Consultation

Accelerating onshore electricity transmission investment

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Contact	RIIO Team
Team:	Networks
Telephone	020 7901 7000
Email:	RIIOElectricityTransmission@ofgem.gov.uk

We are consulting on how Ofgem can support the accelerated delivery of strategic electricity transmission network upgrades needed to meet the Government's 2030 renewable electricity generation ambitions. The package of potential changes is to our RIIO-ET2 regulatory approvals framework and could bring benefits such as helping to alleviate constraints on the grid as well as wider environmental benefits. However, clear evidence is needed to show that any proposed changes to our established regulatory process are in consumers' interest and can be supported by wider Government and network company changes to help speed up investment. We would like views on the proposals in this document from people with an interest in the development of the electricity transmission network and in Net Zero (including consumer groups and the public).

This document outlines the scope, purpose and questions of the consultation. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at Ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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Executive summary

The Government's Energy Security Strategy (ESS)[1] set out ambitious targets for low carbon generation to accelerate the shift away from fossil fuels to promote energy security, while meeting Net Zero (NZ) targets. This includes the connection of up to 50GW of offshore wind capacity by 2030, an increase from the previous 40GW target.

The current onshore transmission network does not have the capacity to accommodate the substantial growth in renewable electricity generation to meet the Government's 2030 ambitions. We asked the Electricity System Operator (ESO) to identify the network upgrades that would be needed to support the Government's ambitions. The ESO published its findings and identified 26 strategic high-value (i.e. >£100m) projects with a combined cost of £19.8bn.[2] While some of these projects (16 projects with a combined cost of £9.2bn) are already expected to be delivered before 2030, the remaining 10 projects (with a combined cost of £10.6bn) need to be accelerated so that they are delivered by 2030.

The consequences of failure to deliver all the required upgrades by 2030 are potentially significant. It could mean that some of the expected renewable generation capacity cannot be safely connected to the onshore network, while others that are able to connect are unable to export their electricity due to system constraints. This could put at risk the Government's 2030 ambitions and increase constraint costs that are added to consumers' bills.

The typical time taken for onshore electricity transmission projects to be delivered from their initial design, through to project completion, is currently around 11 to 13 years. Delivering the upgrades identified by the ESO by 2030 will require the joint efforts of the Transmission Owners (TOs) and their supply chain, Ofgem and the Government. The TOs will need to develop ambitious and accelerated delivery plans. In addition:

- The TOs have told us that expediting delivery will require changes to the current RIIO-ET2 regulatory approval and funding mechanism to make it more agile, responsive and flexible. In this consultation, we are proposing a new accelerated delivery framework for strategic large transmission projects to support this.

[1] British energy security strategy - GOV.UK (www.gov.uk)
[2] The ESO also identified 52 lower value (i.e. <£100m) projects with a combined cost of £1.4bn, but these projects are outside the scope of this consultation.

- The TOs have told us that the planning and consenting regimes in GB needs reform if the 2030 targets are to be met. The Government has set out a series of actions in the Electricity Networks Strategic Framework (ENSF) to support this ambition.

Our proposals

While we do not consider that our current Large Onshore Transmission Investment (LOTI) regulatory process causes delays to transmission projects, we acknowledge that it may be harder for the TOs to expedite their delivery without some changes. Our proposed package of measures aims to facilitate the accelerated delivery by TOs by: (i) Providing early certainty on regulatory funding to enable TOs to speed up construction, (ii) Reducing the number of regulatory approval gates to reduce the time taken to secure regulatory approvals and funding, and (iii) Providing targeted, programmatic exemptions from onshore network competitition. We also intend to hold the TOs to account and protect consumers by using strong financial incentives (including penalties for delays in delivery) and licence obligations.

We have sought to quantify the potential costs and benefits to consumers of our proposals. Our initial analysis suggests that there are clear benefits.[3] However, the realisation of these benefits is contingent on factors outside of our direct control. In particular, the potential benefits could be materially reduced if the TOs do not deliver the required upgrades by 2030 or if the anticipated growth in renewable generation does not materialise. Furthermore, the progress made on reforms to planning regimes in GB will have a material impact on the TOs' ability to deliver on time. We are therefore taking a relatively cautious approach to implementation, so that consumers are protected against exposure to unnecessary costs.

Next steps

We intend to work jointly with the TOs and Government to agree the practical steps that each side will take to ensure that the Government's 2030 ambitions are met. In particular, we will work with the TOs and the ESO to understand their plans, and to further develop our assessment of the benefits and costs of applying our proposed framework.

We will not apply the new framework to projects where we are not confident that the benefits of applying the framework exceed the cost to consumers. We need clear and binding commitments from the TOs that these projects will be delivered on time before we make the changes proposed in this document.

[3] Our initial quantitative analysis indicates that the net benefits to consumers from implementing our proposals would be between £0.5bn and £2bn. Please see Chapter 6 for further information.

1. Introduction

What are we consulting on?

1.1. We are consulting on how we can support the accelerated delivery of strategic onshore electricity transmission (ET) network upgrades, needed to help meet the Government's 2030 renewable electricity generation ambitions. In total, the process from initial project needs case through to operation currently takes around 11 - 13 years. This includes the time taken to secure planning permissions, obtain regulatory approvals and funding, and the physical build of assets. As such, Ofgem, the networks companies, the system operator and Government all have key roles to play.

1.2. Our role relates to determining the need for and providing the appropriate level of regulatory funding using our RIIO-ET2 regulatory approvals framework - this is the focus of this consultation. We have identified a package of potential changes to our RIIO-ET2 regulatory approvals framework and associated model for competition. In Chapters 2 and 3, we provide the context behind this consultation, the scope of investment being considered, the regulatory processes and perceived issues with them. In Chapters 4 to 6, we look at the potential options for change and the benefits and costs associated with them. In Chapter 7 we propose a range of consumer protection measures. In Chapter 8 we consider any financeability issues, and Chapter 9 sets out our next steps.

How to respond

1.3. We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

1.4. We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can. We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, data and confidentiality

1.5. You can ask us to keep your response, or parts of it, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, Government regulations. We may also disclose information where you give us explicit permission to disclose it. If you want to keep your response confidential, please mark this on your response and explain why.

1.6. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you *do* wish to be kept confidential and those that you *do not* wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.7. If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of UK GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 4.

