a competitive tender and options that would involve investment in offshore projects to provide wider network benefits (working with offshore developers where relevant).

2.3. We consider the SO is well placed to take on these additional roles given it already has a system-wide role interacting with generation and demand as well as operating the GB transmission network. Our proposals to enhance the SO's role do not mean moving away from the role that user decisions and price signals have in informing the planning of the network.

- Onshore and offshore network planning decisions will still be largely driven by user requirements. These will continue to be signalled through the connections process, which in turn is supported by user commitment requirements and transmission charging signals.
- We propose to maintain a developer-led approach to interconnection where developers continue to bring forward projects in response to price signals. This creates natural incentives for efficient cost and risk management (more details are given in chapter 3).

2.4. In our Emerging Thinking consultation, we set out options for different approaches to system planning. The majority of respondents agreed that network planning needs to take better account of options and impacts looking across the whole system, and that the SO is well placed to undertake additional roles as long as any conflicts of interest are appropriately mitigated. Our proposals for mitigating conflicts that could arise due to these new roles are set out in chapter 4.

## Identification of system needs

2.5. The identification of system needs involves forecasting future circuit capacity and power flows across the network under a range of generation scenarios. This analysis helps identify where additional investment (or other action) is needed to enable the continued secure and efficient operation and coordinated development of the system.

2.6. The SO already has a role to play in the identification of system needs through the Electricity Transmission Ten Year Statement (ETYS). The SO undertakes analysis (assisted by the TOs) to identify future power flows and the system implications. Particular focus is given to the flow of energy across system boundaries (ie from one part of the system to another). The ETYS sets out analysis for key system boundaries

that show their expected capacity compared to their expected use over a ten-year period. It also sets out an indication of which parts of the network are likely to need reinforcing or extending. This provides information to parties seeking to connect to the GB network on where there may be available capacity. This also provides useful information to existing network users and Distribution Network Operators (DNOs).

2.7. We are in the process of placing a new obligation in NGET's transmission licence that sets out the requirements for the ETYS.<sup>9</sup> It will require the SO to take a system wide view and includes a requirement to provide information needed by interconnector users.

2.8. In enhancing the SO we believe there are additional things the SO should do, specifically:

- Provide appropriate information to TOs, developers and Ofgem as needed to support investment decisions (for example, in addition to the regular ETYS publications the SO will provide updated analysis to feed into a TO's strategic wider works (SWW) needs case submission).
- Provide additional analysis on possible future interconnection development.<sup>10</sup> We think the SO should undertake analysis to assess the key costs and benefits of additional interconnection to specific markets to indicate where new interconnectors could have value. We propose that this analysis should be based on the Future Energy Scenarios (FES)<sup>11</sup> for GB and reasonable assumptions about other markets as appropriate.<sup>12</sup> Interconnector developers would continue to come to their own view on the merits of different projects, with the SO's analysis serving to support this process. The analysis would also inform the assessment of possible reinforcement needs for the GB network.<sup>13</sup>

---

<sup>9</sup> We issued a statutory consultation on the new licence condition in July 2014 and expect to make a decision shortly.

<https://www.ofgem.gov.uk/ofgem-publications/89006/140728etysstatconcoverletter.pdf>

<sup>10</sup> At present, the proposed requirement under the new ETYS licence condition is that NGET gives its best view based on the likely capacity, location and timing of the development of interconnectors having regard to information generally available in the public domain or provided to NGET by developers of specific interconnector projects.

<sup>11</sup> <http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Future-Energy-Scenarios/>

<sup>12</sup> This could draw on the European Ten Year Network Development Plan (TYNDP) as appropriate. Further information on the TYNDP can be found here:

<https://www.entsoe.eu/major-projects/ten-year-network-development-plan/Pages/default.aspx>

<sup>13</sup> For example, it would identify the markets where new interconnection capacity could have most value and give an indication of where may be the best place for these links to connect to the GB network. This could then inform consideration of whether there is a need to reinforce elements of the GB network to allow such new interconnection links to connect in an efficient and timely way.

2.9. We propose to change NGET's ETYS licence condition to specifically require the SO to do these things. There may also need to be an additional requirement on TOs to provide the SO with information about their networks and investment plans. This will ensure that the SO has sufficient information to effectively identify where and when there may be a need for new investment across the network.

2.10. TOs will continue to be responsible for determining whether there is a need for them to undertake investment within their own transmission area. The SO will provide the TOs with its assessment of system needs. We would expect TOs to take this information and analysis into account when making investment decisions. If the analysis undertaken by the SO suggested significantly different system needs than the TO's own view, we would expect the parties to work together to resolve this (keeping relevant stakeholders updated).

## **Development of options to meet system needs**

2.11. We also propose to give the SO some new, clear responsibilities in options development.<sup>14</sup> Our proposals for this aspect of the SO's role vary according to the nature of the potential investment:

- Investment in major new transmission capacity across the GB network (ie onshore and offshore).
- Investment in new cross-border interconnection.
- Other types of transmission investment (such as connections) where increased coordination in planning could be beneficial.

2.12. We detail our proposals for each of these areas further below. We propose to implement the new roles for major new transmission capacity and interconnection through a requirement for the SO to undertake a network options assessment (NOA) process, and we discuss this further below as well.

2.13. We set out our proposed role for the SO and how this would sit alongside other parties' roles in the options development process. TOs (including those selected via a competitive tender), interconnector and offshore developers will still undertake detailed design of options and make investment decisions.

2.14. Across all types of investment, we propose that the SO should have a role in coordinating options development. In particular, we propose that the SO will have a role in highlighting where options that involve coordination across parties may merit consideration (though TOs and DNOs also have the responsibility to consider this). It

---

<sup>14</sup> Although the SO has recently begun identifying potential coordination opportunities in offshore transmission this role is not clearly defined in NGET's licence.



would also help identify where a party needs to consider the impact of an option it is developing on another part of the system.

### **Investment in major new transmission capacity across the GB network**

2.15. We propose that the SO should have an increased role in the development of options for major new transmission capacity,<sup>15</sup> onshore or offshore, where such a need has been identified. Specifically, we propose that the SO should:

- Undertake a comparative assessment of different options, or combinations of options, as part of a new NOA process. This will include an assessment and recommendation on which solutions should be developed further. We propose that the SO should provide its assessment to TOs undertaking development of options as necessary, and should also publish an NOA report at least annually providing its assessment of all options being considered for major network reinforcement.
- Undertake early development of options that do not yet have an identified TO responsible for them.<sup>16</sup> There is a need for a party to develop options where a TO has not yet been identified (ie where the TO would be subsequently selected via a competitive tender). This applies to onshore transmission options that would meet our proposed criteria for the use of tendering and options to provide wider network reinforcement through a coordinated approach to offshore transmission. The SO would work with offshore developers on options where the benefit for the wider network would be provided through increased investment in those developers' projects.

2.16. Our proposals aim to ensure that the process for developing options effectively supports the identification of the most efficient solution to meet a given need. Generally this is an iterative process involving the development, assessment and prioritisation of options until a preferred option is clear. Development work includes considering the capacity to be provided, technology choices and high level routing. These inform estimates of expected cost, delivery date and benefits provided.

---

<sup>15</sup> By this we mean the need for a significant increase in capacity across network boundaries or to extend the existing network. We do not include straightforward point-to-point ('radial') transmission links to connect new offshore generation. Our proposals set out in paragraphs 2.52 and 2.54 are relevant to these types of links, but beyond that we do not consider there is a need for changes in how these projects are planned.

<sup>16</sup> The SO will also continue to consider whether there are options to meet the system need that do not involve building new transmission capacity. This could include commercial arrangements with parties to provide system services, or liaising with appropriate licensees on possible distribution solutions.

2.17. The SO is well placed to ensure options are assessed in a consistent and coherent manner. It can provide information about the operational impacts of different options on system operation (such as the impact on projected constraint costs). The SO is also well placed to undertake development of options where there is not yet an identified TO responsible for them. This is because of its oversight across the system and interest in ensuring that effective network solutions are developed (given its responsibilities and incentives with respect to day-to-day system operation).

2.18. We explain in more detail below the proposed roles for the SO, and how these would sit alongside other parties' roles, for key different asset types:

- Onshore transmission options that would be delivered by existing TOs.
- Onshore transmission options that would be subject to competitive tendering.
- Offshore transmission options to provide wider network benefit. This category can be further split into two types: those options that would be led by an offshore developer and those where there is not a specified developer taking them forward. The approach for this latter category would be very similar to that for onshore options that would be tendered.

*Onshore transmission options that would be delivered by existing TOs*

2.19. Onshore TOs will retain responsibility for identifying and developing onshore transmission options that they would deliver (ie those within their transmission area that do not meet our criteria for use of competitive tendering).

2.20. The precise nature of our proposed SO role in relation to a particular option being considered by a TO would depend on how the investment would be funded in the TO's RIIO-T1 price control settlement. Options for major network reinforcement are either already funded as part of the baseline or could fall under one of two uncertainty mechanisms:<sup>17</sup>

- No changes are proposed to the funding of outputs specified in the price control baseline (ie those for which funding was granted up front).

---

<sup>17</sup> We have set the onshore TOs' allowed revenues until 2021 under the RIIO-T1 price control. These settlements did not include a revenue allowance for all potential investment by the onshore TOs over the 8-year price control period given uncertainty over their need. Instead, we included a number of uncertainty mechanisms to enable funding of additional outputs. These include the SWW arrangements and the network development policy (NDP).

- For SWW, where individual needs cases and funding requests are submitted to us for approval, we propose the SO will support the TO in assessing the options being considered.
- For the network development policy (NDP),<sup>18</sup> where our role is in approving the policy NGET uses to make decisions rather than the decisions themselves, we propose that the SO could support the TO in the development of the policy.

2.21. We consider our proposed role for the SO in this process (supporting the TO) to be consistent with the RIIO principles and that this will enhance rather than undermine the TOs' ability to develop the network.

2.22. For options that would fall to an onshore TO to deliver under the SWW arrangements we propose the SO will support the onshore TO by suggesting where options that involve coordination between different TOs or with other parties may merit consideration, though TOs also have the responsibility to consider this. This is in addition to providing information on system needs (as discussed in the previous section).

2.23. The SO will also have a role in assessing the options being considered. Specifically, the SO role will be to provide each TO with its assessment of the options that the TO is considering, as well as its assessment of any alternative options being considered by other parties. This will help inform the TO's decisions on which of its options, if any, merit further development. Where the TO has taken an option forward into detailed development and consenting, then the SO's analysis would inform the TO's decision on whether to submit a needs case for the project under the SWW arrangements.

2.24. Where an onshore TO submits an SWW needs case to us, we determine whether taking forward the project would be in consumers' interests. We do this by assessing whether there is a well justified need for the reinforcement and the appropriateness of the technical scope and timing. To support this, the SO would provide its latest options assessment to Ofgem, including a recommendation on the preferred option. We will still undertake our own independent analysis of the needs case.

2.25. An onshore TO would still be able to submit an SWW needs case for its preferred solution even if this is different to the SO's recommendation. In such a case we would seek to understand the reasons for the different views in coming to our decision.

2.26. If our assessment of a needs case is positive, it would then be for the TO to submit information to us to undertake a project assessment. In contrast to a needs

---

<sup>18</sup> Which applies in NGET's transmission area only as the Scottish transmission companies do not have a volume driver for taking forward incremental wider reinforcement outputs.

case assessment, a project assessment focuses on one solution. As such we do not envisage the SO would have a significant role in the project assessment. The exception would be if during the project assessment we think it is necessary to reconsider our views on any issue considered under the needs case assessment, in which case the SO would need to provide its updated options assessment to us.

*Onshore transmission options that would be subject to competitive tendering*

2.27. In chapter 3 we set out our proposals for using competitive tendering for new, high value and separable onshore transmission assets. We propose that the SO will be responsible for identifying where options that would meet these criteria should be considered, and that it will also be responsible for undertaking early development of such options.<sup>19</sup>

2.28. The SO would undertake development work and analysis to allow it to assess whether any of the options merit further development. This would include assessing them alongside any alternative options being considered by TOs. If the SO's assessment is that a tendered option is the preferred solution, then the SO will be responsible for submitting a needs case to Ofgem.

2.29. We would undertake a needs case assessment to determine whether proceeding with that option would be in consumers' interest. This assessment would consider the same issues as for onshore TOs' SWW projects. If we approved the needs case, we would then run a competitive tender to select the TO to construct and own the assets.

2.30. The timing of the needs case submission may be earlier in a project development cycle than for an onshore TO's SWW needs case submission. It is possible that an onshore TO might consider that an option it was developing (and might later submit as an SWW needs case submission) needs further consideration before a decision is taken to proceed with the SO's recommended solution. The onshore TO would be able to put forward the case for its option as part of our consideration of the SO's needs case submission. We would also expect that the SO would work with onshore TOs ahead of submitting a needs case to seek to establish a shared view of the preferred approach where possible.

2.31. The amount of development work to be undertaken by the SO will depend on the timing of the tender to identify the TO that will be responsible for the further development and ownership of the asset. At a minimum, the SO will need to undertake early development activities, such as desktop analysis of the capacity

---

<sup>19</sup> In the RIIO-T1 settlements we said that we may use competition to identify the party to construct and own some SWW projects. For RIIO-T1 SWW projects where pre-construction has already begun, including those projects that could meet the proposed criteria for tendering, we expect onshore TOs to continue pre-construction in line with the expectations we set out in RIIO-T1 final proposals.

needed, the connection and interface points, and high level system specifications. We will set out more details on this, and what roles the SO will have in supporting the tender process, as we further develop our proposals for the use of competitive tendering. Additional details are provided in appendix 5.

*Offshore transmission options to provide wider network benefit*

2.32. The process for developing options for additional investment in offshore transmission to provide wider network benefit will build on our framework for coordinating offshore transmission.<sup>20</sup> We have previously distinguished between two types of projects:

- Those where an offshore developer is developing the project. In this case the additional investment for wider network benefit would be included in the developer's connection agreement as its responsibility to develop (we have previously referred to this as "developer-led wider network benefit investment (WNBI)").
- Those where the wider network benefit is not included for a specific offshore developer to take forward as part of its connection agreement (we have previously referred to this as "non developer-led WNBI"). An example might be a link between two separate offshore generating stations that was designed principally to provide wider network benefit.

2.33. We have already confirmed that we will implement a gateway assessment process for **developer-led WNBI** projects. This process will support the development of projects where the SO identifies an opportunity to efficiently and economically meet a wider network need by requesting that an offshore developer includes additional investment within its connection.

2.34. The gateway process we set out in our July 2013 policy statement is voluntary and would be led by the developer. If a developer's connection offer includes a requirement to undertake WNBI as part of the project then the developer can submit a needs case for the wider network element to Ofgem via this gateway process. The SO would support the needs case development. Stakeholders generally supported our proposals for the gateway assessment process when we consulted on them previously.

2.35. With the proposed enhancement of the SO role, there is an opportunity to further improve the process by requiring the SO to lead submissions to gateway assessments.

---

<sup>20</sup> <https://www.ofgem.gov.uk/ofgem-publications/75429/statement-proposed-framework-enable-coordination-update-our-december-consultation.pdf>

2.36. Under our proposal, the SO would include the WNBI in the developer's connection offer and be responsible for considering whether the WNBI should be taken forward. This includes considering alternative options. The offshore developer would continue to lead its project as a whole and the SO would have to work closely with the developer to ensure the impacts on the developer's project of including WNBI are understood. The SO would also need to ensure the developer has sufficient information to build the requested investment into their project development activity.

2.37. Where the SO considers that developer-led WNBI is the preferred solution to a specific need, the SO would submit a needs case to us for consideration through the gateway assessment process. When a project is submitted to a gateway we will assess the rationale for including the WNBI in the scope of the project. Where we consider the WNBI would be in the interests of consumers, we would commit to not disputing the rationale for inclusion in our cost assessment,<sup>21</sup> subject to no material change to the needs case. This would give the developer confidence that they will be able to recover the economic and efficient costs of the additional investment.

2.38. The SO will need to work with TOs if they are considering alternative options to meet the same system need as would be delivered by the developer-led WNBI. We would expect the SO and TO to seek to establish a shared view of the preferred approach ahead of when it would be necessary to submit a needs case to a gateway assessment process. The SO will need to keep the developer informed where there are differing views between parties on the preferred solution so that it can consider the potential implications for its project timelines. If the SO does submit a needs case to a gateway assessment process and there is continuing disagreement between the SO and a TO on the preferred solution then we would consider the TO's arguments in our assessment of the needs case for the developer-led WNBI.

2.39. We are proposing that the SO, rather than developers, should lead on submissions to the gateway assessment process because the SO will be the party that has the best view of the needs case for this investment. It will also be more consistent with the other new SO roles we propose. In particular, this will fit with the roles the SO will have in submitting needs cases for other options where the TO will subsequently be selected through a competitive tender.

2.40. We believe this is consistent with the objectives of the gateway assessment process we have set out. This approach also addresses concerns raised in previous consultation responses about whether developers might need access to confidential SO information to submit needs cases to gateways. Other responses to these consultations raised concerns about potential conflicts of interest for the SO through their role in the gateway assessment process, but we consider that these will now be

---

<sup>21</sup> Under the offshore transmission regime, developers of offshore generation also develop their transmission connection (under either a generator build or OFTO build option). They recover the economic and efficient costs of doing so when they transfer the transmission asset to the OFTO that has been selected via competitive tender. Ofgem determines the transfer value that a generator receives through a cost assessment process shortly before that transfer takes place.

mitigated under our proposals in chapter 4. We therefore propose to introduce a new requirement on the SO to lead the gateway process. We expand on how this might work in appendix 4.

2.41. The differences between the existing developer-led gateway assessment process and our proposed SO-led process are set out in figure 1 below. The key differences are italicised.

**Figure 1 – Comparison of developer-led and SO-led gateway assessment process**

Aspect of process	Developer-led gateways	SO-led gateways
<b>Voluntary or Mandatory</b>	Voluntary – choice to request gateway made by developer based on risk. Once requested, Ofgem agrees process and timing.	<i>Mandatory – SO notifies Ofgem of connection offer which includes WNBI and seeks agreement to the assessment process and timing to be followed.</i>
<b>Specified or flexible process</b>	Once initiated, standard process to be followed around submissions and timing.	<i>Flexible – Ofgem determine what process is necessary and proportionate relative to investment. This might be light touch for minimal WNBI, more extensive for major WNBI, but all investments that include WNBI will be considered.</i>
<b>Needs case submission, assessment and output</b>	Includes all key information about the project held by both the developer and SO/TO including expected costs. Assessment criteria will be used to support evaluation.  Developer leads and SO supports.  Ofgem gives view on rationale for inclusion of WNBI in project scope.	Includes all key information about the project held by both the developer and SO/TO including expected costs. Assessment criteria will be used to support evaluation.  <i>SO leads and developer supports.</i>  Ofgem gives view on rationale for inclusion of WNBI in project scope.
<b>Outcome of gateway</b>	Ofgem confirms it will not challenge decision to include WNBI in scope of project when we undertake our assessment of the project’s efficient costs, subject to the management of change process.	<i>Ofgem approval means that the SO can maintain the inclusion of WNBI in the connection agreement, subject to the management of change process.</i>  This also gives the developer the same comfort as under a developer-led gateway.
<b>Management of change</b>	Ongoing obligation on SO and developer to notify Ofgem of change to needs case and cooperate in necessary review.	Ongoing obligation on SO and developer to notify Ofgem of change to needs case and cooperate in necessary review.

2.42. Our offshore coordination work also set out a proposed approach for **non developer-led WNBI**. We are proposing that the approach to this type of WNBI (where there is no developer willing to take forward the project) would be broadly the same as that for onshore assets that would be tendered. The SO would be responsible for identifying and developing options that would involve WNBI offshore

where there is not a specific offshore developer identified to take them forward. We set out in appendix 4 how our thinking on the approach for these assets has developed since our previous consultation on this issue.<sup>22</sup>

### **Investment in new interconnection**

2.43. It is for developers to bring forward proposals for new interconnection capacity. They are responsible for considering whether the projects are commercially viable and if they want to take them forward.

2.44. We propose that the SO should:

- Be involved in developing options for where the interconnector should connect to the GB network (see next section).
- Submit information to Ofgem on the efficiency of the connection choices made by an interconnector developer, based on its involvement in assessing different options.
- Submit information to Ofgem on its assessment of the system operation impact of interconnectors (eg impacts on system balancing). This information should also be provided to project developers to aid their options development.

2.45. This analysis will support our assessment of whether the project should be granted a cap and floor arrangement or any decision on requests for exemptions. We will still undertake our own independent analysis in coming to our decisions on these matters. This is consistent with, and will formalise, the role the SO is already taking in supporting the first cap and floor window.<sup>23</sup>

### **Implementing the SO role in major new transmission capacity and interconnection planning: a new NOA process**

2.46. To ensure the SO undertakes the new roles outlined above we envisage creating a new licence condition requiring NGET to undertake an NOA process. This will set out the role of the SO in this matter and ensure appropriate consultation and transparency.

---

<sup>22</sup> Our recent consultation on non developer-led WNBI can be found here <https://www.ofgem.gov.uk/publications-and-updates/offshore-transmission-non-developer-led-wider-network-benefit-investment> and our update letter here <https://www.ofgem.gov.uk/ofgem-publications/88047/openletterfinal.pdf>

<sup>23</sup> See appendix 1 of our decision to roll out a cap and floor regime to near-term electricity interconnectors: <https://www.ofgem.gov.uk/publications-and-updates/decision-roll-out-cap-and-floor-regime-near-term-electricity-interconnectors>



2.47. We will engage with stakeholders on the detail of what and how information should be made available through this process at different stages. Our initial proposal is that the SO will be required to:

- Undertake options development for those options that would fall to it, as outlined above.
- Undertake and keep up to date an assessment of all options for major new transmission capacity across the GB network and interconnection as necessary to support relevant parties' roles in developing options. For example, to inform any project submissions to Ofgem (such as a SWW needs case submission). The SO would need to provide its assessment to the parties developing options as needed, as well as to Ofgem to support our decision-making.
- Publish its assessment of all options for major new transmission capacity and interconnection being considered at least once a year. We expect the SO to consider how best to fulfil this reporting requirement in the context of other industry reports, including the ETYS and the TO major projects updates provided to the Electricity Network Strategy Group.<sup>24</sup> For example, the NOA report could form part of the ETYS publication, though we would leave this for NGET to determine.
- Seek our approval for the format of the NOA report and ensure appropriate consultation on its methodology for options development (where the SO is leading options) and assessment.
- To carry out further work as directed by Ofgem if we are not satisfied that the report provides sufficient information or analysis to support the economic and efficient development of the network.

2.48. The proposed requirement to consult and report at least once a year is intended to give all parties, including Ofgem, early sight of options and an opportunity to raise any issues or concerns. This could include identifying links to distribution and gas network issues. This will help ensure that a full range of options and associated costs are considered, and that valid options are not ruled out too early in the process. It will also help ensure transparency in how the SO undertakes its new roles.

2.49. To enable the SO to undertake these new roles effectively we think there will also need to be a requirement on onshore TOs to provide the SO with information on the investment options they are developing in their area.

---

<sup>24</sup> These updates can be found at <https://www.gov.uk/government/groups/electricity-networks-strategy-group>

## Coordinating other aspects of system planning

2.50. We consider that there may be benefit in making further changes to the SO's role for other areas of network investment to improve coordination across parties where there are impacts across different areas of the system that need to be considered.

2.51. The SO already coordinates the **connections process**, but historically the details of offers have principally been determined by the relevant onshore TOs with limited SO input.<sup>25</sup> Recently the SO has begun to play an increasing role in ensuring that connection offers are efficient from a whole system perspective. This is particularly important given the increase in connection offers that involve investment in more than one part of the network. For example, connections of offshore generators require both investment in offshore assets and investment in the onshore network.

2.52. Offshore, the SO has been undertaking this increased role by using the connection infrastructure options note (CION) process. While this is currently an informal process, it has enabled the SO to identify opportunities for coordination while ensuring that consideration of the different options takes account of wider system impacts. Once the developer signs the bilateral connection agreement (BCA), they take over responsibility for the CION and for taking forward the appropriate options. If a change to the connection is needed at a later stage, there is a process to follow to update the BCA. NGET has recently been consulting stakeholders on the process and extended it to interconnectors on an interim basis. We think there would be benefits from formalising this process across GB and are considering whether to introduce a requirement on the SO to ensure this happens.

2.53. The SO also has an important role in ensuring that the **impact of outages** is taken into account when different options for network development and maintenance are being considered. Outside of NGET's transmission area this has required coordination across different parties given that the SO needs to inform TOs of the implications of different outage options on system operation. There are arrangements in the SO:TO Code (STC) to support this and we also have in place the network access policy (NAP) as part of the most recent price control RIIO-T1. This helps improve communication and coordination between parties on outages. There is still progress that can be made in this area particularly concerning long-term investment and opportunities to minimise whole system costs. To this end:

- We want the SO to consider whether any changes to the STC might help improve coordination and communication.

---

<sup>25</sup> As set out in the electricity transmission licence, the SO is (broadly speaking) required to make an offer of terms for connection reflecting any associated 'TO offer'. Onshore and Offshore TOs have licence obligations that require them to enter into an agreement with the SO (the TO offer) and the TO offer must, amongst other things, make detailed provision regarding the carrying out of works to connect to the TO's system, the costs of such works and the date by which the works shall be completed.

- We will consider whether any adjustments to the SO incentives might be appropriate as part of the wider SO incentives project.
- We will consider whether any changes to the NAP or its licence condition are appropriate.

2.54. Finally, we propose that the SO should support relevant parties in developing and assessing **options to ensure adequate power quality on the network**.<sup>26</sup> Complex system studies are needed to assess the impact of new transmission projects on power quality. The SO is well placed to provide system information to TOs, DNOs and developers to enable them to undertake these studies effectively and to help identify where there are interactions with other parts of the network. The SO can also support coordination with respect to identifying the most economic and efficient corrective measures where the studies suggest they are needed from a whole system perspective. We propose to put a new requirement on the SO to support and coordinate across TOs, DNOs and relevant project developers in this way to underpin the economic and efficient development of the network.

### **RIIO-T2 price control**

2.55. We also propose that the SO will play a role in the investment plans that are considered as part of RIIO-T2 (where the SO role supporting the development of options could extend beyond the current SWW arrangements).<sup>27</sup> We anticipate the SO will have a role to play in helping the TOs develop their business plans.

2.56. In particular we propose the SO would provide advice and analysis on:

- the scenarios and views on system needs being considered
- other assumptions underpinning TO plans, including constraint analysis to help inform the business plans
- any opportunities for more coordinated solutions.

### **Impact of our proposals**

2.57. We have identified a number of benefits that we expect from an enhanced role for the SO in system planning.

---

<sup>26</sup> Power quality means ensuring a number of technical characteristics (such as harmonics and unbalanced power) are within acceptable limits to support the operation of the network.

<sup>27</sup> Final decision on the process for RIIO-T2 is expected to be made following a consultation on strategy at the start of the price control review.

2.58. Our proposals will help ensure better coordination across different parts of the network (onshore, offshore and interconnection), which will support the development of the network in an efficient way. There are potentially significant benefits to be achieved from coordinating the investment required both within and across regimes.

- The benefits of having a more integrated approach to development of offshore networks (including offshore generation connections and interconnectors) have been set out in a report Ofgem commissioned as part of our offshore coordination work<sup>28</sup> and by reports produced by the 'NSCOGI'<sup>29</sup> and 'ISLES' groups.<sup>30</sup>
- There are also potential benefits from a more joined-up approach to future interconnection needs and onshore network reinforcements, as this can allow more efficient and timely development of interconnection.
- The proposed enhancements to the SO's role are a key enabler to ensuring coordination opportunities are identified across the network and taken forward where they could provide for the most efficient and economic solutions.

2.59. The scale of benefits from coordination is unclear given uncertainty as to how and where the network will need to develop. A major driver of this is uncertainty over where and how much different types of generation will come forward. In addition, some types of coordination will only be possible if new grid technologies become commercially viable (particularly with regard to interconnecting high voltage direct current (HVDC) cables). Our proposals seek to manage this uncertainty by creating a framework for system planning that ensures opportunities for efficient coordination can be taken forward as and when they emerge.

2.60. The SO's involvement in identifying and developing options for potential major network reinforcement projects, together with the transparency and scrutiny that will occur through the NOA process, should help ensure that the most economic and efficient solutions are identified. Earlier scrutiny of options and consistency of assessment of options should ensure that SWW needs cases and offshore gateway submissions submitted to Ofgem are well developed and contain a full range of analysis to help inform both the TOs' and our decision-making processes.

---

<sup>28</sup> This study showed there may be potential savings of between £0.5-£3.5bn from offshore coordination, depending on factors such as how offshore wind deployment progresses, and the availability of technology required for large, complex offshore projects. Offshore Transmission Coordination Project – Final Report for the Asset Delivery Workstream (TNEI/PPA, 2011) [www.ofgem.gov.uk/ofgem-publications/75447/tnei-7098-03-asset-delivery-workstream-release-15-12-2011.pdf](http://www.ofgem.gov.uk/ofgem-publications/75447/tnei-7098-03-asset-delivery-workstream-release-15-12-2011.pdf)

<sup>29</sup> [http://www.benelux.int/files/1414/0923/4478/North\\_Seas\\_Grid\\_Study.pdf](http://www.benelux.int/files/1414/0923/4478/North_Seas_Grid_Study.pdf)

<sup>30</sup> Irish-Scottish Links on Energy Study – Executive Summary (2012), p.5. <http://www.scotland.gov.uk/Resource/0039/00395581.pdf>

2.61. The SO's role in developing options that would subsequently be tendered is an important enabler for our proposals to introduce competition for some onshore assets, discussed further in the next chapter and appendix 5.

2.62. Our proposal to make the gateway assessment process mandatory and for the SO to lead will give greater protection to consumers as it will ensure a gateway assessment process is applied to all offshore connections which include requirements for WNBI. However, it could create some risk for the offshore developer's project timelines. We will seek to understand the project timelines through discussions with the SO and the developer and will have regard to them when undertaking a gateway process. In addition, our flexible approach will ensure that the gateway assessment process remains proportionate to the investment under consideration. We think this will serve to mitigate any potential impacts on project timelines and minimise any additional costs arising from the process being mandatory.

2.63. The proposed role for the SO in interconnector modelling would help identify the amount and indicative location of interconnection needed, and support developers in bringing forward projects by providing increased information to the market on what opportunities exist. This is in line with a number of responses to our previous consultation that favoured a more coordinated approach to planning interconnectors to sit alongside developer-led delivery. This information would also support our decision-making, as well as assisting the government with its decision-making process on European 'Projects of Common Interest'.<sup>31</sup>

2.64. Any change in the roles and responsibilities for system planning leads to changes in costs and risks. Specific changes in costs as a result of our proposals would be:

- There will be costs associated with the increased role taken on by the SO (including the cost of implementing new procedures and additional stakeholder engagement). However, based on our initial assessment and the extent to which the SO already undertakes aspects of the roles in question, we anticipate that any additional costs will be relatively low. We will explore this further as part of our implementation work. Where additional funding is sought, the SO will be required to evidence the basis for this.
- Any change in the system planning process carries the risk of disruption and consequential delays in investment. However, we think these proposals (as they are building on what is already there) should not cause significant disruption or delay to investment decisions.

---

<sup>31</sup>Information about Projects of Common Interest and how they are treated in the TYNDP can be found on the ENTSO-E website. <https://www.entsoe.eu/major-projects/ten-year-network-development-plan/FAQs/Pages/6.-Projects-of-Common-Interest.aspx>

2.65. The additional system planning roles we are proposing to give the SO could give rise to a number of conflicts of interest. These conflicts and our proposals for mitigating them are set out in chapter 4.

## Other options considered

2.66. In our Emerging Thinking consultation we set out alternative approaches for a directive system planner (where the system planner is the key decision-maker rather than the supporting role played by an enhanced SO).

2.67. At this point we consider that it is important that the parties that are responsible for constructing and owning assets retain the ability to put forward their proposals,<sup>32</sup> and that the SO's enhanced role is largely in a supporting rather than directive capacity. This is because the prospective asset owners need to be comfortable with the technical and economic viability of their projects, and this is most easily achieved if they retain the ability to put forward their preferred solution. In addition, conflicts of interest could be greater if NGET were undertaking a directive SO role. This could be re-considered if there was a move to an independent system operator (ISO) model in the future, as we discuss in chapter 1.

## Taking our proposals forward


2.68. We propose to modify a number of licence conditions (and where appropriate putting new conditions in place) to implement our proposals for system planning. We will also be working with NGET ahead of implementing these proposed licence changes to consider the scope to take forward some of our proposed roles in the interim.

2.69. Our proposals for licence modifications relating to the SO's new roles in system planning are set out in detail in appendix 7. In summary:

- We propose to put a new licence condition in place for NGET requiring it to undertake the new NOA process.
- We are considering whether a new licence condition for NGET will be necessary to set out the SO role in the SO-led gateway process or whether this should be embedded in a number of existing licence conditions.
- We are considering whether we might also need to make any changes to TO licences.

---

<sup>32</sup> An exception to this are parties that are bidding as part of competitive tenders to construct and own transmission assets. They will not have put forward the needs case or specification for the asset they are bidding on to construct and own, but will be able to undertake detailed due diligence and reflect their view of costs and risks in their bids.



## Integrated Transmission Planning and Regulation (ITPR) project: draft conclusions

- If code changes are needed we would expect NGET to bring these forward at an appropriate time.
- We will consider whether changes to the offshore tender regulations may also be needed to reflect SO-led gateways. Any changes would be subject to approval by the Secretary of State.
- We will consider whether changes are needed to the SWW guidance to reflect the SO role.

2.70. We will continue to develop these potential modifications over the winter, in consultation with relevant parties. We intend to publish an informal consultation on any licence changes ahead of a statutory consultation. Our aim is that we would make our final decision on licence conditions in summer 2015, if we decide to proceed with our proposals once we have considered consultation responses.

## 3. Regulating asset delivery

---

### Chapter summary

We are proposing to modify and clarify the regulatory approach for the delivery of assets to ensure the best approach is used in all cases to drive efficiency and protect consumers. This includes extending the use of competitive tendering, maintaining a developer-led approach to interconnection, setting out our approach for the connection of non-GB generation, and providing regulatory certainty to multiple purpose projects.

**Question 5:** What are your views on our proposal to extend competitive tendering to new, high value, separable onshore assets?

**Question 6:** What are your views on our proposals to maintain a developer-led approach to interconnection and to extend the cap and floor regime?

**Question 7:** What are your views on our proposal that non-GB generators pay for their connections, without consumer underwriting?

**Question 8:** What are your views on our proposal to provide regulatory continuity when the purpose of a transmission asset changes?

3.1. We currently regulate transmission asset delivery through various methods of identifying TOs to build and own assets, determining the revenue they can earn, and allocating risk between consumers and industry. We have used different approaches for onshore transmission, offshore transmission and cross-border interconnection.

3.2. Our approaches aim to ensure efficient capital and operational costs, and protect consumers from exposure to undue costs and risks. We propose to broaden our regulatory framework to better achieve this, such that we use the regulatory mechanisms that best meet this aim for each type of transmission asset.

3.3. We believe that a single method of regulating across the network is not in consumers' interests. This is because a given approach can lead to positive outcomes for consumers on some asset types but not others. For example, where there are price signals to indicate where and what investment should occur, it is in consumers' interests to have those signals influence the location, capacity and timing of that investment. That way, undue costs and risks to consumers can be minimised.