1.8. If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

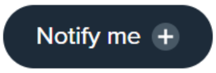
1.9. We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

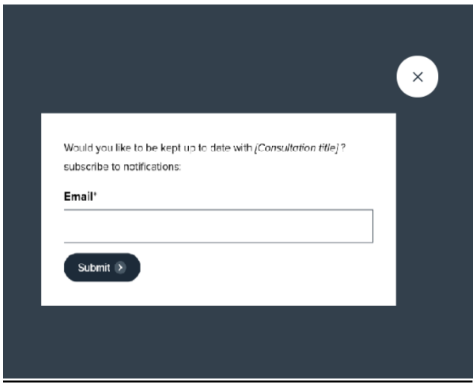
1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any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

1.10. Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

1.11. You can track the progress of a consultation from 'upcoming' to 'decision' status using the 'notify me' function on a consultation page when published on our website. [Ofgem.gov.uk/consultations.](Ofgem.gov.uk/consultations)





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Upcoming	►	Open	►	Closed (awaiting decision)	►	Closed (with decision)

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2. Why we are proposing changes to the regulatory framework

Section summary

We set out the background for why we are considering changes to support the accelerated delivery of onshore electricity network infrastructure and the potential consumer benefits of the proposed changes.

Background

2.1. In April 2022, the Government's ESS set out ambitious targets for low carbon generation to accelerate the shift away from fossil fuels to promote energy security, while meeting NZ targets.[4] This included the connection of up to 50GW of offshore wind capacity by 2030, an increase from the previous 40GW target. The ESS stressed the importance of the ET network in this transition and committed to reduce current timelines for delivering strategic onshore ET projects.

2.2. In August 2022, BEIS and Ofgem published the joint Electricity Networks Strategic Framework (ENSF) building on the ESS commitments.[5] In the ESNF we said that we would consult on whether there are clear consumer benefits from introducing a package of changes to speed up the regulatory approval framework for strategic onshore ET projects, while holding network companies to account for timely and efficient delivery. This consultation fulfils that commitment made in the ENSF.

The challenge – working together to ensure the network has the capacity for 50GW of offshore wind by 2030

2.3. The current onshore transmission network does not have the capacity to accommodate the substantial growth in renewable electricity generation on the grid to meet Government ambitions without significant upgrades. We asked the Electricity System Operator (ESO)[6] to

[4] British energy security strategy - GOV.UK (www.gov.uk)
[5] https://www.gov.uk/government/publications/electricity-networks-strategic-framework
[6] Currently the electricity system is operated by the National Grid ESO (NGESO) . The ET Network Planning Review (ETNPR) details the intention to replace NGESO with an independent Future System Operator (FSO). For the purposes of this consultation we will use the term 'ESO' to refer to both the current NGESO and future FSO.

identify the network upgrades needed to meet the Government's 2030 ambitions in its Holistic Network Design (HND). The ESO published its findings in July 2022.[7]

2.4. Alongside the HND, the ESO published the 2021/22 Network Options Assessment Refresh (NOA Refresh). This report identifies the ESO view of the required onshore investments needed to accommodate the HND design in 2030 and additional investments beyond this. In the NOA refresh the ESO has identified the onshore transmission projects that are required to be delivered by the three electricity TO licensees (Chapter 3 provides further information on these projects).[8] These projects range in size from relatively small projects expected to cost under £1m to large projects that are expected to cost over £2bn. The NOA Refresh also identifies approximately £6bn of investment after 2030 that is not related to the meeting of the 2030 target. As explained in Chapter 3, this investment falls outside the focus of this consultation.

2.5. The NOA Refresh identifies 78 onshore transmission network upgrade projects (worth £21bn) as required for Security and Quality of Supply Standard (SQSS)[9] compliance to connect the offshore generation to the network by 2030 and have a current NOA 'proceed' signal and 'optimal' date ahead of 2030. Of these projects, 26 projects worth £19.8bn are high value strategic projects (i.e. estimated cost of £100m or more). Our consultation focuses on these 26 strategic projects.

2.6. Delivering the levels of investment identified by the ESO as being required by 2030 represents a significant and unprecedented challenge for Great Britain. The time taken for onshore ET projects, which involve building new onshore circuits, to be delivered from their initial design, through to project completion, is currently around 11 to 13 years; half of this period is taken up by the requirements of the consenting these projects while the latter 4-5 years will be the construction period based on the length of the circuit (see later in this chapter for further information).

2.7. There are significant consequences if the required onshore transmission upgrades are not delivered by 2030. Insufficient capacity in the onshore transmission network could mean

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[7] This publication included both the HND and a Network Options Assessment (NOA) update. The HND identifies the offshore transmission required to connect Leasing Round 4 and ScotWind projects to the grid by 2030. The NOA update will identify the wider onshore reinforcements required to facilitate these connections. Together they form a blueprint for the required upgrades to the transmission network.
[8] The NOA Refresh identifies 94 projects required for the 2030 target worth £21.7bn in total, but some of these projects have been assigned a 'hold' signal.
[9] [Security and Quality of Supply Standard (SQSS) | National Grid ESO]

that some of the new renewable generation expected to be connected in 2030 will not be able to do so in a full and safe manner, putting at risk the ambitions set out in the ESS.[10] In addition, even if some generation can be safely connected to the onshore transmission network, there may be boundary transfer capability constraints elsewhere on the system which means that the electricity cannot be safely transmitted to where it is needed. This could lead to a substantial increase in constraint costs being paid to generators and passed on to consumers' energy bills. Therefore there is strong consumer interest in ensuring the necessary transmission upgrades are delivered on time.

2.8. Information previously provided by the TOs to the ESO for the purposes of the NOA indicate that some of these projects (i.e. 16 projects worth £9.2bn) are currently expected to be delivered in or before 2030 anyway. As far as these projects are concerned, the task is to deliver them in line with current TO plans and avoid any delays. The remaining 10 projects (with a combined cost of £10.6bn) are currently expected to be delivered after 2030, which would be too late. The task for these projects is to expedite the process and bring forward delivery dates to 2030.

2.9. Delivering all projects identified by the ESO as required by 2030 will require the collective efforts of the TOs and supply chain, Ofgem, and Government, with all the respective parties having a critical role to play.

2.10. Given the level of investment needed in such a short period of time, it is likely that the TOs will need to develop ambitious and accelerated delivery plans so that delays are avoided and delivery is expedited. This requires a step change to the way large onshore transmission projects have been delivered in the past, and may involve alternative approaches to project planning, consenting, procurement and contracting, project management and risk management.

2.11. The TOs have told us that delivering these projects by 2030 will require changes to the current RIIO-ET2 regulatory approval and funding mechanism to make it more agile, responsive and flexible. Through this consultation, we are proposing to make changes to it which, if implemented, will support the TOs' efforts in meeting the Government's 2030 ambitions. As set out in the ESS, we are also proposing to exempt certain strategic projects from the introduction of onshore network competition. Across our proposals we intend to

[10] The SQSS sets out the criteria and methodology for planning and operating the electricity transmission system. These standards ensure that offshore generation is safely connected to the network.

strike an appropriate balance of risk between consumers and TOs. This includes measures intended to protect consumers from unnecessary or excessive costs.

2.12. The TOs have told us that the current planning and consenting regimes in England, Wales and Scotland, represent a significant barrier to expedited delivery of large infrastructure projects. Notwithstanding any changes that the TOs and Ofgem may make to their respective processes, reforms to planning and consenting regimes across Great Britain will be critical to the timely delivery of the necessary upgrades. In the ENSF, the Government has set out a series of actions to support this. Actions include reviewing the energy National Policy Statement[11] to support infrastructure delivery at rapid pace, as well as reviewing the consenting process - with the potential of fast-track priority for offshore wind and related transmission infrastructure.

2.13. We intend to work jointly with the TOs and Government to agree the practical steps that each side will take to ensure that the Government's 2030 ambitions are met.

What are the potential benefits and risks to consumers?

2.14. Whether or not the Government's ambitious targets for growth in renewable electricity generation by 2030 are met is not within our control. However, the ESO's HND and NOA Refresh update are clear that this growth in renewable generation cannot be accommodated without significant upgrades to the onshore transmission network by 2030.

2.15. Our analysis of data provided by the ESO and the TOs suggests that there is significant consumer value in accelerating the delivery of onshore transmission infrastructure so that it is delivered by 2030. Our current estimate is that the quantifiable consumer benefit of accelerated delivery is in the range of £1.7bn – £3.1bn relative to the counterfactual of 'business as usual'. This estimate of savings focuses on the savings to consumers in avoided constraint costs.

2.16. There are other non-quantified benefits to consumers from meeting the 2030 renewable generation targets. This includes contributing to the UK's NZ targets, security of supply and resilience. As detailed in the Government's ESS, bringing large quantities of renewable energy supply on to the GB electricity system allows the UK to accelerate its

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[11] Revised (Draft) National Policy Statement for Energy - Business, Energy and Industrial Strategy Committee (parliament.uk)

transition away from fossil fuel generation leading to significant reductions in carbon emissions. It helps reduce the UK's reliance on imported natural gas by reducing the demand for gas used in electricity generation. Moreover, BEIS' report on Electricity Generation Costs (2020) found that, over the lifetime of a generation asset, the cost of wind generation is considerably cheaper than fossil-fuel alternatives.[12]

2.17. We are mindful that any changes to our regulatory approval and funding mechanisms to facilitate expedited delivery by the TOs could bring increased risk for consumers. These potential risks include:

- Risks that consumers are exposed to excessive levels of additional costs as a result of regulatory funding decisions being made at an earlier stage of the project timetable when project drivers, scope, design and costs are less certain.

- The risk that consumers are exposed to stranded costs if investments made by TOs at an early stage of the process are no longer needed due to changes in external circumstances or if planning permission is not secured.

- Risk that consumers are exposed to inefficient and excessive levels of additional cost owing to expedited regulatory scrutiny of projects.

- Additional costs to consumers reflecting the saving that could have been achieved through the application of competition (if projects exempt from competition were to have competition applied to them instead).

2.18. Our initial estimate of the potential additional cost to consumers as a result of these risks is around £1.1-1.65bn.

2.19. Chapters 3 to 5 set out our estimates of the potential overall consumer impact based on our best assumptions around the potential costs and benefits of changing the regulatory framework. Chapter 6 of this consultation then brings these together into a single cost benefit analysis (CBA) section detailing our overall view of the net costs and benefits.

[12] https://www.gov.uk/government/publications/beis-electricity-generation-costs-2020

2.20. Overall, our analysis indicates that, under certain input assumptions, the net benefit of our proposals could be between £0.05-£2bn, compared to the counterfactual. We have also considered a range of sensitivities based on a variety of alternative plausible assumptions (Appendix 1).

Key dependencies

2.21. While our initial quantitative analysis suggests that there may be clear benefits to consumers from making changes to the regulatory framework to support accelerated delivery of onshore electricity projects, the realisation of these benefits is contingent on factors outside of our direct control. In particular, the potential benefits could be materially reduced if:

- The TOs do not deliver the necessary transmission network upgrades by the optimal[13] dates set out in the ESO's NOA Refresh.

- Government targets for renewable generation (particularly offshore wind generation) are not met, and therefore the anticipated need for delivering transmission network upgrades in an expedited manner does not materialise.

- The planned changes to the planning regime in England and Wales, and Scotland, are not made.

2.22. We intend to update our analysis to take account of any new information collated over the consultation period. This includes information on the potential benefits of accelerated delivery for individual projects that we have asked the TOs and the ESO to provide. For the avoidance of doubt, we will only apply the accelerated delivery framework (including competition exemptions) to projects where we have clear evidence of net consumer benefits.

2.23. The package of changes that we are proposing is designed to be flexible, so that any changes to the external environment can be swiftly reflected in the TOs' delivery plans. We are proposing that the TOs have new licence obligations imposed on them to actively monitor the need, scope and design of the transmission upgrades needed, and our regulatory funding

[13] The use of the word 'optimal' when referring to project delivery dates in this document can refer to (i) the date at which delivering the project would bring the greatest economic benefit to consumers, (ii) the date required to meet government targets to connect renewable generation, and (ii) the date, which if exceeded, would cause compliance issues on the network.

framework includes measures that can adjust funding quickly where needed. However, we do not expect this to remove all risk of stranded assets or wasted expenditure.

2.24. Given the scale of investment needed and the risks to consumers, we will need clear and binding commitments from the TOs that these projects will be delivered by their required dates before we make a decision to change the regulatory framework as proposed in this document. We intend to hold the TOs to account for meeting these commitments with strong financial incentives and licence obligations. Without such commitments and the means for us to hold the TOs to account, some key assumptions that underpin our analysis of costs and benefits could be invalidated, potentially undermining the case for change.

2.25. We are also engaging with Government to track progress in reforms to the planning and consenting regimes across GB. We will update our view of the potential risk to consumers and take account of any changes in reaching a final decision on changes to the regulatory framework.

Current regulatory framework (LOTI)

2.26. The current regulatory funding arrangements for large (i.e. >£100m) onshore transmission projects are covered by the LOTI process. This process was set up as part of the RIIO-2 price control package, which came into effect on 1 April 2021. The LOTI process was itself adapted from the earlier Strategic Wider Works (SWW) mechanism, which was in place during the previous price control period (RIIO-1). The LOTI process (and the SWW process) was designed to ensure that the TOs are adequately funded to deliver large strategic onshore transmission projects, with sufficient safeguards to ensure that consumers are protected from unnecessary or inefficient costs, particularly ahead of final confirmation that a project is needed. This process comprises a number of stage gates designed to fit within the TOs' current approaches to delivering large transmission projects.