3.4. Where prices don't provide these signals, we need to make sure that the parties that are given consumer funding for investments make economic and efficient decisions. In some cases, competitive tendering can help identify what are appropriate costs and can lead to effective risk allocation. To date, this has been the case for offshore transmission. In other cases, the costs of competitive tendering may outweigh the benefits, and consumers' interests may be best protected if incumbent parties deliver the needed investment with our oversight.



3.5. Finally, where consumers are not well placed to carry the risk of an asset being unused, developers should face the costs and risks without underwriting by consumers.

3.6. Based on this framework, we consider some changes are required to better capture the benefits that different approaches offer. There are also areas where there is a need to clarify the regulatory approach for potential new types of project that could emerge in future. As a result, we propose the following changes:

- Increasing the use of competitive tendering by applying it to onshore transmission investments that are new, high value and separable from the existing network.
- Maintaining a developer-led approach to interconnection, and to open more cap and floor application windows in the future.
- Establishing a default position that connections to non-GB generators do not receive consumer underwriting.<sup>33</sup>
- Maintaining continuity in the regulatory treatment of a transmission asset if it evolves into a multiple purpose project (MPP).

3.7. Our proposals would mean that the approach we apply to each type of transmission asset would be that which is best designed to achieve our aim of ensuring efficient capital and operational costs, and protecting consumers from exposure to undue costs and risks.

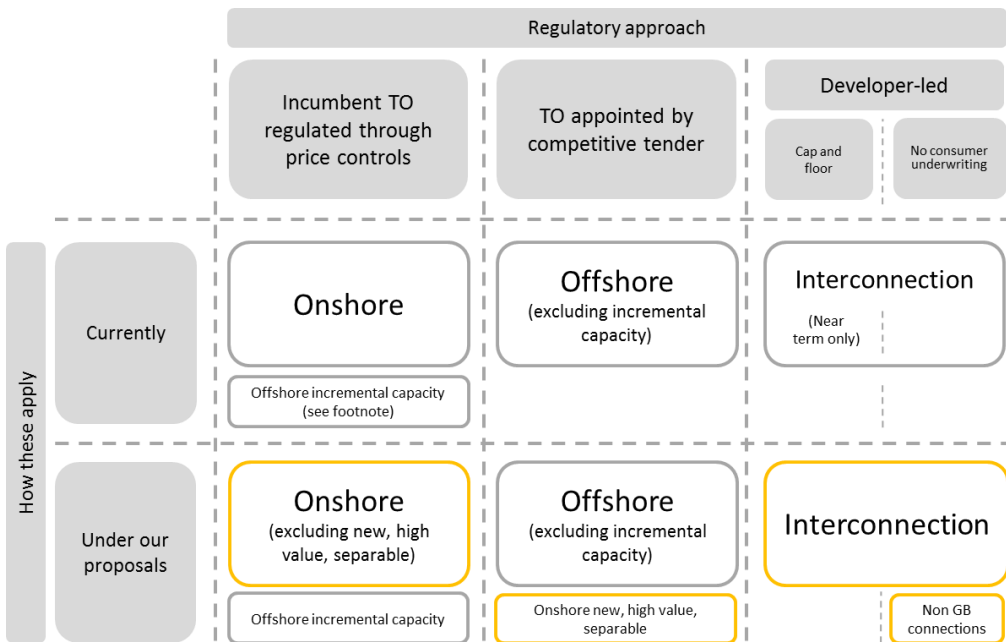
3.8. In our Emerging Thinking consultation we set out that increasing flexibility in how we regulate different asset types could have benefits for consumers. For the most part, stakeholders supported increased flexibility, though others preferred to maintain the existing arrangements. Our proposals would introduce some flexibility into how we use competitive tendering or incumbent delivery, and in how we treat MPPs.

3.9. Our current approaches, and how these would change under our proposals, are highlighted in figure 2. The remainder of this chapter describes the rationale and impacts of each of our proposed changes to the regulation of asset delivery.

---

<sup>33</sup> This means that the projects would not receive any guaranteed regulated revenue and the owner would face the full downside risk relating to the use of the asset.

Figure 2 – Summary of current and proposed use of regulatory approaches



### Use of competitive tendering

3.10. We currently use competitive tendering to select OFTOs whereas onshore investment is delivered by incumbent TOs, regulated under the RIIO framework. We propose **to extend the use of competitive tendering to onshore assets that are new, high value, and separable**.<sup>34</sup> We would run a competitive tender exercise to identify a party to construct, own and operate these assets.

3.11. We are seeking to use competitive tendering where the potential benefits of doing so, such as cost savings and innovation, outweigh the potential costs, such as administrative and interface costs. We believe that this will be the case for onshore transmission assets that are new, high value and separable. Assets that meet these criteria can be more easily scoped for tendering, have minimal interface costs, and because they are high value the potential gains are high compared to the transaction costs of the tender process. We anticipate that future network developments offshore will continue to be new, high value and separable, so we don't propose changes to the competitive tendering of licences for OFTOs.<sup>35</sup>

<sup>34</sup> Generally, for 'new' we mean completely new transmission infrastructure projects, including asset upgrades that involve new transmission towers. For 'high value' an appropriate threshold is likely in the range of £50m-£100m. 'Separable' assets would be those that can be easily identified as discrete construction projects that have limited interfaces with the existing network. Further detail on these criteria and the rationale for choosing them is in appendix 5.

<sup>35</sup> One area where there is currently scope for tendering not to be used in offshore

3.12. As discussed in chapter 2, prior to a tender taking place, the SO would be responsible for developing options that would be tendered. If one of these options is determined to be the preferred option to address the system need, we would undertake a needs case assessment and, if we approved the needs case, run a competitive tender to appoint a party to take forward the project.

3.13. We are considering different tender and project development models. One is an 'early' model, where a party is appointed to undertake pre-construction activities including consenting, as well as construction and operation. Another is a 'late' model, where the party is appointed after pre-construction is complete but is still responsible for construction and operation. For each, as discussed in chapter 2, the SO would be responsible for the early work required to develop the project prior to a competitive tender taking place. Appendix 5 discusses these models and other aspects of our proposals on the use of competitive tendering for onshore transmission in more detail.

### **Impact**

3.14. Using competitive tendering to deliver transmission assets can bring significant cost savings. It also opens the door to new entrants which can bring innovation, provide access to new sources of labour and capital, and potentially accelerate delivery timescales. Some respondents to our Emerging Thinking consultation supported increased competition because of the potential benefits for consumers.

3.15. In response to the Emerging Thinking consultation, some incumbent TOs said that increasing the use of competitive tendering would have limited benefit since they already use competitive procurement when they engage the supply chain. We consider that opening overall project development to competition will create scope for further efficiencies, such as through encouraging innovative and more cost-effective procurement, risk management, project management, and operations and maintenance strategies.

3.16. The competitive tendering of OFTO licences in GB has already brought about these benefits for GB consumers.<sup>36</sup> Throughout the world, and particularly in North

---

transmission is incremental capacity. Under the offshore arrangements, the SO could ask an OFTO to take forward new investment that is linked to its existing offshore system, subject to certain conditions, including whether doing so would cost less than 20% of the OFTO's initial investment. We envisage keeping some threshold of this sort, but intend to review whether the threshold should be aligned with the criteria for onshore tendering. Another case where under our proposals tendering would not be used is if offshore generation connected to existing subsea bootstraps that are already licensed to another party. Under our proposals for MPPs we would seek to ensure the licence for the original bootstrap would not need to be re-tendered in such a case.

<sup>36</sup> These benefits were outlined in a CEPA/BDO evaluation of tender round 1, as per our

and South America, there are many examples of where transmission tendering has led to cost savings. A selection of these is discussed in appendix 5. There are also potential costs to using competitive tendering. These include the transaction costs of administering the tender itself, as well as potential increased costs that could result from managing the additional interfaces and parties involved in the operation of the overall transmission system. We believe that for new, high value, separable assets the benefits of competitive tendering will outweigh the costs. We explain the potential costs and benefits of tendering in further detail in appendix 5.

### **Other options considered**

3.17. We considered continuing to only tender offshore transmission assets, with onshore transmission still being provided solely by the incumbent onshore TOs. However, this would mean that the potential benefits of competition onshore would not be captured for consumers.

3.18. We also considered alternative criteria for the use of competitive tendering, including technology type, how critical the asset is to system operability, sensitivity due to location or environmental impact, and the project's timing or urgency. While some of these are important in regulatory design and project delivery, we do not think that they should determine whether competitive tendering is used. Instead, they are important factors that should be addressed through the tendering and regulatory arrangements. Appendix 5 contains more detail on the alternative criteria.

### **Regulatory approach to interconnection**

**3.19. We propose to maintain a developer-led approach to interconnection as long as efficient investments are enabled by this approach, and to open more cap and floor application windows in the future.**

3.20. Interconnector revenues are principally driven by price differences between markets. Such price arbitrage provides price signals that can give a good indication of what investment is likely to have benefits. Maintaining the developer-led approach means developers can bring forward projects in response to these price signals, and creates natural incentives for efficient cost and risk management.

3.21. There are currently two options for developers seeking to develop new interconnector projects:

- For near-term projects, we have confirmed that we will open two application windows for developers to seek a cap and floor arrangement.<sup>37</sup> We will assess whether each project is in consumers' interests and whether costs are efficient. Where this is the case, the project will receive a cap and floor on revenue. Under the cap and floor, GB consumers top up the interconnector owner's revenue if it falls below the floor. In return for taking on this risk, the interconnector owner pays consumers if its revenues exceed the cap.
- Developers can also bring forward projects without any GB consumer underwriting. Developers following this route typically seek exemptions from certain European regulatory requirements.<sup>38</sup> However, this has proven to be an increasingly challenging way to deliver further interconnection and has resulted in only a limited amount of new interconnection. This led us to consider a new regulatory approach.

3.22. There have been a number of developers expressing interest in seeking a cap and floor approach and we propose to extend the regime on an ongoing basis as long as efficient investments are enabled by this approach. The regime gives developers an incentive to identify efficient investment opportunities which are in consumers' interest. It also provides a level of certainty to developers to support investment in interconnector projects that are likely to have benefits for consumers, without providing full consumer underwriting.

3.23. We propose that we continue to use application windows to assess whether providing a cap and floor to projects would be in consumers' interest. We envisage that these would normally occur every two years, though we will keep the timing under review based on information on potential projects coming forward. We will also assess our approach in light of experience gained through each application window and we will consider making any beneficial amendments to our approach over time.

3.24. As an alternative to the cap and floor model, developers will continue to be able to bring forward interconnector projects without consumer underwriting.

3.25. As discussed in chapter 2, we are proposing to better support the developer-led approach through requiring the SO to provide high level modelling of potential future interconnection needs. This should provide developers with additional market information to respond to. We also propose to require the SO to provide us with relevant information when we are making decisions on individual projects.

---

<sup>37</sup> <https://www.ofgem.gov.uk/publications-and-updates/decision-roll-out-cap-and-floor-regime-near-term-electricity-interconnectors>.

<sup>38</sup> Particularly, from European requirements for how they use their revenues or the basis on which capacity can be sold. That protection has been provided through exemptions from European legislation, eg on third-party access, unbundling and use of revenues, and from certain licence requirements.

## Impact

3.26. Extending the availability of the cap and floor regime should encourage investment in interconnection by having clearer, upfront rules for how developers receive revenue and by reducing their risk. They will continue to be exposed to significant upside and downside fluctuations in the revenues in their project which mean they will have an incentive to identify efficient investment opportunities. We will protect consumers' interests by ensuring that we only grant a cap and floor to a project if our assessment is that it would provide consumer benefit.

3.27. Continuing to use application windows has the benefit that we can assess a group of projects in the round. Being able to compare projects will help us grant caps and floors to projects which are economic and efficient.

## Other options considered

3.28. We have also considered options that involve moving to a 'centrally identified' approach with a specific party or parties responsible for determining what interconnection should be developed. The main options we considered were to extend incumbent TOs' responsibilities to plan interconnection, or to have a system planner identify the need for a project with a competitive tender run to identify the party to construct and own it. Of these options, we consider that competitive tendering could bring benefits to consumers given that these projects are large and clearly separable, though there could be complications due to the need to work with partners in the connecting country.

3.29. At this point we do not consider either option would be likely to lead to better outcomes for consumers than extending the developer-led approach. This is because we consider there is a higher risk that inefficient projects could be developed under a centrally identified approach, as the parties determining whether to invest would have less exposure (and consumers would have more exposure) under these options if a project turned out not to be as beneficial as expected.

3.30. A potential benefit of a centrally identified approach is that it may be better able to support more marginal projects (ie projects that would be less profitable but still likely to be in consumers' interests) than a developer-led approach. This is particularly likely if not all of the benefits of interconnection are reflected in an interconnector developer's revenues.

3.31. As a result, we will keep the framework for interconnection under review but consider a developer-led approach is more beneficial as long as efficient investments are enabled by this approach. We will also support moves to ensure that an interconnector developer's revenues reflect the benefits that the interconnection provides. To this end, we are working with the government on its proposals to allow interconnected capacity to participate in the capacity market and are also engaging in European discussions on new cross-border intra-day trading arrangements.

## Non-GB connections

3.32. Non-GB connections are transmission links that would connect generators outside GB directly to the GB electricity transmission system.<sup>39</sup> **We propose a default position that the non-GB generator pays for its connection, without consumer underwriting.** We think providing underwriting would expose GB consumers to undue costs and risks.

3.33. Under this arrangement, the owners of non-GB connections would be exposed to the full risk of investment. We anticipate that they would reach a commercial arrangement with the connecting non-GB generator, and potentially also traders, where the connection interconnects the GB and non-GB markets. Commercial interests should drive value and efficiency on the transmission assets.

3.34. At the same time, we propose to leave open the option of consumer underwriting on a project by project basis. Whether we make this option available will depend on the agreements and regulatory arrangements that can be put in place across governments and regulators in GB and the non-GB territory. We would consider it where the regulatory arrangements for transmission create fair and efficient cost and risk allocation, so that GB consumers underwrite when it is in their interests.

3.35. It will be important how these links are legally classified.

- In GB – they are classed as interconnectors under the Electricity Act 1989.
- In the non-GB territory - the classification is determined by the authorities and laws there.
- In EU law – classification is relevant if the non-GB territory is in another EU or EEA state. Our view is that a non-GB connection falls within the EU definition of an interconnector.

3.36. Classifications will need to be determined when projects come forward. The views of the authorities in the relevant non-GB territory and possibly also the view of the European Commission will need to be known. Where a non-GB connection is classified as an interconnector under EU law, we would consider requests from developers for exemptions from certain parts of EU regulation. If we and the authorities in the relevant non-GB territory are not able to reach an agreement as to an exemption, the decision will be taken by the Agency for the Cooperation of Energy

---

<sup>39</sup> They could connect generators exclusively, or also interconnect markets or reinforce the GB system. We discussed different configurations in chapter 4 of our November 2013 consultation on the regulation of transmission connecting non-GB generation to the GB electricity system <https://www.ofgem.gov.uk/publications-and-updates/regulation-transmission-connecting-non-gb-generation-gb-transmission-system>

Regulators. Exemption decisions must also be notified for consideration by the Commission. We are not providing a view on whether or not we would grant exemptions if they were requested.

## Impact

3.37. Our proposal would protect GB consumers from unacceptable risk of high transmission costs or stranding (where an asset is not used or under-used). This risk stems from uncertainties in the arrangements governing the connection of non-GB generators to the GB transmission system. In GB, there are clear arrangements for recovering appropriate transmission costs from generators under the Connection and Use of System Code (CUSC), through charging and requirements for financial securities. These do not automatically apply to generators located outside GB. They would not be licensed in GB, nor be signatories to our codes and so would face different obligations. They could also be affected by changes that the non-GB authorities make to laws and regulations in their territory, which could increase the chance that the transmission assets could be stranded. Our proposal avoids committing to one element of transmission regulation – provision for GB consumer underwriting of the non-GB connection – without knowing what the other elements are.

3.38. If we were to make a default route for GB consumer underwriting available we would create a risk that non-GB generators could have an unfair advantage against GB generators, as they might not face equivalent transmission charges or other requirements. This could create bias in the wholesale market and potentially in auctions for contracts for difference (CfDs) if the UK government decides that non-GB generators would compete against GB generators for them. Non-GB projects with higher combined generation and transmission costs might be taken forward at the expense of cheaper GB projects, meaning higher costs for consumers.

3.39. If consumer underwriting is not provided for the non-GB connection, the cost of capital for the developers of such links will be higher due to the greater revenue risk they would take. The cost increase could affect the viability of the generation and transmission project, particularly where the generation is competing in the GB wholesale market and potentially also in CfD auctions.

## Other options considered

3.40. We considered making a route for consumer underwriting available by default. We looked at a cap and floor and a fixed revenue model.<sup>40</sup> We don't think the case for the consumer savings these options could bring (through a lower cost of capital for the developer) can be made at this stage. The regulatory arrangements across the generation and transmission need to be better understood, and the risks to GB consumers clear and acceptable.

---

<sup>40</sup> We discussed these in chapter 5 of our November 2013 consultation on the regulation of transmission connecting non-GB generation to the GB electricity system



3.41. Making consumer underwriting available could create some consistency with GB generator connections. A number of stakeholders suggested it would promote fairness and competition between GB and non-GB generators. While we agree consumer underwriting is an element in promoting fairness, it cannot be made as an argument in isolation. Other elements, such as transmission charges and requirements for financial securities should also be taken into account.

## Regulating multiple purpose projects

3.42. Since an MPP would combine elements of onshore, offshore or interconnection assets, it is currently unclear which regulatory approach applies to which part of an MPP. We included a few examples of MPPs to illustrate this issue in our Emerging Thinking consultation. There are no existing MPPs, but it is important that regulation doesn't become a barrier to them in the future.

3.43. Where an MPP could be efficient, our proposals for an enhanced SO would help developers and TOs identify and investigate it as an option. To take the MPP forward, the developers and TOs also need regulatory clarity, such as on ownership and revenue arrangements.