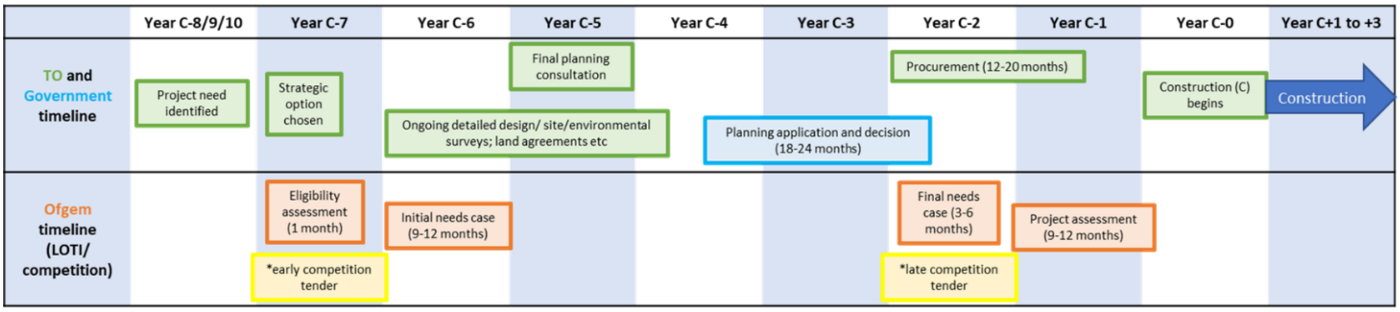
2.27. From 2024 (at the earliest), we also expect that some strategic onshore transmission projects could be delivered via third parties following a competitive tender process that we have been developing with the ESO.[14] This will enable us to open up the design and build (early competition[15]) or build only (late competition) to third parties. If a proposed ET project

[14] This is contingent upon the requisite legislation being in place by 2024.
[15] To note, under an early competition model, projects would not be assessed under the LOTI framework.

meets certain criteria, it could move into the separate competition process for funding (see Chapter 4 for further information).

2.28. Figure 1 below illustrates the various stages of the LOTI process and the respective responsibilities of Government, Ofgem and the TOs.

Figure 1: Indicative process for strategic onshore ET projects



*This is contingent upon the requisite legislation being in place

Issues with the LOTI framework and accelerating delivery

2.29. While we do not consider that the current LOTI process causes delays to transmission projects, we acknowledge that it may be harder for the TOs to expedite their delivery without some changes being made to the current process.

2.30. Table 1 below summarises some of the feedback we have heard from the TOs on aspects of our regulatory framework that may inhibit the accelerated delivery of transmission projects. We have considered these points fully in forming our minded-to consultation position.

Table 1: Perceived regulatory barriers to accelerated delivery

Feature of LOTI framework	Why is it perceived to be a barrier by the TOs?	Further information
The prospect of onshore transmission competition	Uncertainty about whether a project would be delivered by the TO or by a competitively appointed TO could delay procurement and contracting.	**Chapter 4**
Lack of early certainty that the project is needed	Under the current LOTI framework, we provide final confirmation of project need at the Final Needs Case	**Chapter 5**

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	(FNC) stage of the process. This is seen as a barrier to early engagement with contractors.	
TOs can only apply for approval of full project allowances after planning permission is secured	Certain costs incurred by the TOs before our regulatory approval are at risk of being unrecoverable if planning approval is not subsequently granted. This discourages the TOs from entering into binding commitments for expenditure early, even if doing so might allow earlier project completion.	**Chapter 5**
Multiple regulatory 'gateways' before final funding approval	Regulatory 'gateways' of Initial and Final Needs Cases and Project Assessment are seen as a resource burden, source of uncertainty and add to project timelines.	**Chapter 5**
Does not encourage innovative or non-standard contracting strategies	Our view that TOs must submit cost evidence based on actual tenders is seen as a barrier to contracting models that do not involve tendering of discrete projects.	**Chapter 5**
Uncertainty about the financial consequences of failure to deliver projects on time	Under the LOTI process, we have put in place a Large Project Delivery (LPD) mechanism, which includes a Late Delivery Charge (LDC) that applies if projects are delayed. Ofgem will decide on the size of the LDC at the project assessment stage of the approval process. This creates uncertainty about the size of financial exposure and makes it difficult for TOs to efficiently manage the risk through their supplier strategies.	**Chapter 8**

The proposed accelerated delivery framework

2.31. Given our current view of the potential benefits to consumers from accelerating the delivery of key onshore transmission projects, and concerns expressed to us about the limitations posed by the current regulatory framework, we believe that there is a good case for making changes to the regulatory framework for strategic onshore transmission projects. This consultation sets out our proposals for a new accelerated delivery framework.

2.32. The changes that we are proposing to make as part of the new accelerated delivery framework can be broadly categorised into:

- Changes that provide earlier certainty to TOs on project and funding approvals.

- Targeted exemption from onshore competition for projects where there is a clear benefit from that exemption.
- Measures to protect consumers from excessive risk.

2.33. We propose to implement any change to our approval process in three stages:

- **Stage 1 – Creating the new regulatory framework** (the focus of this consultation)**:** Develop, assess and having considered consultation responses decide whether to implement the necessary changes to the regulatory funding and approval framework to support accelerated ET investment.

- **Stage 2 – Approving the strategic need for qualifying projects:** Review initial and updated project delivery plans from the TOs on the specific projects that meet the criteria for inclusion within our proposed accelerated delivery framework and decide whether to approve the strategic need for those projects and exempt them from competition. We do not intend to approve specific solutions, design choices or costs at this stage. We intend to publish an initial list of projects that clearly qualify for strategic needs case approval and competition exemption by the end of 2022. We intend to keep this list under review, and if appropriate, add new projects to the list at later dates

- **Stage 3 – Approval of funding for qualifying projects**: Review and approval of project design, scope and funding requests from TOs in line with their project delivery timetables for individual projects. We set out a number of different approaches for how this stage could work in Chapter 9.

2.34. Further information on our next steps is also set out in Chapter 9.

3. What strategic onshore ET projects are in scope?

Section summary

We set out the strategic onshore transmission projects that we think should be in scope of any proposed regulatory process changes that we may make following consultation, in order to support the Government's 2030 ambitions.

Questions:

Question 1: Do you agree with our criteria for identifying projects in scope for the application of the proposed accelerated delivery framework?

Question 2: Are the 26 projects identified the correct ones to initially focus on?

What are strategic onshore ET projects?

3.1. We use the term 'strategic onshore ET projects' to refer to projects that are identified by the ESO in its NOA Refresh as being needed by 2030 to connect the 50GW of offshore generation that are required to meet the Government's 2030 NZ ambitions (and is modelled in the HND). The NOA Refresh includes both large projects (>£100m) that could be funded through the current LOTI framework, as well as smaller (sub-£100m) projects that could be funded through the current medium-sized investment project (MSIP) framework.[16] Our current view is that onshore ET projects identified in the NOA Refresh that are not needed to meet the Government's 2030 ambitions should not be considered strategic projects for the purposes of this consultation.

3.2. There are several analytical reports currently produced by the ESO covering how the electricity grid (both onshore and offshore) may evolve to meet the Government's 2030 and ultimately 2050 NZ ambitions. The recently updated HND and, with it, the NOA Refresh are currently our central source of information for identifying strategic onshore ET projects.

Table 2: Summary of ET infrastructure strategies

	HND	NOA Refresh	CSNP
Produced by	ESO	ESO	Future System Operator (FSO)*

[16] RIIO-2 Final Determinations Electricity Transmission System Annex (REVISED) (ofgem.gov.uk) Chapter 4

OFFICIAL-InternalOnly

Primary scope	Offshore	Onshore	Offshore/Onshore + wider energy system e.g. gas infrastructure
Investment Horizon Focus	2030	2030	2050
* The independent FSO is expected to take a whole energy system approach when operating, planning and developing the network, and is expected to be publicly owned. If the methodology underpinning the enduring CSNP arrangements is finalised prior to establishment of a FSO, then the ESO may produce it before moving to the FSO.			

3.3. Over the next two years, network planning is expected to evolve iteratively into a single Centralised Strategic Network Plan (CSNP) for the ET network following an updated HND2 in 2023. Updated network planning approaches and recommendations will inform decision-makers on the development of the wider energy system, encompassing 2050 targets for carbon capture, utilisation and storage (CCUS), hydrogen and gas infrastructure alongside electricity.

3.4. Our current view is that our proposed accelerated delivery framework only applies to a subset of strategic onshore ET projects that meet certain qualifying criteria, as set out below. We propose that all other onshore ET projects will continue to be funded via existing RIIO-ET2 mechanisms.

Projects included within the accelerated delivery framework

3.5. We propose that the accelerated delivery framework applies to strategic onshore transmission projects that meet the following criteria:

- Meets the criteria set out in the licence for submission under the RIIO-2 LOTI re-opener process[17];
- Needs to be operational by 2030 to meet the Government's ambition to connect 50GW of offshore wind generation; and
- There is clear evidence that the expected benefits of applying the accelerated delivery framework to the project exceeds the expected consumer detriment.

[17] Large Onshore Transmission Investments (LOTI) Re-opener Guidance | Ofgem

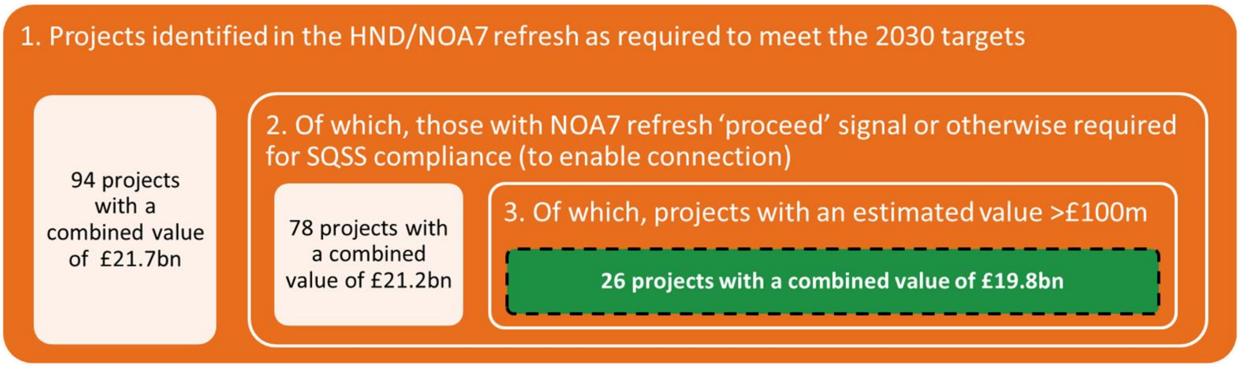
3.6. We will retain an open mind in considering whether additional projects should be considered strategic onshore ET projects, and potentially considered for inclusion within the accelerated delivery framework where they meet the qualifying criteria. This includes onshore ET projects that may be identified in a future iteration of the NOA as being required to meet the Government's 2030 ambitions.[18]

Specific strategic onshore ET projects potentially in scope

3.7. The analysis in this consultation uses projects that we currently believe to meet the criteria for inclusion within the accelerated delivery framework based on the NOA Refresh.[19] The NOA has identified 94 projects (worth £21.7bn) that are required to be delivered by 2030 to meet the Government's offshore generation targets.

3.8. Of these projects, 78 projects (worth £21.2bn) have either been identified as required for SQSS compliance to connect the offshore generation to the network by 2030 or have been deemed 'optimal' for delivery prior to 2030 by the NOA. Our assessment of the NOA Refresh, using the criteria in paragraph 3.5, has provisionally identified 26 strategic onshore ET projects, with costs of £19.8bn, which we believe qualify for our proposed accelerated delivery framework (see Figure 2 below).

Figure 2: Provisional view of projects qualifying for the accelerated delivery framework



[18] Since we undertook the analysis set out in this document, we have been made aware by SSE of a project (1.8GW HVDC link Arnish-Beauly, Western Isles) that was not included in the NOA, but which has been identified in the HND as required to meet 2030 ambitions. We will continue to engage with the TOs and will consider including this, and any other relevant projects, within scope of the accelerated delivery framework providing the projects meet the criteria set out in paragraph 3.5 above.
[19] https://www.nationalgrideso.com/document/262981/download

3.9. For the purposes of our analysis, we have then categorised these 26 projects into those that (i) have a current earliest in service date (EISD) of 2030 or earlier, and (ii) have a current EISD beyond 2030 that the ESO considers will have to be accelerated in order to deliver the projects in line with Government's 2030 objectives (see Table 3 for details).

Table 3: Strategic onshore ET projects needed

	Total	Current EISD	
		Before 2030	After 2030
Number of projects	26	16	10
Indicative costs	£19.8bn	£9.2bn	£10.6bn
Source: NOA Refresh, July 2022			

Ofgem current view

3.10. The scope of this consultation and associated analysis is limited to projects in Table 3 that are required by the NOA to be operational by 2030, or earlier, to support the Government's ambition of 50GW offshore wind generation. We acknowledge that the projects required by 2030 may be subject to change following future NOA publications, publication of the CSNP, or an updated HND following a review in 2023. Therefore, we intend to keep a 'live list' of projects that the accelerated delivery framework may be applied to, provided they meet the qualifying criteria.