3.44. An MPP could be formed where a new network asset connects into an existing one. In this situation we propose that **assets have continuity in regulatory approach wherever possible**. Specifically we propose that:

- The regulatory arrangements should not require a change of ownership.<sup>41</sup>
- The owner of the existing asset should be at least as well off from forming the MPP, providing the MPP is economic and efficient. Generally, this means the owner of the original asset should not be disadvantaged compared to its original regulatory agreement. If it had a regulated revenue stream (or a cap and floor on its revenue), then this would continue. There could be some changes to revenue or cap and floor levels if justified by changes in costs or risks triggered by the creation of the MPP.

3.45. We describe how our proposal could work for some examples of potential MPPs in appendix 6.

3.46. Where a new project combines elements of onshore, offshore or interconnection assets at the outset, we will need to work with relevant parties involved to determine how different parts would be treated. We would take into account aspects such as the configuration of a project, what regulatory approach fits

---

<sup>41</sup> Provided a change of ownership is not needed to comply with 'Third Package' requirements to unbundle supply and generation interests.

that configuration and also how our proposed criteria for onshore tendering might apply.

### **Impact**

3.47. By providing continuity in regulatory approaches for existing assets, we remove uncertainty at the point of investment, while allowing future opportunities for integration in an MPP.

3.48. Our proposal does not, however, provide a comprehensive solution for MPPs. New projects would still need to be considered as they arise, as well as areas such as access and cost allocation.

3.49. Most respondents to our Emerging Thinking consultation supported flexibility in approach to regulating assets. Many respondents also agreed that requiring an asset to change ownership would have negative effects on investment certainty. Another respondent noted that the possibility of MPPs should not be overplayed, since there may be limited instances of these. Our proposals reflect these views and provide a proportionate response to the challenges MPPs may create.

### **Other options considered**

3.50. An alternative is to change the regulatory approaches applied to an existing asset if its use changes in an MPP. This would create significant uncertainty over ownership and revenue treatment for all developers investing in projects that have a chance of becoming an MPP, even if no MPPs are ever formed. This option may also be difficult and costly to implement where it results in a change of ownership.

### **Taking forward our proposals**

3.51. We will be working with government on what legislative change may be needed to effectively implement our proposals for competitive tendering, regulating MPPs, and connections to non-GB generators.

3.52. At the same time, we are developing further details on the implementation of our tendering proposals, including the tender models to be used, and the licensing and regulatory frameworks that would support competitive tendering (see appendix 5). Subject to the necessary regulatory framework being in place, the earliest we will be in a position to run a tender will be either 2016 or 2017.

3.53. We noted in RIIO-T1 Final Proposals that strategic wider works (SWW) projects may be subject to competition where we think it could bring benefits to

consumers.<sup>42</sup> We expect onshore TOs to continue to develop SWW projects in line with these expectations. We will work with TOs and the SO to determine whether any RIIO-T1 SWW projects are suitable for tendering based on the proposed criteria. For projects where pre-construction has already begun we will also consider whether there could be costs, such as potential delays, that might outweigh the benefits of using competitive tendering for those projects.

3.54. For RIIO-T2, we propose that all investment that meets our proposed criteria would be competitively tendered. This would be reflected in the RIIO-T2 planning processes in the lead up to the next price control.

3.55. For interconnection, we have recently opened the first round of applications for the cap and floor regime and have committed to a second round in 2015. We envisage providing further details on how we will finalise the timing for future windows (beyond that planned for 2015) as part of our final conclusions document.

---

<sup>42</sup> See paragraphs 1.37, 1.38 and 1.39 of "RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas" <https://www.ofgem.gov.uk/ofgem-publications/53599/1riiot1fpoverviewdec12.pdf>, and paragraphs 1.33 and 1.34 of "RIIO-T1: Final Proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd" <https://www.ofgem.gov.uk/ofgem-publications/53746/sptshet1fp.pdf>.

## 4. Managing conflicts of interest

---

### Chapter summary

Our proposed changes to system planning and asset delivery could create conflicts of interest under the current framework. These could particularly affect the National Grid group. We propose to manage these conflicts of interest by maximising transparency and scrutiny of the SO's new functions, setting out obligations for the SO's conduct in undertaking them, and requiring business separation and informational ring-fencing.

**Question 9:** What are your views on our assessment of conflicts of interest?

**Question 10:** What are your views on our proposals for mitigating conflicts of interest?

**Question 11:** Do you think independent scrutiny of the SO's activities (eg through an expert panel or auditors) would provide value for money?

### Ensuring conflicts of interest do not distort consumer outcomes

4.1. Conflicts of interest could arise from our proposed changes to system planning frameworks and asset delivery. This could particularly affect the National Grid group,<sup>43</sup> as our proposals could give the SO an opportunity to exercise bias or share information, which could unfairly advantage its associated delivery interests (incumbent TO and competitive businesses<sup>44</sup>).

4.2. We think these conflicts of interest could be detrimental for consumers. Examples of conflicts that could arise from our proposals include:

- In its role in coordinating solutions for network reinforcements, NGET, as SO, could have an opportunity to bias solutions towards its associated incumbent TO or competitive businesses. Opportunities for this include manipulating the scope and configuration of new reinforcements.
- In developing options that would be tendered, it could design tendered projects to favour its associated delivery interests.

---

<sup>43</sup> Conflicts of interest could affect other parties too, such as onshore TOs that are already developing RIIO-T1 strategic wider works projects. Should these projects be tendered and the TO, or its affiliate, bid in the tender, there could be a conflict, such as an informational advantage, that could undermine the competitiveness of the tender. We will therefore consider the need for further conflict mitigation measures alongside our work on the implementation of competitive tendering.

<sup>44</sup> Ie interconnector development and operation, offshore transmission development and any future competitive onshore transmission bidding interest.

- In its role in supporting our interconnector cap and floor assessments, it could bias its advice to us to advantage its associated businesses and discriminate against its competitors. Opportunities for this include our proposed roles for the SO to advise on the connection options considered as well as the system balancing impacts of projects.
- The SO could also confer an advantage by sharing sensitive information with its associated delivery interests (eg time-sensitive information on GB network needs and interconnection needs, and information on options that could be tendered).

4.3. In our Emerging Thinking consultation we considered the potential for conflicts and some possible mitigation options. Stakeholders recognised the potential for real or perceived conflicts of interest within the National Grid group. Many stakeholders called for sufficiently stringent business separation arrangements to ensure the SO is shielded from commercial influence, eg managerial, physical and information separation. Other stakeholders proposed a need to focus on information flows and increased transparency.

4.4. We believe we need measures to mitigate the conflicts of interest that could arise from our proposed changes to system planning and asset delivery to protect consumers from inefficient outcomes. As a result, we propose:

- Maximising transparency in the system planning process and providing greater opportunity for stakeholders to engage in this process.
- Enhancing our own scrutiny of planning, including receiving information on network modelling earlier and on an on-going basis.
- Obligations which set out overarching principles for the conduct of NGET to ensure that the SO's enhanced activities are undertaken without bias, and the SO's associated delivery interests are treated on an equivalent basis to other delivery parties.
- Requirements for ring-fencing of information and decision-making within NGET, and business separation between NGET and its relevant associated competitive businesses.

4.5. Subject to further consultation, we intend to implement the conflict mitigation requirements needed for ITPR through a new Special Condition in NGET's electricity transmission licence. NGET already has a number of licence obligations for managing conflicts of interest. These include conditions in its licence that relate to the mitigation of conflicts arising from its functions in offshore transmission and Electricity Market Reform (EMR).<sup>45</sup> This new condition will be separate from those

---

<sup>45</sup> Eg Special Condition 2D for offshore transmission, and Special Condition 2N for EMR. These

that are already in place, and will not reopen these requirements. In practice, the effects of the ITPR requirements are likely to overlap, to some extent, with the effects of these existing requirements.

### **Maximising transparency**

4.6. We consider that there should be significant transparency in the way the SO undertakes its enhanced role, so that it would be harder for the SO to avoid detection if it unfairly advantaged its associated delivery interests. In responses to our Emerging Thinking consultation, stakeholders supported the use of increased transparency if the SO's role were enhanced.

4.7. We propose that the SO, in its enhanced role, will be required to publish and consult on its methodologies and assumptions used in planning processes (eg optioneering, and interconnector cap and floor assessment support) as well as providing adequate opportunities for stakeholder consultation on its recommendations. We have ensured that the SO's proposed, enhanced role is largely an advisory one – TOs/developers, and Ofgem, where relevant, will retain decision-making responsibilities.

### **Enhancing Ofgem's scrutiny**

4.8. We propose to enhance our scrutiny of system planning activity through changing the way we receive information. We currently receive information about future generation and demand, and what this means for the electricity transmission network, annually through the Future Energy Scenarios (FES) and Electricity Ten Year Statement (ETYS) requirements. Information on the different options for how future network needs might be met is submitted as part of the regulatory approval process (eg price control review, uncertainty measures such as strategic wider works (SWW), offshore gateways, and cap and floor application windows for interconnection).

4.9. To better align these separate processes, we propose the network options assessment (NOA) process will include a requirement for the SO to publish an annual report on its assessment of major reinforcement options for the network. This will sit alongside the FES and ETYS, and should give us greater clarity on how potential options evolve over time and enable us to apply more scrutiny ahead of, and during, assessment of reinforcement proposals. This is discussed in chapter 2.

---

can be viewed on our electronic public register: <https://epr.ofgem.gov.uk/Document>

## Obligations on the SO's conduct

4.10. We propose to place clear obligations on NGET which set out overarching principles for the conduct of the SO in undertaking its enhanced activities. These would underpin that NGET, in carrying out its enhanced SO roles,<sup>46</sup> must ensure that neither its TO function nor any of its relevant associated competitive businesses obtain an unfair commercial advantage as a result of the SO carrying out its enhanced activities.

4.11. This would ensure that the SO's system planning activities are undertaken without bias, and that the SO engages with the NGET TO function and its relevant associated competitive businesses on an equivalent basis to other delivery parties. We will require NGET to set out in a compliance statement how it intends to meet these obligations.

## Ring-fencing and business separation measures for NGET

4.12. Further to the overarching principles we have set out above, we consider there is a need for additional measures to provide for conflict mitigation both *within* NGET and *between* NGET and its relevant associated competitive businesses. Stakeholders responding to our Emerging Thinking consultation highlighted management of information flows as a potential solution for conflicts between the SO and TO within NGET. Stakeholders also emphasised the need for sufficient business separation between NGET and its relevant associated competitive businesses.

4.13. **Within NGET**, we propose to require:

- Ring-fencing of specific information within NGET, for the purposes of ensuring that personnel engaged in NGET's TO function do not access information that is confidential. The ring-fenced information will include information that is time-sensitive<sup>47</sup> or commercially sensitive, such as information received in optioneering of solutions, in supporting SWW assessments and in supporting interconnector cap and floor assessments.
- Appropriate restrictions on access to SO system planning decision-making (eg decisions on the SO's assessment of system needs and recommendations on solutions), to ensure that NGET's TO does not have any undue influence.

4.14. **Between NGET and its relevant associated competitive businesses**, we propose to require business separation. This would include legal, financial, physical, employee, managerial, and informational separation. Managerial separation would

---

<sup>46</sup> And in the context of its statutory duties to facilitate an economic, efficient and coordinated network, as defined under Section 9 of the Electricity Act 1989.

<sup>47</sup> NGET's TO function could receive an unfair commercial advantage from early receipt of time-sensitive information.

require that there could be no overlap between directors on NGET's board and directors on the boards of its relevant associated competitive businesses. Our proposals for ring-fencing and business separation will require annual compliance reporting to set out how these measures are being met.

4.15. In practice, this separation has largely already been achieved through the business separation created under the arrangements for NGET to take on the role of EMR delivery body. We intend to separately define the separation measures required for ITPR. The effects of the ITPR requirements are likely to overlap, to some extent, with the effects of these current arrangements. We are currently reviewing NGET's EMR compliance statement, which sets out the specific arrangements NGET has put in place to ensure relevant business separation requirements are being met.

## Impact

4.16. Our proposals for mitigating the conflicts should substantially reduce the risk of system planning decisions becoming distorted and therefore inefficient and not in consumers' interest. It should also mitigate the risks of perceived conflicts which could undermine stakeholders' confidence in a competitive regime. Without these measures, we believe there is a high chance that both real and perceived conflicts could negatively impact upon consumers' bills. For example, this could occur due to inefficient planning solutions being taken forward or reductions in the competitiveness of a tender exercise.

4.17. We consider the main costs and risks associated with our proposals to be:

- Disruption and loss of (onshore) SO/TO synergies in England and Wales. However, given the ring-fencing will apply only to specific, confidential planning information we consider this risk to be low.
- Implementation costs, including the cost of amending NGET's licence and NGET implementing new structures and procedures. However, given that our proposals largely build on existing arrangements (including those that exist for EMR) we consider these costs should be relatively low.
- On-going costs, including the costs of additional reporting and additional stakeholder engagement.

4.18. We consider, on balance, that our proposals are a proportionate response to the issues identified.



## Other options considered

### SO/TO separation

4.19. Responding to our Emerging Thinking consultation, some stakeholders have argued in favour of separation of the SO and TO functions.

4.20. At this stage, we are not proposing to require full business separation of the SO and TO functions.<sup>48</sup> We consider it could lead to a loss of synergies and could be disproportionately disruptive to implement. However, we will keep this under review.

### Regulatory incentives

4.21. Regulatory incentives can play a very positive role in driving efficient behaviour. They could be used to promote economic and efficient system planning outputs.<sup>49</sup> This could offset the effects of a conflict of interest which may otherwise drive the SO towards inefficient outputs driven by commercial bias. However, there are challenges to introducing incentives in this area. This is because system planning decisions need to be made against a background of uncertainty, and in many cases the success of decisions will only be known over the long term. We will keep this under review through our work on future SO incentives, but we are not proposing to introduce incentives for system planning at this time.

### Independent scrutiny

4.22. Independent scrutiny can be used to drive good performance and mitigate conflicts of interest. An independent scrutineer for system planning could review and report on NGET's assumptions, scenarios and methodologies. We consider the most viable models could be:

- an expert panel of individuals appointed by us (potentially similar in approach to the panel of technical experts appointed by the government for EMR)
- auditors appointed by NGET under a licence obligation.

4.23. On balance, however, we are not persuaded that there are sufficient additional benefits of independent scrutiny of the SO's enhanced activities to merit the

---

<sup>48</sup> By 'full business separation' here we mean legal, financial, physical, employee, managerial, and informational separation.

<sup>49</sup> For example, an incentive that provides profit opportunities for NGET to take system planning decisions that are in the interests of current and future consumers (eg in the form of incentivised output measures), or a management fee linked to appointment of a preferred bidder in a competitive tender.

expected costs.<sup>50</sup> We consider the increased transparency, stakeholder engagement and enhanced Ofgem scrutiny that we are proposing will be sufficient. Therefore, we are not proposing independent scrutiny at this time.

## Taking forward our proposals

4.24. Our proposals for enhanced transparency, scrutiny, engagement and ensuring the SO's enhanced role is an advisory one will be achieved through the proposals set out in chapter 2.

4.25. We propose to define clear obligations for the SO, together with ring-fencing of specific information and decision-making through a new Special Condition in NGET's electricity transmission licence. Our proposals to reinforce separation between NGET and the National Grid group's relevant competitive businesses would be implemented through this new Special Condition as well. There may be additional consequential modifications to current licence conditions where overlaps occur. Any licence modifications required to implement our proposals will be subject to further consultation. We have set out further details on potential licence modifications in appendix 7.

4.26. NGET would be required to set out the specific arrangements it intends to implement to meet our proposed requirements in an initial compliance statement. This would need to be approved by us, published and reported against annually.

---

<sup>50</sup> As an indication of potential costs, the total maximum costs of the contracts for the EMR panel of technical experts are £420,000 for a period of 25 months.

## Appendices

---

### Index

Appendix	Name of Appendix	Page Number
1	Consultation response and questions	52
2	Further discussion of impact	54
3	How our proposals will affect the planning of major reinforcements	58
4	How our proposals will affect offshore coordination	61
5	Further details on the proposed use of competitive tendering	65
6	Multiple purpose projects	75
7	Our initial thinking on licence modifications	77
8	Glossary	84
9	Feedback Questionnaire	91

## Appendix 1 – Consultation response and questions

---

1.1. We'd like to know your views on this document. We especially welcome responses to the questions listed at the beginning of each chapter. These are repeated below.

1.2. We request any written feedback on our proposals and their impact by 24 November 2014. It would be helpful if you could submit your comments both electronically and in writing. Please send your responses, and any questions you may have, to:

ITPR team  
Ofgem  
9 Millbank  
London  
SW1P 3GE

Tel: 020 7901 7000

Email: [ITPRMailbox@ofgem.gov.uk](mailto:ITPRMailbox@ofgem.gov.uk)

1.3. If you'd like your response to be treated as confidential, mark it clearly to that effect and include your reasons. Please restrict any confidential material to an appendix.

1.4. Unless you mark your response as confidential, we'll publish it in our library and on our website ([www.ofgem.gov.uk](http://www.ofgem.gov.uk)). If you ask us to keep your response confidential, we'll respect this request unless a legal duty means we can't. For instance, we may have to reveal it under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. We will be holding an industry workshop on 23 October 2014. For further information and to register your attendance, please go to <http://itpr-draft-conclusions.eventbrite.co.uk>. Please register by 16 October 2014, and if you have any questions, please contact the ITPR team (email: [ITPRMailbox@ofgem.gov.uk](mailto:ITPRMailbox@ofgem.gov.uk)).

1.6. Subject to consideration of the feedback, we envisage publishing our final conclusions for ITPR in spring 2015.

### **CHAPTER: One**

No questions

### **CHAPTER: Two**

**Question 1:** What are your views on our proposed enhancements to the SO role in system planning, including the specific roles we have proposed the SO would undertake for onshore, offshore and interconnection planning?

**Question 2:** Are there other roles that you think an enhanced SO could or should undertake in order to better support the development of an efficient transmission and interconnector network?

**Question 3:** What are your views on the specific obligations for TOs that might be needed to support our proposed enhanced SO role?

**Question 4:** What are your views on our proposal that, as part of its enhanced role, the SO should lead gateway assessments for offshore projects that include investment to provide wider network benefit?

### **CHAPTER: Three**

**Question 5:** What are your views on our proposal to extend competitive tendering to new, high value, separable onshore assets?

**Question 6:** What are your views on our proposals to maintain a developer-led approach to interconnection and to extend the cap and floor regime?

**Question 7:** What are your views on our proposal that non-GB generators pay for their connections, without consumer underwriting?

**Question 8:** What are your views on our proposal to provide regulatory continuity when the purpose of a transmission asset changes?

### **CHAPTER: Four**

**Question 9:** What are your views on our assessment of conflicts of interest?

**Question 10:** What are your views on our proposals for mitigating conflicts of interest?

**Question 11:** Do you think independent scrutiny of the SO's activities (eg through an expert panel or auditors) would provide value for money?

## Appendix 2 – Further discussion of impact

---

### Assessment of impact

1.1. The development of our proposals has been shaped by consideration of how they would affect existing and future consumers and industry participants. We have also had regard to potential social and environmental impacts.

1.2. The benefits and costs of these proposals are outlined in the main body of this document, and summarised below in figure 3. Where possible we have identified evidence to give a sense of the monetary value of the different potential costs and benefits. However, given the uncertain nature of the future energy network we have not undertaken fully quantified modelling of impacts as we do not think this can be done robustly.

1.3. To supplement the impact analysis in the main body of the document, this appendix explains our proposals' effects on different groups and their contribution to strategic and sustainable energy objectives.

### Impact on different groups

#### Consumers

1.4. GB consumers will be the ultimate beneficiaries of our proposed changes. Efficient transmission costs will feed through to lower network charges to help keep consumer bills down, while a network that efficiently meets its needs will ensure consumers' electricity supply is secure as it decarbonises over time.

1.5. We do not foresee any additional impacts of our proposals on vulnerable consumers as a subset of GB consumers. However, consumers who have lower incomes will see greater relative improvements in the affordability of their electricity compared to if we did not take forward these proposals.

#### Industry Participants

1.6. Our proposals will affect industry participants differently.

1.7. Enhancing the SO role in system planning will directly increase responsibilities and costs for the SO, but benefits will be seen for TOs and transmission developers in the information and advice available to them when making investment decisions. We also expect to determine, through engagement on licence changes, whether any additional obligations will be needed for TOs and developers.

Integrated Transmission Planning and Regulation (ITPR) Project: Draft Conclusion

Figure 3 - Summary of key benefits and costs of our proposals

	<b>Benefits</b>	<b>Costs (and mitigations)</b>	<b>Overall network benefit</b>	<b>Strategic and sustainability benefit</b>
<b>Enhanced SO role in system planning</b>	<p>Supporting the efficient identification of system needs to ensure future challenges are addressed while avoiding unnecessary investment.</p> <p>Identifying and developing better solutions to meet system needs, which may otherwise have not been considered. This could include substantial savings from supporting development of projects that require coordination across parties, though these benefits are highly uncertain.</p> <p>Increased efficiency in managing outages.</p> <p>Projects are identified for competitive tender, enabling gains from competition.</p> <p>Interconnectors are brought forward based on information on efficient market opportunities.</p>	<p>Could lead to conflicts of interest within National Grid, relating to the exercise of bias or unfair access to information, and could undermine the new SO functions and our proposals on competition.</p> <p>→ <i>Mitigation: Maximising transparency, requiring business separation and informational ring-fencing, and conferring obligations on SO conduct.</i></p> <p>Resource increase within the SO – minimal since building on existing capability.</p> <p>Disruption and delay to network investment due to changing processes – minimal since building on existing system planning processes.</p>	<p>The network is planned, developed and operated in an economic, efficient and coordinated manner.</p>	<p>Forward looking development of the network is more coordinated and approached as whole-of-system, which supports secure supply and decarbonisation.</p> <p>Investment costs are minimised where appropriate, reducing the costs of low carbon technologies and pushing down costs that are passed on through consumer bills.</p>
<b>Regulating asset delivery</b>	<p>Cost savings, new sources of labour and capital, and potentially accelerated delivery timescales for onshore transmission assets that are competitively tendered. Experience from the offshore transmission regime and international evidence suggest these benefits could be significant.</p> <p>Exposure to some upside and downside of revenue fluctuation will encourage efficient investment, and cap and floor can encourage investment in interests of consumers.</p> <p>Non-GB connections can be progressed, while GB consumers are protected from undue risk of asset stranding.</p> <p>Investment clarity and certainty encourages MPPs to be developed where they are efficient.</p>	<p>Transaction costs of administering a tender process.</p> <p>→ <i>Mitigation: high value criterion minimises relative cost.</i></p> <p>Tendering leads to more TOs, creating costs in managing additional interfaces and parties.</p> <p>→ <i>Mitigation: new and separable criteria for use of competitive tendering minimise interfaces.</i></p> <p>Competition between GB and non-GB generators negatively affected by differences in transmission regulation.</p> <p>→ <i>Mitigation depends on regulation by us and the non-GB regulator, whom we will engage on specific projects.</i></p>	<p>Capital and operational costs are efficient, and consumers are protected from exposure to undue costs and risks.</p>	<p>Major network upgrades can be taken forward by a larger number of TOs, which spreads overall network risk across parties.</p>

1.8. We expect that expanding the use of competition for transmission ownership onshore will result in some new, large-scale projects being awarded to new companies rather than being developed and owned by incumbents. While some incumbents may not be awarded projects they may have otherwise taken forward, this is a natural consequence of a competitive market and would be justified by an increase in overall social welfare.

1.9. Many generators, particularly low-carbon ones (including new technologies such as tidal) and those in more remote areas, could benefit from earlier connection dates because the tendering process could result in bidders being appointed who, amongst other things, are able to deliver projects in a timely manner. Competitive tendering would also lower the overall system costs, meaning the costs faced by system users including low carbon generators could be lower, improving the business case for investment.

1.10. Our proposal for non-GB generators to pay for the full cost of the transmission that would connect them to the GB transmission network could change the relative position of those generators compared to GB generators in Contracts for Difference auctions. We are open to discussions with the UK government and the relevant parties in other countries to consider what extent it is possible to ensure a level playing field overall.

1.11. Our proposals to mitigate conflicts of interest will primarily affect NGET, though will benefit other industry participants by giving them greater confidence that NGET will conduct its enhanced SO roles in a fair manner.

### **Geographic distributional impact**

1.12. Through its existing SO and TO functions, NGET is already responsible for system planning in England and Wales. However, under our proposals NGET will also have a new role in system planning in Scotland, for offshore developments and for interconnection. We think that the benefits and costs of our proposals for system planning will be shared across GB.

1.13. Our proposals to increase the use of tendering for some onshore strategic wider works (SWW) investments in RIIO-T1 could also have geographic impacts. Many RIIO-T1 SWW projects are located in Scotland. Therefore, in RIIO-T1, there could be more tendering in Scotland than in England and Wales. It is unclear what the impacts of tendering could be for RIIO-T2 and beyond, since investment plans are yet to be developed.

1.14. These potential geographic differences in tendering for RIIO-T1 mean that generators in Scotland could benefit more than others. This is because the charges that generators pay to use the transmission network are determined by factors such as the configuration and resilience of the system at a particular location, the design of the generator connection and the cost of the reinforcement to the local network and any deeper reinforcements required. Through tendering, we expect these costs to be lower than they would otherwise be. However, from a transmission charging



perspective, cost savings through tendering would be expected to produce net gains across the system for all users (both generation and demand), with users in England and Wales also gaining where wider system developments are delivered at lower cost.

## **Strategic and sustainability considerations**

1.15. We have considered how our proposals would contribute to a sustainable and secure energy supply for GB consumers.

1.16. The electricity transmission network is a key element in the transition to a low carbon energy supply, in creating an electricity system that is secure and resilient to external shock, and in encouraging technology development and market participant diversity.

1.17. Since generation mix and locations will change as the UK and other European governments decarbonise their energy systems, substantial investment will be required for the network to continue to be reliable and secure. Our proposals would enable forward-looking planning where whole-of-system needs are considered, economic and efficient reinforcement options are developed, and long-term investment decisions are taken in the interest of existing and future consumers.

1.18. Much of the anticipated transmission investment over the coming decades is aimed at ensuring the transmission system enables low carbon electricity generation and use. On the whole, we expect our proposals to decrease the costs of this needed investment. For example, coordinated solutions can require less physical infrastructure, leading to cost savings and lower environmental impact. Through tendering, we could reduce the overall costs of transmission development. These impacts would contribute to reducing the overall costs of moving to low carbon technologies, assisting with their deployment and use in GB.

# Appendix 3 – How our proposals will affect the planning of major reinforcements

---

1.1. This appendix sets out what our proposals will mean for the system planning process for major reinforcements or extensions to the GB network. Figure 4 summarises the roles different parties will have under our planning proposals through the identification of system needs, the development of options and the decision-making process.

1.2. The diagram illustrates that under our proposals:

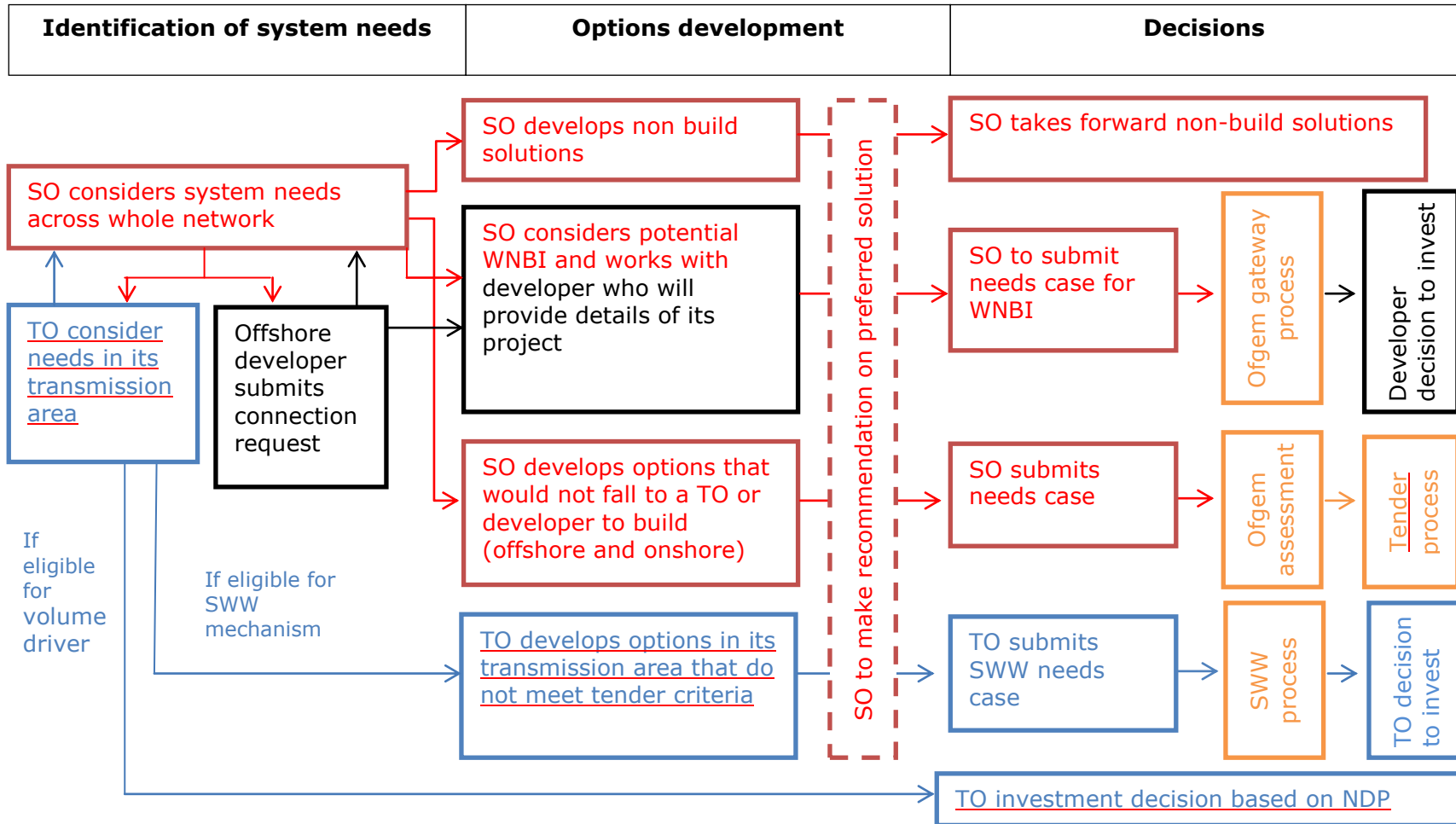
- The SO will have a role in identifying overall system needs, and will provide information and analysis on this to other parties.
- Different parties will be involved in options development depending on the type of asset. Generally parties will develop options they would be responsible for building. The SO will be responsible for developing options that do not yet have a TO identified to construct and own them (for example, projects that would be suitable for the onshore tender process).
- The SO will have a role supporting coordination between different parties as necessary. The SO will also undertake an assessment of options and provide its recommendation of the preferred solution. TOs and developers will provide information on the options they are developing in order to inform this assessment.
- The SO assessment will help inform a party's decision to progress a project. The party would then seek any necessary regulatory approvals (for example, funding requests). The diagram is not intended to suggest that multiple projects would be submitted to us for approval for the same system need<sup>51</sup> but rather show the various potential routes for different types of option to be developed.
- If our needs case assessment is positive then the project will move forward to the next stage. This next stage varies according to the type of asset being developed.

1.3. Figure 5 provides a summary of the roles and responsibilities of each party in the system planning process under our proposals. It sets out what the SO, TO, developers and Ofgem will do at each stage in the development process.

---

<sup>51</sup> Although, in the event that parties are unable to reach a consensus on the preferred solution, it is possible for more than one project to be submitted to us during the needs case assessment.

Figure 4 – Planning of major GB network reinforcements under our proposals



In addition to providing information to support specific decisions the SO will also report its view on needs and options development through the ETYS and NOA reports.

**Key**

SO ———  
TO ———

Offshore developer ———  
Ofgem ———

The colour of the box indicates the lead party.  
Text underlined in red indicates supporting role for the SO.

**Figure 5 – Proposed roles in planning major GB network reinforcements**

<b>Identification of system needs</b>	
SO	<ul style="list-style-type: none"> <li>• Considers system-wide needs, publishes and consults on system needs through the ETYS at least once a year.</li> <li>• Provides TO with analysis to support its decisions on an ongoing basis.</li> </ul>
TO	<ul style="list-style-type: none"> <li>• Provides the SO with information on existing network and planned changes for ETYS process.</li> <li>• Determines system needs in its transmission area, taking into account analysis provided by the SO.</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• Submits connection request and discusses options with SO.</li> </ul>
Ofgem	<ul style="list-style-type: none"> <li>• Approves the format of the ETYS and can direct changes to the ETYS.</li> </ul>
<b>Options development</b>	
SO	<ul style="list-style-type: none"> <li>• Develops options that would not be delivered by a TO or developer (ie those that meet onshore competition criteria or offshore WNBI where there is no lead developer).</li> <li>• Ensures options for WNBI in connections for offshore generators are considered, working with relevant offshore developer.</li> <li>• Supports coordination of options development across parties.</li> <li>• Provides TOs with its assessment of options and developers with information and analysis to help support the development of options.</li> <li>• Publish its assessment of options at least annually in an NOA report.</li> </ul>
TO	<ul style="list-style-type: none"> <li>• Develops options in its transmission area that are not suitable for tendering.</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• Develops options which would involve WNBI in its project.</li> </ul>
Ofgem	<ul style="list-style-type: none"> <li>• Can direct further work on the NOA report where we think it is needed.</li> </ul>
<b>Needs case</b>	
SO	<ul style="list-style-type: none"> <li>• Makes a recommendation on the preferred solution (based on analysis).</li> <li>• Submission of needs case if preferred solution meets criteria for onshore tendering or is non developer-led WNBI; or via gateway assessment process if an offshore WNBI project.</li> </ul>
TO	<ul style="list-style-type: none"> <li>• Consider the SO recommendation and come to its own position on the preferred solution, and, if appropriate, submit SWW needs case to Ofgem.</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• Provide support to the SO in the preparation of the needs case for developer-led WNBI.</li> </ul>
Ofgem	<ul style="list-style-type: none"> <li>• Comes to a view on needs case submissions.</li> <li>• Determines whether a tender is appropriate in the case of an option that is suitable for competitive tender.</li> </ul>
<b>Development of assets</b>	
SO	<ul style="list-style-type: none"> <li>• Continues to provide updated information and analysis to TOs and developers.</li> <li>• Supports Ofgem in the tendering of solutions.</li> <li>• For developer-led WNBI, ensures developer’s BCA remains in line with outcome of Ofgem gateway assessment.</li> </ul>
TO	<ul style="list-style-type: none"> <li>• If SWW needs case is approved then the TO will make a full project submission to Ofgem.</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• If needs case for developer-led WNBI is approved through gateway assessment process then the developer will progress the development of the project in line with its BCA.</li> </ul>
Ofgem	<ul style="list-style-type: none"> <li>• If needs case for non developer-led WNBI or onshore assets suitable for tendering is approved, commences tender process to identify party to undertake detailed design.</li> <li>• Undertake any further assessments as needed, eg SWW project assessment.</li> </ul>

## Appendix 4 – How our proposals will affect offshore coordination

---

### Background on different types of coordination in offshore networks

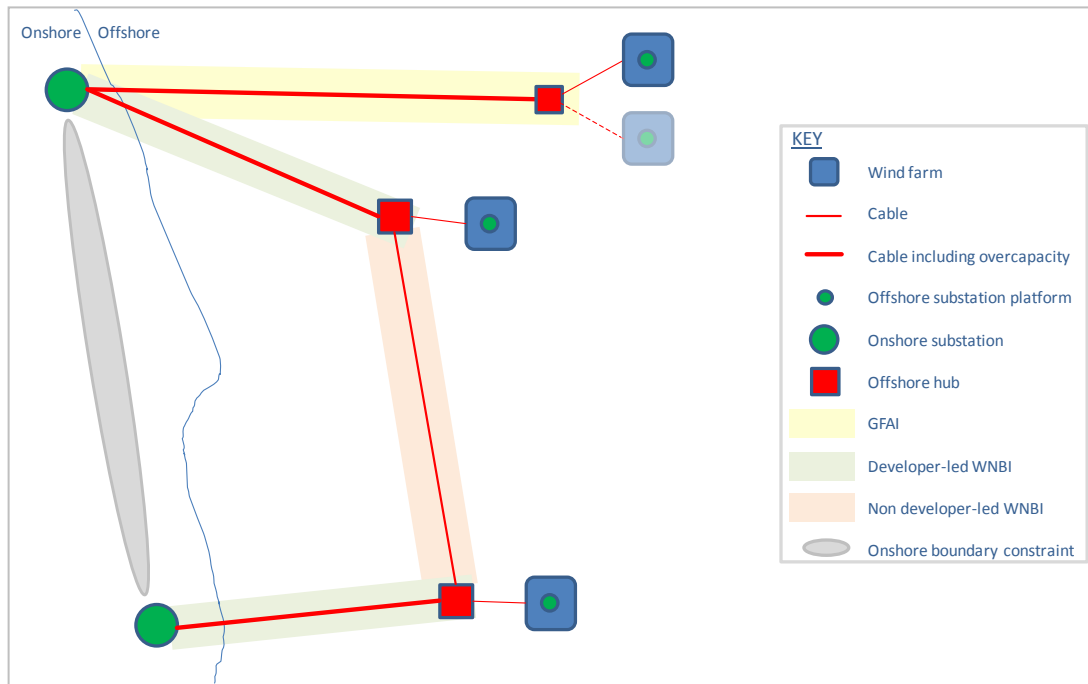
1.1. We have been developing measures that will help to enable coordination of offshore transmission networks while retaining the benefits of the competitive offshore transmission regime. In previous publications we set out three categories of investment in coordinated offshore transmission assets, illustrated in figure 6 below. Two of these categories relate to investment that would deliver wider network benefit (referred to as wider network benefit investment (WNBI):

1.2. Developer-led WNBI: Offshore transmission investment to provide wider network benefit, led by developers (whether under a generator or OFTO build approach). The investment is identified by the SO and included for the developer to undertake as part of its bilateral connection agreement (BCA) for their export assets.