3.11. As part of the HND publication, the ESO published a "Comprehensive List of Onshore and Offshore Network"[20]. Whilst the majority of the onshore projects that have a value greater than £100m listed in this publication have been included in our provisional list of qualifying projects, we recognise that this published ESO list includes onshore projects that have not been included in the NOA Refresh, and therefore are not included in our provisional list. We are open to considering such projects for inclusion within the accelerated delivery framework where TOs or other stakeholders can demonstrate that they meet the criteria set out in paragraph 3.5. We recognise that the need for substantial ET investment does not end at 2030 and that considerable investment across the energy system will be needed to support the 2050 NZ ambitions. Projects that are not required to be operational before 2030 will remain subject to the existing RIIO-ET2 mechanisms to support any initial work. In addition,

[20] Appendices 1 Comprehensive List of Onshore and Offshore Network.xlsx (live.com)

the work to establish and set a future price control (from 1 April 2026) when RIIO-2 ends will consider what regulatory processes are appropriate going forward.

4. The role of competition and exempting projects

Section summary

In the coming years, we expect to be able to competitively tender the delivery of some onshore ET network infrastructure. In the context of accelerating the speed of network delivery, we consider whether there is a case for exempting some projects from competition.

Questions:

Question 3: Do you agree that it is in the consumer interest to consider exempting projects from competition?

Question 4: Which of our options for exempting projects from competition do you favour?

Question 5: Do you agree that without upfront certainty that they will be delivering enough of the investment needed for 2030, TOs will face significant difficulties mobilising the supply chain to deliver the works on time?

Introduction

4.1. Competition in onshore ET infrastructure is a key part of the RIIO-ET2 framework. In our RIIO-ET2 Final Determinations we confirmed our intention to pursue competition for certain ET infrastructure projects.[21] Our experience of using competition in the operation of offshore transmission infrastructure (OFTO) suggests consumers are also likely to benefit from introducing competition into delivery of onshore transmission infrastructure.

4.2. Changes to primary legislation to enable the competitive tendering to third parties for certain ET infrastructure projects were recently introduced by Government as part of its Energy Security Bill.[22] This legislation, and associated regulatory arrangements to allow for onshore competitive tenders to be run, is anticipated to be in place by 2024 at the earliest.

4.3. The TOs have stated the view that the introduction of competition could lengthen the existing timelines for getting new onshore ET projects online due to (i) the time taken to run a competitive tender and (ii) not having confidence to procure early and invest in early

[21] RIIO-2 Final Determinations - Core Document (REVISED) (ofgem.gov.uk) Chapter 9
[22] Energy Security Bill - GOV.UK (www.gov.uk)

construction works. Specifically, TOs have emphasised that without upfront certainty that they will be delivering enough of the investment needed for 2030 they will face significant difficulties mobilising the supply chain to deliver the works on time. They consider that this is due to a significant increase in global demand for HVDC cable and other transmission assets and components. Without being able to bulk procure for projects in Britain well ahead of construction, TOs are concerned that the supply chains will prioritise their focus elsewhere in the world, which could lead to delays to the delivery of investment in Britain.

4.4. We do not consider that there is any evidence to suggest that third-party delivery of strategic projects through onshore competition would take any longer to deliver than TO delivery. However, we do recognise that there may well be projects for which, in order to meet the Government's 2030 ambitions, TOs will need to start engaging with the supply chain and progress pre-construction and construction work before the supporting legislation and regulatory arrangements are in place to allow for an onshore competition to be run. In the case of these projects, delaying progress until the legislation is finalised could well lead to delays.

4.5. Additionally, if TOs are unsure on whether such projects will or will not be subject to competition in future, this could restrict their ability to engage with the supply chain as early as they might otherwise be able to. This could also lead to delays and constraint costs that are likely to be greater than the level of consumer saving that applying competition could achieve.

4.6. For this reason, Government (as part of the ESS and ESNF)[23] has asked us to consider exempting from competition all (or some) of the strategic onshore ET projects identified as critical to meet the Government's 2030 ambitions, where this is in the interest of consumers.

4.7. Within this Chapter we set out for which projects we consider there is a case for providing an exemption from competition as part of the proposed accelerated delivery framework. The analysis in Chapter 6 considers which projects would be likely to be subject to competition under the counterfactual of the existing LOTI arrangements, and the estimated consumer benefits.

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[23] The Government has also published a related response to their 2021 consultation on competition in onshore electricity networks (https://www.gov.uk/government/consultations/competition-in-onshore-electricity-networks). It notes that Ofgem will publish a consultation that includes the strategic exemption of projects from competition where in the interest of consumers, which is what this document represents.

Is there a case for competition exemption?

4.8. To understand whether it is in the consumers' interests to exempt strategic onshore ET projects from competition we have compared the benefits of accelerated delivery in the form of reduced constraint costs, to our estimate of the cost savings late competition could have brought if the projects had been competitively tendered. This analysis demonstrates that there is a case for considering the exemption of strategic projects from competition where this is combined with the changes to the regulatory approval process identified in Chapter 5. The details of this analysis are set out in Chapter 6.

4.9. Further detail about project description and estimated costs can be found in table 12 in Appendix 2.

4.10. Our review of the 26 projects identified that there are five projects, with a total cost of £0.7bn, that the ESO does not consider would be likely to meet the criteria for competition (Table 4).[24] Whilst the ultimate decision lies with us, in the interest of providing certainty to TOs, our minded-to position is that these five projects will not be subject to competition.

Table 4: Projects not considered likely to meet the criteria for competition

Projects the ESO does not consider likely to meet the criteria for competition					Combined value (£bn)
DWNO[25]	EDEU	HWUP	PTNO	TKRE	**0.7**

4.11. There are a further five projects, worth £4.1bn that we think need to be progressed through engagement with the supply chain ahead of when the legislative and regulatory changes will allow for a competition to be run for the projects (Table 5). Whilst these projects are eligible for competition, our current assessment suggests that delaying supply chain engagement until the competition model arrangements are finalised would lead to a significant increase in constraint costs, which would more than offset any likely savings derived through the application of competition to these projects. These include the Eastern HVDC links that we have already confirmed will not be subject to competition.[26]

[24] The NOA assesses projects against the criteria for late competition: New, Separable, and high-value (>£100m).
[25] The four-letter acronyms represent NOA project codes. Further details of these projects are in Appendix 2.
[26] Eastern HVDC – Conditional Decision on the projects' Final Needs Case | Ofgem

Table 5: Projects unlikely to be delivered through competition without delay risk

Projects that we consider are unlikely to be delivered through competition without the risk of delays					Combined value (£bn)
BTNO	E2DC	E4D3	OPN2	PTC1	**4.1**

4.12. In terms of the ten projects that the ESO has identified as needing to be delivered earlier than their EISDs and by 2030 (Table 6), our minded-to view is that since the 2030 offshore wind generation targets cannot be fully met without these projects being brought forward these projects are of the highest priority in terms of unlocking consumer benefits by accelerating delivery. As explained in paragraph 6.8 the delivery of these projects by 2030 is likely to deliver a benefit to consumers of at least £1.3bn.