1.3. Non developer-led WNBI: Offshore transmission investment to provide wider network benefit that is not identified as being for a specific developer to undertake as part of its BCA.

1.4. The third category that we set out was generator focused anticipatory investment (GFAI). This is anticipatory investment that provides offshore transmission capacity for specific future offshore generation projects. While we believe the proposals under ITPR for an enhanced SO role may increase the potential for GFAI to be identified, we do not consider that there would be any impact on the treatment of GFAI once identified. Our view is that the main change needed to support GFAI is to extend the user commitment arrangements under the Connection and Use of System Code (CUSC) to apply to these types of assets. National Grid, as the CUSC administrator, has recently carried out an open letter consultation on this issue and is considering ways forward.

Figure 6 – Example of coordinated transmission projects



## How developer-led WNBI would be developed under our proposals

1.5. As identified in the main document, the SO will fulfil on an ongoing basis the obligations placed on it to consider overall system needs and the options to best meet that need.

1.6. In parallel with that process, offshore developers will continue to take forward projects and develop plans for doing so. As part of this activity, a developer would submit an application for a connection in the usual way.

1.7. On receiving the application the SO would work with relevant TOs to identify the economic and efficient option for connection. The SO would identify whether there is a need for wider network reinforcement in that area and would consider whether the best option would be for this to be provided through including WNBI in the developer's project. If its assessment was that it would be, then the requirement for the developer to incorporate WNBI would form part of the connection offer.

1.8. If the developer accepted the offer then this would then form part of its BCA with the SO. The two parties would work together through the connection infrastructure options note (CION) process to develop the option further. Specifically, the developer would lead further consideration of routing options and technical solutions for offshore elements to support a more detailed understanding of project costs and risks, with input from the SO on what requirements were needed for wider network purposes. The SO would also lead on continuing to consider the need for the

WNBI in the developer's project, including relative to other possible options to provide wider network benefit.

1.9. Alongside this, the SO will be required through its licence to notify us where it has made a connection offer to an offshore generator that includes WNBI. We would then set out the gateway process to be followed in order to secure our agreement to the rationale for including the additional capacity in the project scope.

1.10. The process would be decided on a case by case basis and would be flexible and proportionate to the type and cost of investment required and the subsequent level of cost and risk it would involve for consumers. It might include one or more gateways, or in the case of proposals where the SO can evidence no or minimal risk to consumers, Ofgem might agree a gateway is not needed. In agreeing the process to be followed, we would also have regard to the proposed project timelines and expected project milestones put forward by the developer in their connection application.

1.11. The SO would be responsible for preparing a needs case submission where required. It would need to work with the offshore developer to develop the option, for example the developer would need to provide information on its project plans and projected costs.

1.12. If we did not subsequently approve the rationale for the additional investment because we did not think the investment would be in the interest of consumers, then the SO would be required to ensure development plans (and relevant connection and construction agreements) were adjusted to reflect that decision.

1.13. If we did approve the needs case for the additional investment then the offshore developer would be able to proceed with development of the assets, including the investment needed for wider network benefit as specified in its connection agreement. We would then commit (subject to the management of change process discussed below) to not later disputing the rationale for including the additional investment in the project scope when undertaking our cost assessment, though we would still assess whether the investment has been undertaken economically and efficiently.

1.14. The SO would have an ongoing obligation to keep the needs case under review, to notify us of changes which might impact the decision, and to support any subsequent review of the needs case. If the needs case changes, then the impact of this change would be considered on a case by case basis, taking into account the stage of the project and full cost benefit analysis at that point.

1.15. We continue to consider how SO-led gateway assessments will be implemented at a more detailed level. This will include how the process will interact with the tender process for the appointment of an OFTO licensee. The obligations and process will follow the same principles and objectives whether they are generator or OFTO build, but the detailed implementation requirements would be expected to differ

somewhat to ensure interactions with the tender process work effectively at all stages.

## **How non developer-led WNBI would be developed under our proposals**

1.16. Our ITPR proposals would see the SO developing reinforcement options that would be tendered, and we consider this to include offshore non developer-led WNBI. This is because non developer-led WNBI is similar to onshore wider works investments in a couple of ways. First, both types of investment are aimed at addressing wider system needs. Second, in many cases offshore WNBI is a substitute for onshore wider works. For example, if there is a requirement to reinforce the transmission system in a particular area, one option for doing so could be through onshore transmission reinforcements, but another option might be to instead build WNBI offshore.

1.17. We are therefore proposing that the SO's new roles in identifying system needs, as well as potential options to address these needs, would also cover non developer-led WNBI. This is consistent with the feedback we received from stakeholders on our January 2014 consultation on non-developer-led WNBI, where most stakeholders indicated that the SO needs to take the lead in identifying the need and options for this type of asset.

1.18. As with other SO-led tendered options, such as new, high value, and separable onshore projects, we intend to further develop the potential tender models, as discussed in appendix 5. This includes the extent of activities we would expect the SO to undertake ahead of and during a tender, as well as the licensing and regulatory frameworks that would support onshore tendering and offshore non developer-led WNBI.



## Appendix 5 – Further details on the proposed use of competitive tendering

1.1. Chapter 3 outlined our proposal to introduce competitive tendering for new, high value and separable onshore transmission assets, and discussed the potential impact of doing so. In this appendix, we first expand on the potential costs and benefits of competitive tendering, and then set out more detail on why we are proposing the criteria of new, high value and separable. We also provide further information on potential tender models we could use for onshore transmission assets.

### Potential benefits and costs of competitive tendering

1.2. We expect that tendering these types of assets will bring cost savings for consumers. Opening the door to new entrants could result in innovative approaches to project development and operation, as well as access to new sources of labour and capital. We also think that competitive tendering could contribute to necessary transmission investment being delivered in a short space of time.

1.3. Many of these benefits have been realised through tendering offshore transmission in GB and they have also been demonstrated in tendering transmission in other countries. These examples are expanded upon in figure 7 below.

**Figure 7 – Examples of benefits of use of competitive tendering in transmission delivery<sup>52</sup>**

Example and description	Benefits
<p><b>GB offshore transmission</b></p> <p>We are responsible for managing the competitive tender process through which offshore transmission licences are granted to own and operate offshore</p>	<p>We recently published a report by CEPA and BDO evaluating the benefits of the first OFTO tender round (TR1). The report demonstrated that competitive tendering in offshore transmission resulted in considerable financing and operating cost savings in comparison to a range of counterfactuals. The cost savings are estimated to be between 14 and 26 per cent of the total expected revenue stream. These benefits relate to the specific scenario of offshore</p>

<sup>52</sup> The example of GB offshore transmission draws on the evaluation undertaken by CEPA and BDO: <https://www.ofgem.gov.uk/ofgem-publications/87717/cepabdotr1benefitsassessmentfinalreport.pdf>.

The Texas, Argentina, Brazil and Chile examples draw on research undertaken for us by Imperial College and the University of Cambridge: <https://www.ofgem.gov.uk/ofgem-publications/52727/imperialcambridgeitprreport.pdf>.

The Texas example also draws on further details from the PUCT website, found here: <http://www.texascrezprojects.com/overview.aspx>.

<p>transmission assets.</p>	<p>transmission in TR1. TR1 used the generator build model, where the OFTO is appointed to operate, own and maintain a point-to-point transmission link. However, as described below, we believe that other asset types with similar characteristics (new, high value and separable) could capture similar benefits.</p>
<p><b>Argentina</b></p> <p>System planning is driven by connection users (generators, distributors or large customers) who make proposals and vote on these, confirming their willingness to pay the costs of the new transmission lines. The assets are then delivered via competitive tendering.</p>	<p>A review of the use of competitive tendering from 1993 to 2003 found:          over two thirds of winning bids below the specified maximum;          new entrants to the development of transmission (the incumbent won less than one fifth of tenders);          a significant expansion of the transmission system (20% in length over ten years), and          significant capex and opex cost reductions (roughly halved over first five years).</p> <p>Although the level of detail of design specifications increased over time, Imperial College notes that this seems not to have stifled innovation but enabled it, attracting large numbers of specialised bidders.</p>
<p><b>Brazil</b></p> <p>The transmission system central planner uses annual capacity auctions to determine the necessary transmission system expansion, which is approved by government. Reinforcements are then auctioned for delivery. Candidates compete for a 30-year RPI-indexed annual revenue stream to construct, own, operate and maintain the asset.</p>	<p>From 1999 to 2008, 87 transmission concessions were auctioned. The competitive process led to a high volume of bidders (112, many foreign; private, public-private partnership and state-owned), indicating limited transaction costs and low barriers to entry; good equipment price discovery, and a downward trend in revenue per km.</p>
<p><b>Chile</b></p> <p>Competition in transmission delivery was introduced in 2004, with auctions managed by the independent system operator. Participants bid for a project for a particular capacity, technology and number of towers, but must themselves decide on routing, obtain landowner consents and undertake environmental impact studies.</p>	<p>In 2011, in the second round of auctions, eight projects were awarded to a range of new entrants. The auctions have been useful in terms of cost discovery, with winning bids consistently undershooting the maximum acceptable bid thresholds.</p>

**Texas (United States)**

The Public Utility Commission of Texas (PUCT), the regulator, used competitive tenders to appoint transmission developers for a large scale expansion of the transmission network needed to meet a renewable energy target of 18.5GW.

Tenders were open to incumbents and new entrants, with seven projects being allocated to incumbents and eight to new entrants. Construction began in late 2010 and 3,600 miles of new transmission lines were delivered over three years.

1.4. There are also potential costs in establishing a competitive regime and administering tenders. Under the Offshore regime, competitive tendering incurs costs to both the bidders and us. The CEPA/BDO report on TR1 (nine projects) cites total costs for bidders of £35m. Our forecast of our costs of running the tenders is £14m. For onshore tenders, which would involve not just the operation and maintenance but also the construction of assets, we might expect costs to be somewhat higher. However, we would also be avoiding some of the costs that we incur in processes such as a strategic wider works (SWW) project assessment. Overall, these costs from TR1 provide an indication of the order of magnitude of the costs of running tenders.

1.5. There is considerable uncertainty over what specific transmission investments will be needed in the future. This means that it is not possible to estimate the potential pipeline of projects that would be competitively tendered as a result of our proposals. Still, even small percentage savings on a high value project are likely to outweigh the costs of tendering.

1.6. When taken as a whole, there are potentially significant benefits to consumers from the use of competitive tendering. But we recognise that these savings wouldn't be captured for all transmission investments, since in some cases the costs of competing them could outweigh the benefits gained from competition. Therefore, we have identified criteria for where we think the benefits of competitive tendering can be captured.

**Criteria for the use of competitive tendering for some onshore assets**

1.7. We have developed criteria that could be applied to proposed assets to identify whether competitive tendering would lead to gains for consumers. To do so, we looked at a number of different asset characteristics and assessed whether we thought that particular characteristics would impact the overall benefits that might be possible through competition. Figure 8 explains the rationale for the proposed criteria of new, high value and separable assets.

**Figure 8 – Summary of potential measures and rationale for proposed tender criteria**

<b>New</b>	<p><i>Potential measure:</i></p> <ul style="list-style-type: none"> <li>• Completely new transmission infrastructure projects, including asset upgrades that involve new transmission towers.</li> </ul>
	<p><i>Rationale:</i></p> <ul style="list-style-type: none"> <li>• If competitive tendering is used where a party is required to work to a large degree on existing incumbent-owned assets, such as the re-stringing of towers along an existing transmission line, there could be significant contractual issues and potential project delay. Only using tendering where transmission assets are new means that interfaces with existing assets and existing asset owners are minimised.</li> <li>• It also means that we wouldn't be competing assets that are already owned. Transferring ownership from an existing regulated party would be complex and lead to potential uncertainty. This is consistent with our proposal that multiple purpose projects have continuity in regulatory approach wherever possible.</li> <li>• It is not clear that competitive tendering would have advantages over incumbent delivery for an upgrade to an existing asset, since that incumbent would have knowledge of asset's performance and experience of using the asset.</li> </ul>
<b>High Value</b>	<p><i>Potential measure:</i></p> <ul style="list-style-type: none"> <li>• A £-value threshold. We will consider further what minimum threshold would be appropriate, but think it is likely to be between £50m and 100m.<sup>53</sup></li> </ul>
	<p><i>Rationale:</i></p> <ul style="list-style-type: none"> <li>• The cost savings from competitive tendering are at least partly proportional to the value of the asset being tendered. However, the costs of running a tender are less variable, with limited changes in tender costs for a low or high value asset.</li> <li>• In order to ensure that at a minimum the consumer savings from the tender outweigh the costs of the tender administration and bidding process, we believe there should be a value threshold.</li> <li>• Given the proportionality of potential savings, the higher the value of the asset, the more overall savings we could expect from competitive tendering.</li> <li>• Competitively tendering low value investments could lead to high costs of administering tenders while achieving disproportionately low savings.</li> </ul>

<sup>53</sup> In RIIO-T1 we said that SWW projects could be subject to competitive delivery, and each onshore TO has a different value threshold for what qualifies: £50m for SHE-T, £100m for SPT, and £500m for NGET. Given this, we would not tender any NGET projects that are below £500m during the RIIO-T1 period (even if they met the criteria we set out) as these would not be SWW projects.

<b>Separable</b>	<i>Potential measure:</i>
	<ul style="list-style-type: none"> <li>• Point-to-point, or a low number of interfaces with the existing network and can easily be identified as a discrete construction project.</li> </ul>
	<i>Rationale:</i>
	<ul style="list-style-type: none"> <li>• During both construction and operation, a high number of interfaces can lead to additional complexities, which add additional costs to delivery by a party other than an incumbent. This includes where network outages need to be coordinated. Where there are fewer interfaces, these costs can be minimised.</li> <li>• Separability is also important for scoping a project and setting the parameters for the competitive tender. By using projects that are separable from the network, there is more clarity on what the tender opportunity is, which can have positive knock-on impact for the level of competition.</li> </ul>

1.8. A number of respondents to our Emerging Thinking consultation identified the factors captured by these criteria as being important drivers of where competitive tendering would be more suitable. Some stakeholders noted other criteria we should consider such as the impact on timely delivery of assets or the effect on system operation. We explain below why we consider these to be important for the design of the tendering process, but not key criteria to determine where to use competitive tendering.

### **Rules vs. discretion**

1.9. In our Emerging Thinking consultation, we also set out two broad approaches for how we could apply criteria for whether a project is suitable for competitive tendering. The first was a 'rules-based approach', whereby clear and comprehensive rules would be set upfront to determine whether a project is suitable for competitive tendering. The second was a 'discretionary approach' whereby a decision-making body such as us could take a case-by-case approach to projects that are suitable for competitive tendering.

1.10. Views from stakeholders on these approaches were mixed. Some felt that a rules-based approach would enable a transparent and consistent assessment process and result in early certainty for industry. Others felt that it would be important that we use discretion so that all relevant factors for a given project can be taken into account. A third group of stakeholder responses noted that neither approach is perfect.

1.11. We are minded to use a broadly rules-based approach, as this would help provide increased certainty and because we think it is possible to adapt the criteria we have identified into a rules-based approach. However, we propose to maintain a level of discretion in two ways. First, we propose to keep the rules under review and evolve them over time if it is in the interest of consumers to do so. Second, we may need to consider the impact on timely delivery for projects that have already been progressed significantly by incumbent TOs. For example, for a project that is about

to begin construction when our tendering processes are ready to 'go live', a tender could cause unnecessary delays. This is something we would consider further in implementing the use of competitive tendering and would discuss further with TOs regarding their SWW projects currently in the pre-construction phase. We believe that through these actions many of the concerns regarding a rules-based approach can be mitigated.