4.13. As explained in paragraph 6.8, the ESO modelling looks at the overall benefit across these 10 projects rather than from each individual project. We consider it important to be able to identify the specific benefits associated with each of the ten projects to ensure that the benefit associated with any individual project is not low enough to question the benefit case for including them within the exempted projects. For this reason, under both policy options presented in this Chapter, our minded-to position to exempt these projects from competition is contingent on confirmation through additional system studies that each of these projects is likely to deliver benefits that offset the cost to consumers of foregoing expected benefits that would be achieved through competition. Along with the wider framework options considered within the consultation, and relevant changes to the planning process for such projects, this should give the ten projects the best chance of being delivered by 2030.

4.14. We will fully consider all consultation responses and look to further understand the delivery plans of the TOs for these projects under our proposed framework for accelerating regulatory approval, and the basis on which the original delivery dates from the TOs were initially set. This will allow us to refine our view on which of these projects, in the counterfactual of the existing LOTI regulatory approval process, could realistically be subject to competition. This will allow us to refine our analysis of the benefits of implementing the proposed accelerated delivery framework.

Table 5: Projects that need to be delivered before EISD and by 2030

Projects the ESO has identified as needing to be delivered before EISD and by 2030					Combined value (£bn)
BLN4	BPNC	CGNC	E4LF	EDN2	

GWNC	LRN4	PSNC	TGDC	TKUP	**10.6**

4.15. There are then six remaining projects, worth a total value of £4.3bn, to be delivered by 2030 (Table 7). Whilst five of these six projects received a 'proceed' signal in the previous NOA, three of the projects are listed as having not started yet. We consider that a more detailed review of the delivery plans from the TOs to understand the planning consent timings, when they will engage with the supply chain, and assumptions on which they are based is needed. We also consider that a better understanding of the relevant probability of delivery of the projects by their 2030 EISD is also needed before we can decide on whether it is appropriate to exempt these six projects from consideration for competition.

Table 6: Projects with 2030 EISDs

Projects the ESO does not consider likely to meet the criteria for competition						Combined value (£bn)
AENC	ATNC	BBNC	PSDC	SCD1	SLU4	**4.3**

Ofgem current view

4.16. We think there are two main options for exempting competition:

- **Option 1**: Exempt all 26 projects from consideration for competition, subject to the additional network studies referenced in paragraph 4.13.

- **Option 2**: Exempt 20 of the 26 projects from consideration for competition, subject to the additional network studies referenced in paragraph 4.13. Under this option only the six projects in table 7 are not exempted from consideration for competition.

4.17. Our minded-to position is Option 2. However, we note TO concerns that not exempting these projects from competition could maintain uncertainty around whether they will deliver the project meaning they will not be able to mobilise supply chains and invest in early construction works. We are potentially open to exempting all 26 projects included in the scope of this consultation from competition if the TOs can demonstrate doing so is in consumers' interests.

4.18. We are minded to exempt all projects with an EISD of 2029 or earlier from competition. We think this would be appropriate because there is unlikely to be time to both run a competitive tender and complete construction by the EISD.

4.19. For other projects with an EISD in 2030 we think the case for competition exemption is balanced and highly dependent on the potential benefits and costs associated with wider potential changes to our regulatory process (see Chapters 5 and 6) as well as progress of change to areas in Government's and TOs' control.

4.20. We will need clear evidence from the TOs on the benefits of exempting relevant projects from competition so we can demonstrate a clear positive benefit to consumers (further information on what we need is set out in Chapter 9, Next steps).

5. Changes to our assessment process that could support accelerated investment delivery

Section summary
This chapter considers the impact streamlining our current regulatory approval process, and providing earlier upfront certainty on funding, may have on project delivery timelines and consumer risk. We consider whether there is a justifiable case to change in support of accelerating network delivery.

Questions:
Question 6: Do you agree that it is in consumer interest to consider streamling our regulatory processes?
Question 7: Which of our options for streamling our regulatory processes do you favour?

Introduction

5.1. In addition to exempting projects from competition, there are other areas of our regulatory approvals process under the LOTI re-opener that we have identified could be changed to support accelerated delivery.

5.2. Under the current LOTI framework the TOs submit an initial needs case for Ofgem approval ahead of seeking planning consent, and then once full optioneering and detailed project design has been completed and planning application has been made, they submit a final needs case before Ofgem then undertakes a project assessment. Pre-construction funding is provided for projects identified in the NOA and full project funding is only allowed after planning permission has been secured and we have undertaken a full project assessment to determine efficient costs. The time from the submission of the initial needs case to the assessment of costs is around 5 years.[27]

5.3. We consider that the LOTI process could be streamlined by accepting the need for strategic projects without requirement for the TOs to submit an initial and final needs case, and by providing early certainty of project funding before the detailed project design is known

[27] The indicative large transmission investment process is detailed in Chapter 2 (Figure 2).

and planning permission has been secured. We estimate that this could reduce the time to deliver projects by 1 year relative to the LOTI regulatory arrangements.

5.4. TOs have highlighted to us that early certainty of project funding is one of the key factors that will enable them to deliver the required strategic onshore ET projects earlier to help meet the Government's 2030 ambitions. This is because it will give them confidence to mobilise supply chains and incur early construction costs without being exposed to these costs should projects not get planning permission.

5.5. As requested by the TOs, we are also clarifying our proposed position on the role of tendered costs in our cost assessment process.

5.6. While streamlining the regulatory approval process could support accelerated delivery, it also creates additional risk that may lead to significant additional costs for consumers. For the purposes of our analysis, we have looked to quantify two main risks:

- Risk that providing early funding certainty could lead to consumers funding abandoned costs on projects that fail to secure planning permission

- Risk that funding projects when project drivers, scope, design and costs are less certain exposes consumers to inefficient and excessive costs

Streamlining the regulatory approval process

Abandoned costs risk

5.7. It is infrequent that projects within the LOTI process are abandoned ahead of planning consent being granted, and the existing framework ensures that consumers are not exposed to this risk. However, streamlining the regulatory approval process may increase the risk to consumers relative to the current LOTI process because it would take away the requirement for the initial and final needs case stage gates. These gates allow projects to be scrutinised at key process junctures and for us to potentially halt project spending if the need, or scope, has changed. This ensures consumers are not exposed to any construction costs on projects that do not ultimately receive planning permission and are therefore not delivered. Our analysis incorporates the potential for earlier regulatory approval leading to this sort of cost abandonment increasing slightly. We think an assumption that one in fifteen of the accelerated investment projects are abandoned is relatively pessimistic given the strong needs case for the projects within the scope of this consultation (explained in Chapter 3) and the track record of LOTI projects receiving planning consent. We have also calculated the impact of one in ten projects being abandoned in order to set a suitable range for our analysis.