### **Other criteria options considered**

1.12. Currently we only use competitive tendering for offshore transmission assets, and we considered maintaining this approach. However, doing so would mean that the potential benefits of competitive tendering aren't fully captured on other parts of the network.

1.13. We considered whether technology type would be important for determining whether a project should be delivered competitively or by an incumbent. However, since different technology choices for high voltage alternating current (HVAC) and high voltage direct current (HVDC) transmission systems are used around the world, we do not believe that an incumbent would inherently have better knowledge of, or ability to use, a particular technology. One of the benefits of using competitive tendering is that new parties can provide additional skills with respect to certain technologies, and can propose innovative solutions based on their previous experience.

1.14. System criticality and operability are factors that are important in the use of competitive tendering, but we do not believe that these are fundamental to where tendering is applied. Instead, these should be addressed through the detailed design of the tendering and regulatory arrangements for competed assets. Where competitive tendering is used we will run a robust tender process that appoints qualified parties to become competitively appointed transmission owners (CATOs). In addition, we can seek to ensure that the licensing, codes and standards create the right incentives and obligations such that risks to system operation are minimised.

1.15. The sensitivity of the route or area of the transmission project (for example whether it is through an area of outstanding natural beauty) would be a key determinant of the level of risk (particularly with regards to achieving necessary consents and meeting associated consent conditions) associated with the project. However, while this may make it more difficult to obtain project approvals, we do not think that this would impact whether the project would be better delivered by an incumbent or competitive party. While incumbents have knowledge of the local area and processes, competitive parties may have comparable knowledge as well as innovative approaches to addressing concerns. As we further develop our tender models, we will consider whether sensitivity might impact on which model to apply and therefore who would have responsibility for consenting activities.

1.16. We considered whether the risk to timely delivery should be a criterion for competitive tendering. We intend to create tender models that minimise any impact on project delivery timescales. It could also be the case that competition accelerates

delivery timings, since new parties may have access to capital, labour and skills that put them in a better position for delivering to certain timings. Therefore, we do not propose to use this as a criterion generally, but we recognise that we may need to consider the impact on timely delivery for projects that have already been progressed significantly by incumbent TOs. For example, if a project is about to begin construction when our tendering processes are ready to 'go live', a tender could cause unnecessary delays. This is something we would consider further in implementing the use of competitive tendering and would discuss further with TOs regarding their projects already underway.

## Tender models

1.17. We are assessing different models for running competitive tenders. In particular, we are examining the point during a project's development that a tender should be run to identify a CATO.

1.18. Given our experience in tendering OFTO licences, the offshore tender regime is a useful starting point for this. To date, all OFTO tenders have been based on the generator build model, though the OFTO build option is also available.<sup>54</sup> Earlier this year we also consulted on three potential models for coordinated offshore transmission assets that fall in the category of non developer-led WNBI.<sup>55</sup> These were the split OFTO build, early OFTO build, and TO-initiated late OFTO build models.

1.19. We do not think that a generator build model is beneficial where there will be a high number of users for the asset, which is generally the case with onshore assets. There was minimal support from stakeholders for the split build model for offshore wider network benefit investment, and similar concerns and drawbacks would be expected for using a split build model for onshore investments.<sup>56</sup> It should be noted that we are not ruling out developing these models further in the future, but we do not propose to focus on them at present.

1.20. Building on what we have learned through offshore tenders and consultations, we are minded to focus on developing an early CATO build and a late CATO build model for future onshore tendered assets.

- Early CATO build: a tender to determine the party to be responsible for pre-construction, construction and ongoing operation of the assets.

---

<sup>54</sup> See the glossary for definitions of these models.

<sup>55</sup> Offshore Transmission: Non Developer-led Wider Network Benefit Investment, <https://www.ofgem.gov.uk/ofgem-publications/85497/nondeveloper-ledwnbconsultation.pdf>.

<sup>56</sup> Summary of responses to Offshore Transmission: Non Developer-led Wider Network Benefit Investment, <https://www.ofgem.gov.uk/ofgem-publications/88047/openletterfinal.pdf>.

- Late CATO build: a tender to determine the party to be responsible for construction and ongoing operation of the assets, with the SO being responsible for undertaking the pre-construction works.

1.21. Figure 9 summarises the models. Under both tender models, the SO would be responsible for developing the project ahead of the tender. We do not propose that onshore TOs would be responsible for the development or pre-construction of options that they would not ultimately construct or own.<sup>57</sup> This is because we think it would be difficult to appropriately incentivise onshore TOs to do this work to a high quality given that the assets will not ultimately fall to them to own and operate.<sup>58</sup> The incentives are different for the SO because they would need the assets to be of a high standard in order to adequately fulfil their system operation role.

1.22. A key difference between the early and late models is the extent of the SO's involvement. Under the early CATO build model, the SO would develop the project to the point where a high level specification could be prepared, and undertake some early development activity. This might include determining the capacity needed, the connection and interface points of the project, and high level system specifications, but it would not include consents. Under late CATO build, the SO would undertake all pre-construction activities, including more detailed routing and securing consents for the project. For both the early and late models, we would assess the needs case prepared by the SO and, if in the interest of consumers for the project to proceed, we would run a competitive tender.

1.23. The early CATO build model could bring competitive and innovative pressure to the design stages of a project's development, which the late model does not. It also provides for continuity in project development, with one party responsible for the project after the solution is identified. However, a key challenge with the model is that there would be less price certainty at the point of the tender, due to higher levels of project risk and less certainty on the need, nature and scope of the transmission assets to be constructed. Basing the tender on a mix of fixed and indicative costs, where we would seek to fix the indicative cost terms post consents being granted, could mitigate this challenge to some extent.

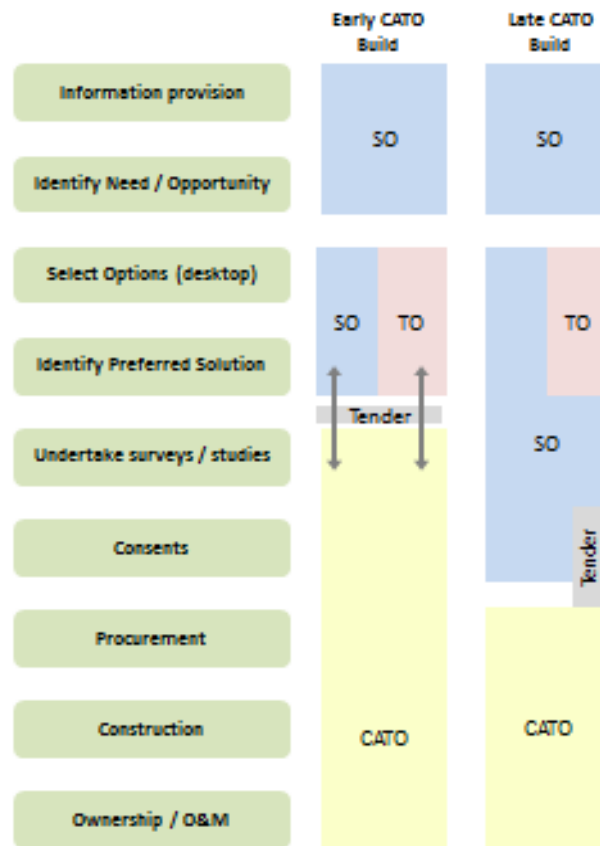
---

<sup>57</sup> The TO is shown in figure 9 to demonstrate that they might be working alongside the SO to develop alternative options to address the need and to feed into the network options assessment (NOA) as outlined in chapter 2.

<sup>58</sup> The exception to this would be for SWW projects already underway under RIIO-T1. TOs would remain responsible for pre-construction for RIIO-T1 projects that they are already developing. When working with the TOs to determine what RIIO-T1 projects are suitable for competitive tendering (as discussed above), we will also discuss the works already undertaken and what an appropriate point would be for a CATO to take over development of the project.



Figure 9 – Summary of early and late CATO build models



1.24. The late CATO build model has the benefit of further certainty at the point the tender begins since more would be known about the nature and scope of the project. This means that bidders could provide firmer tender submissions and reduce the need for us to review the project again at later stages. A challenge of this model comes from responses to offshore transmission consultations provided by the SO and onshore TOs. They have indicated that they are either not interested in undertaking pre-construction works for transmission assets that would be ultimately delivered by another party, or that they envisage complications with respect to one party being responsible for consenting and another responsible for construction. Given the new overall roles we are proposing for the SO, we intend to work further with National Grid and other stakeholders to identify what activities the enhanced SO could beneficially undertake ahead of a late CATO build tender.

1.25. In implementing onshore tendering, there could be merit to having more than one tender model option available. It could be the case that one particular tender model is better suited to a project than another. For example, a transmission project through an environmentally sensitive area could be better suited to the late tender model, since the tender would only occur once there is more certainty regarding the project. However, for other projects, the early model might be better suited to bring innovation to the early stages of the project.

## **Further development of potential competitive tendering processes**

1.26. As described in chapter 3, we will be working with government on what legislative change may be needed to effectively implement our proposals for competitive tendering. When we publish our final conclusions we will set out the timetable against which we anticipate implementing our proposals, including the detailed development of the tender and licensing frameworks. The earliest we would be in a position to run a tender would be either 2016 or 2017. In taking forward competitive tendering we would continue to engage stakeholders, including on the precise measures to apply to the tendering criteria and how the different tender models might work.

## Appendix 6 – Multiple purpose projects

1.1. In this appendix we give examples of different types of multiple purpose projects (MPPs) and set out what our proposals will mean for them.

1.2. We have proposed regulatory continuity for existing assets if they subsequently form part of an MPP. There are two key principles behind this proposal that are applied to the examples in figure 10.


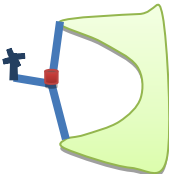

1.3. The owner of the existing asset does not change (as long as unbundling requirements continue to be met).

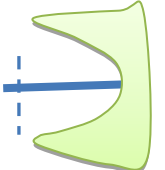
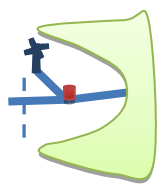

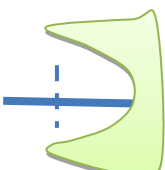
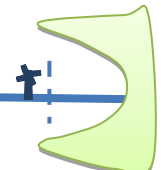
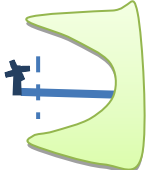
1.4. Providing the MPP is economic and efficient, that owner should be at least as well off as under its original regulatory agreement.

1.5. Some changes to regulated revenues or cap and floor levels may be justified if new costs and risks are introduced. We would need to discuss such changes with owners depending on the circumstances of the MPP.

1.6. Although our proposals provide regulatory continuity, they are not a comprehensive solution to these types of project. Figure 10 also highlights areas we would need to consider further, to make sure consumers’ interests are promoted and protected.

**Figure 10 - What our proposals mean for different MPPs**

Original asset	MPP	Under our proposal for regulatory continuity
 <p>Onshore 'bootstrap'</p>	 <p>Onshore and offshore transmission</p>	<p>Onshore TO retains ownership of bootstrap.</p> <p>OFTO competitively appointed for new generator connection.</p>
 <p>OFTO generator connection</p>		<p>OFTO retains ownership of the assets that originally formed the generator connection.</p> <p>New OFTO competitively appointed for new cable to shore. Up to a certain value, the original OFTO could develop it as incremental capacity, see footnote 35 in chapter 3.</p>

Original asset	MPP	Under our proposal for regulatory continuity
 <p data-bbox="235 598 446 630">Interconnector</p>	 <p data-bbox="479 756 690 882">Offshore transmission and interconnection</p>	<p data-bbox="714 325 1339 483">Interconnector owner retains ownership of interconnector with its original regulatory arrangement (ie cap and floor or no consumer underwriting). It would need to be considered whether any exemptions remained valid.</p> <p data-bbox="714 504 1404 661">Generator is treated as a user of the interconnector. Its access charges would form part of the interconnector revenues. The basis of the charges and the terms of access would need further consideration.</p> <p data-bbox="714 682 1356 777">The arrangements for the ownership of the link from the generator to the interconnector would also need to be considered.</p>
 <p data-bbox="235 955 381 1050">OFTO generator connection</p>		<p data-bbox="714 850 1412 924">OFTO retains ownership of the assets that originally formed the generator connection.</p> <p data-bbox="714 934 1404 1008">New interconnector ends at the connection point to the existing OFTO asset.</p>
 <p data-bbox="235 1270 446 1344">Market interconnector</p>		<p data-bbox="714 1081 1339 1239">Interconnector owner retains ownership of interconnector with its original regulatory arrangement (ie cap and floor or no consumer underwriting). It would need to be considered whether any exemptions remained valid.</p> <p data-bbox="714 1260 1388 1354">The generator is treated as a user of the interconnector. The basis of the charges and the terms of access would need further consideration.</p>
 <p data-bbox="235 1585 381 1680">Non-GB generator connection</p>	<p data-bbox="479 1417 673 1606">Non-GB connection including generator and market connection<sup>59</sup></p>	<p data-bbox="714 1386 1396 1522">Starting point that the connection owner can continue under the same regulatory arrangements (no consumer underwriting under the default approach).</p> <p data-bbox="714 1533 1404 1690">Whether the addition of market-to-market interconnection capacity would mean that the project (or an element of it) should be eligible for a cap and floor approach would need further consideration.</p>

<sup>59</sup> The assumption here is that a non-GB connection is classified as an interconnector. Paragraphs 3.35-3.36 in chapter 3 explain more on the issue of classification.

## Appendix 7 – Our initial thinking on licence modifications

---

1.1. In the main document we have outlined our proposals to enhance the role of the SO, introduce competition for onshore assets that meet certain criteria and to bring forward associated measures needed to mitigate conflicts that arise from these proposals.

1.2. In this appendix we set out our initial thoughts on how the proposals on system planning and conflict mitigation could be reflected in the electricity transmission licences. We will continue to develop these potential modifications over the winter, in consultation with relevant parties. We intend to publish an informal consultation on licence modifications ahead of a statutory consultation. If we decide to implement proposals (following this consultation), our aim is to make a final decision on licence modifications in summer 2015.

1.3. We plan to continue to develop the proposed framework for the extension of competition to tendering of some onshore assets. At this stage we propose to take forward specific licence modifications that would give the SO a role in undertaking the early development activity of new options that could be tendered. We expect that additional licence modifications associated with the extension of competitive tendering to onshore assets may be needed in future as we undertake detailed development of the tender and licensing frameworks.

### Overview of possible licence modifications

1.4. We have identified in figure 11 below the main conditions which, on initial assessment, we would expect to need updating. However, in assessing the detailed modifications which may be required we may identify minor or consequential amendments that may also be needed to other licence conditions or documents. If this is the case, we will include details of such consequential amendments in the relevant consultation process.

1.5. In addition, it may be that certain changes which would support implementation of the ITPR conclusions in due course may need to be taken forward through other routes, such as industry code modification processes. Where this is the case, we would expect the relevant code administrator in conjunction with the SO to bring forward necessary code modifications for consideration.

1.6. Where our initial analysis indicates that modifications to a licence condition may be needed to support change in more than one area (for example, identification of system needs both on- and offshore) or a single modification may assist with more than one element of our proposals, it has only been identified under the main proposal(s) affected.

**Figure 11 - Summary of licence conditions which may be modified to implement ITPR proposals<sup>60</sup>**

<b>Proposal</b>	<b>New licence condition (Full or part coverage)</b>	<b>Existing licence conditions we are considering amending</b>
<b>SO to identify system needs</b>		Standard Licence Condition C11 – Provision of information about the National Electricity Transmission System  Special Condition 6I – Specification of baseline wider works outputs and strategic wider works outputs and assessment of allowed expenditure
<b>SO role in supporting TOs in onshore developments (particularly SWW)</b>	New network options assessment condition	
<b>SO role in developing offshore non developer-led WNBI and onshore options that would be tendered</b>	New network options assessment condition	
<b>SO role in offshore gateway assessment process</b>	Obligation on the SO to lead the gateway assessment process for investments which include WNBI.  The obligation may be applied through a new condition or amendments to existing conditions.	SLC C25 – Provision of information and assistance to the Authority in relation to applications requiring the appointment of an OFTO
<b>SO role in supporting interconnector options development</b>	Network options assessment condition	SLC C11 (as above)
<b>Obligations for the conduct of the SO</b>	Ring-fencing – within-NGET and between NGET and relevant associated competitive businesses	SLC C11 (as above)
<b>Increased ring-fencing arrangements</b>	Ring-fencing – within-NGET and between NGET and relevant associated competitive businesses	

<sup>60</sup> This figure represents our initial thoughts and may not be an exhaustive list of all licence conditions that could be affected.

## New licence conditions that may be needed

1.7. Based on the proposals set out in the main document we anticipate that certain new licence conditions would need to be included in NGET's licence, subject to consultation. These new licence conditions would:

- Introduce the proposed network options assessment (NOA) process (which is set out in chapter 2).
- Introduce the SO-led gateway assessments process (set out in chapter 2), unless this could be more effectively implemented through amendment to existing conditions.
- Put in place appropriate ring-fencing of information and decision-making within NGET (between its SO and TO businesses) and between NGET and the National Grid Group's relevant competitive businesses by introducing a new licence condition, subject to consultation (set out in chapter 4).

### Network options assessment (NGET condition)

1.8. We explained in chapter 2 our initial view on how the NOA process will work. We will continue to work with stakeholders to determine the appropriate method and timing for the sharing of information to support the options development process. Our initial views on the content of the NOA licence condition are set out below.

1.9. We consider the new NOA licence condition would need to set out:

- The role the SO would play in supporting the onshore TOs' development of proposed major system reinforcements.
- The role the SO would play in developing options that would be suitable for tendering, including onshore options that would meet our proposed criteria for competitive tendering and offshore non developer-led WNBI options.
- The role that the SO would play in developing options for offshore developer-led WNBI, working in conjunction with the relevant offshore developer.
- The role the SO would play in providing information and analysis to support the development of interconnection options.

1.10. With regards to these roles, we propose that the NOA licence condition would set out requirements for:

- The information the SO would need to provide to TOs and developers to support their decision-making.

- The information the SO would need to provide to Ofgem to support our decision-making.
- Publishing and consulting on an NOA report at least annually, that provides information on the options that are being considered for major network reinforcements and the SO's assessment of them.

1.11. With regards to the NOA publication, we propose that the NOA licence condition would also set out:

- The process the licensee should follow to get Authority approval of the form of the NOA and by which the Authority can direct changes to the NOA.
- A requirement for the SO to consult with stakeholders on the methodology prior to producing the first report, and on any material changes in that methodology thereafter.
- Details of the scope of the NOA (for example it should be consistent with the Electricity Ten Year Statement (ETYS)); demonstrate how stakeholders' views have been incorporated; set out a range of options for meeting specific system needs; and provide up-to-date analysis assessing the relative suitability of each option. This would include the SO making recommendations on which options should be developed further.
- The requirement for the licensee to carry out further work as directed by Ofgem if we are not satisfied that the report provides sufficient information or analysis to support the economic and efficient development of the transmission system.

### **Possible new licence condition on SO-led gateways (NGET condition)**

1.12. We are also considering whether a new condition will be needed for an SO-led gateway assessment or whether this is better embedded in a number of existing licence conditions.

### **Ring-fencing (NGET condition)**

1.13. We consider a new licence condition is needed to set out the principles NGET should follow in undertaking its enhanced activities, and to set out requirements for ring-fencing from its TO business and National Grid's relevant competitive businesses.

1.14. The licence condition would set out:

- Overarching principles for the conduct of the SO (these would also be referred to in other relevant licence conditions).



- Ring-fencing of sensitive information and influence in decision-making.
- The process by which NGET would set out how it intends to meet these requirements (for example through a compliance statement, approved by us).
- The process by which NGET would report on its compliance with these restrictions (for example through an annual compliance report).

1.15. This condition would also set out the separation requirements between NGET and its relevant associated competitive businesses (including interconnector development and operation, offshore transmission development and any future competitive onshore transmission bidding interest).

1.16. The licence condition would set out:

- The separation requirements.<sup>61</sup>
- The process by which NGET would set out how it intends to meet these requirements (ie through a compliance statement, approved by us).
- The process by which NGET would report on its compliance with these restrictions (ie through an annual compliance report).

## Modifications to existing licence conditions

1.17. We set out below our initial view on what modifications to existing licences might be needed, subject to consultation. Most of our proposed licence modifications relate to the SO. However it may also be necessary to modify the licences of onshore TOs, OFTOs and interconnector owners. In assessing the detailed amendments which may be required, we may identify minor or consequential amendments that may also be needed to other licence conditions or documents.

### **SLC C11- Provision of information about the NETS (NGET condition)**

1.18. This licence condition is in the process of being modified to reflect the Electricity Ten Year Statement (ETYS) and Ten Year National Development Plan (TYNDP) processes. The draft licence condition that was recently consulted on is largely consistent with our proposals on system planning and clarifies the licensee's role in a number of areas setting out 'development information objectives'.

---

<sup>61</sup> Ie legal, financial, physical, employee, managerial, and informational separation. Managerial separation would require that there could be no overlap between directors on NGET's board and directors on the boards of its relevant associated competitive businesses.

1.19. However we consider that in order to implement our ITPR proposals an additional development information objective<sup>62</sup> would need to be added to the licence which specifically requires the licensee to identify the long-term needs of the transmission system.

1.20. We also see merit in embedding the obligations for the conduct of the SO (as per the proposed new ring-fencing licence condition) into this condition.

### **SLC C25 – Provision of information and assistance to the Authority in relation to applications requiring the appointment of an OFTO (NGET condition)**

1.21. We will need also to consider, if an SO-led gateway assessment process is implemented post consultation, what modifications might be required to this and other licence conditions to facilitate this activity.

1.22. This licence condition covers the general provision of information, however, we will consider whether it sufficiently covers the concept of WNBI being included with developer-led assets.

### **Special condition 6I – Specification of baseline wider works outputs and strategic wider works outputs and assessment of allowed expenditure (NGET, SP Transmission and SHE Transmission)**

1.23. This licence condition sets out (among other things) the process that is to be followed by licensees when submitting SWW proposals. It may be necessary/appropriate to amend the licence condition to reflect the supporting role the SO will play in the process. The licence condition is supported by a set of guidance which gives further detail on the timescales and the process.<sup>63</sup> These guidelines are updated by the Authority from time to time and we anticipate updating them, subject to consultation and following final ITPR decisions on system planning.

## **Changes to codes**

1.24. Subject to consultation, we propose that modifications will be needed to the transmission licences to give effect to our proposals. It may also be necessary for changes to be made to industry codes,<sup>64</sup> for example, to formalise the connection infrastructure options note (CION) process. We expect the SO to take forward any consequential code modifications alongside any licence changes.

---

<sup>62</sup> The proposed new ETYS condition sets out a number of development information objectives for the licensee.

<sup>63</sup> <https://www.ofgem.gov.uk/publications-and-updates/guidance-strategic-wider-works-arrangements-electricity-transmission-price-control-riio-t1-0>

<sup>64</sup> In particular the SO-TO Code (STC) which governs the working relationship between transmission licensees.

1.25. During the licence drafting process we will also consider whether any changes are needed to the licence conditions relating to the industry codes.

### **Next Steps**

1.26. We propose to set up a number of licence drafting workshops to facilitate the development of the modifications identified above and consider whether any additional licence conditions might need to be amended. These workshops will ensure affected licensees are appropriately engaged throughout the licence drafting process. These workshops will take place between October 2014 and January 2015.

1.27. We also plan to undertake an informal consultation on proposed licence modifications in the new year ahead of a statutory consultation. This will give all interested parties an opportunity to engage in the process.

1.28. We encourage interested parties to provide their views on proposed licence modifications through this consultation, the drafting workshops and the informal consultation process.

## Appendix 8 – Glossary

---

### A

#### The Authority

Means the Gas and Electricity Markets Authority (GEMA), established by section 1(1) of the Utilities Act 2000. The Authority governs Ofgem.

#### Associate

In relation to an electricity transmission licensee, means an affiliate or related undertaking of the licensee, the ultimate controller of the licensee, a participating owner of the licensee or a common control company.

#### Affiliate

In relation to an electricity transmission licensee, means any holding company of the licensee, any subsidiary of the licensee, or any subsidiary of a holding company of the licensee.

### C

#### Cap and Floor

See *Developer-led cap and floor regime*.

#### Competitively appointed transmission owner (CATO)

A party that has been selected through a competitive process to develop, own and operate a transmission system.

#### Connection infrastructure options note (CION)

The output from the process initiated by NGET to carry out assessment of different connection options. Development is continued by the developer once the connection offer has been signed.

#### Coordinated network (design)

In the context of the ITPR project, coordinated networks arise when interactions between two or more proposed transmission investments (including connections) mean that a common network solution could be more cost effective than developing the assets separately.

#### Connection and Use of System Code (CUSC)

This is the contractual framework for connection to, and use of, the national electricity transmission system. The methodologies used to derive the charges that National Grid Electricity Transmission levies for connection to and use of the national electricity transmission system are also set out in the CUSC.

### D

#### Developer

See *interconnector developer* and *offshore developer*.

#### Developer-led wider network benefit investment (WNBI)

Offshore transmission investment to provide wider network benefit, led by developers (whether under a generator or OFTO build approach). The investment is identified by the SO and included for the developer to undertake as part of its bilateral connection agreement (BCA) for its export assets.

#### Developer-led cap and floor regime

A regulatory regime for interconnection under which developers identify opportunities for additional interconnection. If they go on to develop, construct and operate an interconnector, they receive revenues which are bounded by a cap (maximum return) and floor (minimum return). If their revenues exceed the cap then the surplus is returned to consumers. Conversely, if their revenue falls below the floor then consumers top up developers' revenue to the level of the floor.

#### Distribution network operator (DNO)

An entity that operates an onshore electricity distribution network, which includes all parts of the network from 230V up to and including 132kV in England and Wales. In Scotland, DNOs operate all parts of the network up to but not including 132kV as 132kV is considered to be part of transmission rather than distribution.

### E

#### Electricity Act

The Electricity Act 1989 as amended from time to time.

#### Electricity Market Reform (EMR)

Electricity Market Reform (EMR) is a government policy to incentivise investment in secure electricity from low carbon sources, improve the security of GB's electricity supply, and improve affordability for consumers. This policy was implemented through the Energy Act 2013.

#### Electricity Ten Year Statement (ETYS)

A document produced periodically by NGET as the SO in order to provide industry participants and other interested parties with information about the transmission system, such as its potential future development and the opportunities this presents.

### F

#### Future Energy Scenarios (FES)

A set of scenarios, modelled by NGET and produced annually, describing the changes in electricity generation and demand that could potentially materialise in the future. There are currently four scenarios that extend out to 2035 and 2050.

### G

#### Gateway assessment process

This is a process by which Ofgem assesses the rationale for WNBI in offshore transmission assets being taken forward by an offshore developer. Subject to final decision, the process will be mandatory and the SO will lead on submitting a needs case (where required) for the WNBI to Ofgem. The gateway assessment would take a

form agreed with Ofgem, following notification by the SO of WNBI being included in a connection offer. It may include submission of one or more needs cases.

#### [Gas and Electricity Markets Authority \(GEMA\)](#)

See *The Authority*

#### [Generator build](#)

A model for the development of offshore transmission assets under which a generator designs and constructs the transmission assets. An OFTO, appointed by a competitive tender exercise, operates, maintains and decommissions the transmission assets.

### **I**

#### [Industry codes](#)

The industry codes underpin the electricity wholesale and retail markets and define the terms under which industry participants can access the electricity networks including the Connection and Use of System Code (CUSC), the Balancing and Settlement Code (BSC), the Grid Code, the System Operator:Transmission owner Code (STC), the Distribution Connection and Use of System Agreement (DCUSA) and the Distribution Code.

#### [Interconnector](#)

Physical links which allow for the transfer of electricity across borders.

#### [Interconnector developer](#)

A party that identifies the need for new interconnector capacity and builds, owns and operates the interconnector assets.

#### [Integrated \(network\)](#)

In the context of the ITPR project, this term is used to describe the principle of considering a whole system view in planning and delivering the transmission system. This includes recognising the interactions between different asset developers and the networks onshore, offshore and cross-border. Economic and efficient integration can bring benefits to consumers.

### **M**

#### [Major reinforcements](#)

Generally used to mean a project that will result in a significant increase in boundary capability or capacity elsewhere in the transmission system.

#### [Multiple purpose project \(MPP\)](#)

A project that features some combination of onshore transmission, offshore transmission or interconnection. For example, a project that combines connection of offshore generation with interconnection to a different market, or a project that uses oversizing of a generation connection offshore to accommodate network reinforcements to relieve constraints in the onshore network.

## N

### National electricity transmission system (NETS)

The system consisting (wholly or mainly) of high voltage electric lines owned or operated by transmission licensees within GB, in the territorial sea adjacent to GB and in any renewable energy zone and used for the transmission of electricity from one generating station to a sub-station or to another generating station or between sub-stations or to or from any interconnector and includes any electrical plant or meters owned or operated by any transmission licensee within Great Britain, in the territorial sea adjacent to GB and in any renewable energy zone in connection with the transmission of electricity.

### National Grid Electricity Transmission plc (NGET)

The electricity transmission licensee that owns and maintains the onshore electricity transmission assets in England and Wales. NGET is also the system operator for GB. It is a subsidiary company of National Grid plc, a wider group of companies which also includes, among other things, interests in interconnection and bidding for offshore transmission investments.

### Needs case

For the purposes of this document, refers to the economic case for investment, considering whether it would be economic and efficient in the context of the electricity transmission network as a whole, and in consumers' interests. The requirements for a needs case submission, and the detail of its assessment, may vary across different types of investment.

### Network access policy (NAP)

This is a policy which the onshore TOs are required to have and operate consistently with. It is a commitment about the way they will share plans affecting their network and communicate effectively with the SO building on the terms within the SO:TO Code. This policy includes actions the TO will take to: coordinate planned outage arrangements with the SO and other TOs, manage unplanned outages, and communicate with the SO regarding interactions between the TO's NAP and the SO's balancing services activity. The policy is a document that we expect to be updated based on experience during the RIIIO-T1 control period.

### Network development policy (NDP)

As part of the RIIIO-T1 price control, NGET is required to develop a network development policy (NDP) setting out how it will determine the scope and timing of wider network reinforcement works. NGET is required to apply its NDP to determine which network reinforcements offer value for money for existing and future consumers, and to take these forward.

### Network options assessment (NOA)

We are proposing that the SO should undertake a new NOA process. To do this the SO will undertake a comparative assessment of all options for major network reinforcement. It will provide its assessment of individual options to TOs and Ofgem as necessary, and also publish a report (the NOA report) on its assessment of all options at least annually.

#### Non developer-led wider network benefit investment (WNBI)

Offshore transmission investment to provide wider network benefit that is not identified as being for a specific developer to undertake as part of its bilateral connection agreement (BCA).

#### Non-GB connection

Transmission links connecting generators outside GB directly to the GB electricity transmission system.

#### O

#### Offshore developer

The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2013 define a 'developer' as 'any person within section 6D(2)(a) of the 1989 Act or within a developer group'. Section 6D(2)(a) of the Electricity Act 1989 defines such person as 'the person who made the connection request for the purposes of which the tender exercise has been, is being or is to be, held'. In practice, such person is also the entity responsible for the construction of the generation assets and, under generator build, the transmission assets.

#### Offshore transmission

As defined in section 6C of the Electricity Act 1989 means the transmission within an area of offshore waters of electricity generated by a generating station in such an area, where offshore waters means:

- (a) waters in or adjacent to Great Britain which are between the mean low water mark and the seaward limits of the territorial sea;
- (b) waters within an area designated under section 1(7) of the Continental Shelf Act 1964.

#### Offshore transmission owner (OFTO)

The holder of an offshore transmission licence.

#### OFTO build

A model for the development of offshore assets. Under the standard OFTO build option, the generator obtains the connection offer and undertakes high level design and preliminary works. An OFTO is then selected via competitive tender to construct, operate, maintain and decommission the transmission assets.

#### Offshore transmission licence (OFTO licence)

A transmission licence authorising anything that forms part of a transmission system to be used for purposes connected with offshore transmission.

#### Onshore transmission assets

Where we refer to 'onshore' transmission assets in this document, we mean those that under current arrangements would be developed by National Grid Electricity Transmission, Scottish Power Transmission, and Scottish Hydro Electric Transmission. Some 'onshore' assets are in the waters around GB, such as the Kintyre-Hunterston link currently under construction.



### Onshore TO

Term used to describe the three incumbent onshore transmission companies: NGET, SP Transmission and SHE Transmission. Note we use the term in this document only to describe the transmission ownership function. NGET also has a system operator function although both of these functions are governed by one transmission licence.

## P

### Price arbitrage and price signals

Electricity price differences between countries offer the opportunity to profit from the purchase and immediate re-sale of electricity if the markets are interconnected. Such price arbitrage provides price signals that can give a good indication of what interconnector investment is likely to have benefits.

## R

### Related undertaking

In relation to an electricity transmission licensee, means any undertaking in which the licensee has a participating interest.

### Revenue = Incentives + Innovation + Outputs (RIIO)

The price control framework applied to onshore transmission and distribution of gas and electricity. It resulted from our RPI-X@20 review. Further information on the RIIO framework can be found on our website <https://www.ofgem.gov.uk/network-regulation-%E2%80%93-riio-model>

### RIIO-Transmission Price Control Review 1 (RIIO-T1)

The first onshore electricity transmission price control under the RIIO framework, which applies from 1 April 2013 to 31 March 2021. In early 2013 we completed the first price control reviews to use the RIIO framework: RIIO-T1 (gas and electricity transmission).

## S

### Scottish Hydro Electric Transmission Ltd (SHE Transmission)

The electricity transmission licensee that owns and maintains the onshore electricity transmission assets in northern Scotland.

### Scottish Power Transmission plc (SP Transmission)

The electricity transmission licensee that owns and maintains the onshore electricity transmission assets in central and southern Scotland.

### Stranding

Where transmission assets become either not used or under-used as compared with initial expectations.

### Strategic wider works (SWW)

An uncertainty mechanism put in place under RIIO-T1 to allow onshore transmission owners to bring forward large investment projects during the price control period. SWW projects must meet criteria set out in the licence, but in general terms they are

designed to reinforce or extend the NETS in order to enable the efficient and economic development of the transmission system.

#### System needs

Where additional investment (or other action) in the transmission system is needed to enable the continued secure and efficient operation and coordinated development of the system. The identification of system needs involves forecasting future circuit capacity and power flows on the network under a range of different generation scenarios.

#### System Operator (SO)

The entity charged with operating the high voltage electricity transmission system in GB, currently NGET.

#### System Operator: Transmission owner Code (STC)

The industry code that defines the relationship between the System Operator and Transmission owners setting out the roles, responsibilities, obligations and rights of these parties.

## T

#### Transmission owner (TO)

In the context of the ITPR project, TO is an umbrella term that captures all holders of a transmission licence. This includes onshore TOs and competitively appointed TOs including OFTOs. It does not include holders of interconnection licences.

## W

#### Wider network benefit investment (WNBI)

Investment in offshore transmission that has wider network benefits, by serving to mitigate the need for separate reinforcements of the onshore or offshore transmission network.

## Appendix 9 – Feedback Questionnaire

---

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

**Andrew MacFaul**  
Consultation Co-ordinator  
Ofgem  
9 Millbank  
London  
SW1P 3GE  
andrew.macfaul@ofgem.gov.uk