Table 7: Quantified risk of abandoned costs

Number of projects	Projects abandoned	Potential consumer detriment (£m)
26	1 in 15	-£66m (0.33% of total Capex)
26	1 in 10	-£99m (0.5% of total Capex)

5.8. Based on our most plausible assumptions for the impact of modifying the current process for projects within the scope of this consultation we consider that consumer detriment could be between £66 - £99m. However, this figure needs to be considered against the potential benefit of accelerating project delivery in terms of constraint cost savings (Chapter 6 contains further details of the methodology we used to estimate the potential consumer detriment and a CBA).

Exposure to excessive costs risk

5.9. Analysis from completed SWW[28] projects in RIIO-ET1 demonstrates that from the initial submitted project costs to the efficient allowance determined by Ofgem after a full and thorough project assessment, costs reduced on average by around 7.6% (see Table 12 in Chapter 6).

5.10. Providing early certainty on full project costs without going through our full LOTI process may therefore expose consumers to the risk that inefficient costs could be passed through, and would expose both consumers and TOs to risk should the cost of the final project design be materially different than initially forecast.

5.11. This can be mitigated somewhat by approving allowances in stages and only approving full allowances after a project assessment, consistent with the assessment under the LOTI

[28] The SWW framework was the mechanism used to fund large onshore transmission projects in RIIO-ET1 prior to being superseded by the LOTI framework in RIIO-ET2.

framework. Alternatively, allowances could be reviewed if there are material changes to the initial project scope.

Table 8: Quantified impact of exposure to excessive costs

Number of projects applied to[29]	Total capex value (£m)	Potential consumer detriment (£m)
17	11520	230 - 346

5.12. Table 9 shows that, under our current best assumptions for the impact of providing early certainty on funding, the cost to consumers could be around £346m across the portfolio of projects within the scope of this consultation (see Chapter 6 for further details on our modelling assumptions).

Ofgem current view

5.13. While we acknowledge that streamlining the regulatory approval process creates additional risk for consumers, our analysis suggests that the potential consumer detriment is likely to be outweighed by the potential benefits in terms of reduced constraint costs (see Chapter 6 for full CBA).

5.14. We also recognise that streamlining the regulatory approval process and reducing the time it currently takes under the LOTI framework, in particular by providing early certainty on funding, will likely be required in order to accelerate delivery of strategic projects in order to meet the Government's 2030 ambitions.

5.15. Therefore, we are open to changing the current regulatory process to facilitate delivery of the Government's 2030 ambitions. There are different approaches available to approving and funding projects that carry different levels of consumer risk. We intend to ensure that the greater the level of risk, the more robust consumer protection measures are in place (see Chapter 7 for more detail on our proposed consumer protection measures).

[29] We did not apply an adjustment on projects that we consider are eligible for competition (see Chapters 4 and 6 for more details).

5.16. We are consulting on a funding model toolkit with four potential approaches that would apply to all strategic projects that meet the qualifying criteria for inclusion within our accelerated delivery framework as set out in Chapter 3:

- **Approach 1**: Early acceptance of strategic project need on a programmatic basis for all qualifying projects (without endorsing particular design choices or costs). Acceptance of project need will provide an early signal for the TOs to proceed with pre-construction work for these projects.

- **Approach 2**: Approval of allowances for qualifying projects in stages; one stage for early construction funding in advance of any planning permission, and a second stage for a full project cost assessment after planning permission is granted. This would require engagement with the TOs to understand the cost profile of the strategic projects and what proportion of total project costs would be required at each stage. For the first stage, where it is in consumers' interests to do so, we think that this could be done for groups of projects to increase the speed in decision-making and minimise the regulatory burden. For the second stage, we anticipate that the full cost assessment would be consistent with the current project assessment phase of the LOTI process.

- **Approach 3**: Early (pre-planning) approval of full project costs for qualifying projects, subject to a review after planning permission if material changes in project scope or costs. We consider this approach to involve high risk to consumers due to the difficulty in accurately estimating efficient project costs at an early stage of the process, prior to a detailed engineering design being made and market engagement undertaken.

- **Approach 4**: Pass through of full project costs for qualifying projects, subject to a cap. While this approach is relatively straightforward, it involves high risk to consumers because of weak incentives to control costs and act efficiently compared to the other approaches.

5.17. Our minded-to position is a combination of Approach 1 and Approach 2. We consider that this combination would strike an acceptable balance between providing the TOs with sufficient confidence to accelerate project delivery and protecting consumers by building a full cost assessment into the overall process. While Approaches 3 and 4 would provide the TOs with the higher levels of early confidence on costs, we consider there to be significantly higher risk to consumers associated with these approaches, and were we to adopt either of these we would expect much stronger consumer protection measures to be put in place.

Non-tendered costs

5.18. The TOs have told us that (i) delivering the necessary projects to meet the 2030 targets may require innovative/non-standard tendering and delivery strategies, and (ii) this may affect their ability to submit tendered prices as evidence to support submissions for project allowances.

5.19. We consider that evidence from competitive tenders is a valuable source of information when setting efficient allowances. However, in cases where this information is not available, we may be open to considering alternative sources of evidence if that evidence is sufficiently robust (i.e. to support the setting of allowances).

5.20. We request that the TOs put forward proposals for the information they are able to provide. We then intend to review and issue targeted guidance on our expectations. We do not intend to be overly prescriptive – the onus would be on the TOs to provide necessary evidence to substantiate their cost submissions.

5.21. Depending on our level of confidence in the evidence provided, we may put in place appropriately calibrated consumer risk protection measures (see Chapter 7).

6. Cost Benefit Analysis

Section summary

We set out the methodology that we have followed to quantify the costs and benefits associated with (i) potential changes to our regulatory framework and (ii) competition exemption, to support accelerated investment in strategic onshore ET projects. Applying the methodology, we identify net benefits to consumers in progressing changes.

Questions:

Question 8: Do you agree with the costs and benefits methodology we have established?

Question 9: Do you agree with the conclusions of our cost and benefits analysis?

6.1. To determine whether the proposed package of changes included within this consultation would be beneficial to consumers, we have developed and applied a methodology to quantify both the potential benefits and costs from adjusting our regulatory approval process, and exempting projects from competition.

6.2. Several key considerations within our analysis, are subject to considerable uncertainty, and will remain so even after we consider any further evidence ahead of our final decision. For example, we will not know how much funding might be provided for projects that might then fail to get planning consent, nor the specific level of benefit that competition will be able to deliver. For this reason, we have included a number of sensitivities in Appendix 1 demonstrating the potential consumer impact across a range of plausible assumptions.

Methodology

Benefits of implementing the proposed accelerated delivery framework

6.3. As explained in paragraph 2.8 we have categorised the £19.8bn across the 26 projects that fall within the scope of this consultation into two key groups.

6.4. Firstly, there is £10.6bn of investment across 10 projects that the ESO has concluded need to be delivered earlier than previously planned to allow the required level of offshore wind generation to connect by 2030. Due to their EISDs, the delivery of these projects have only previously been modelled as falling within the 2031 - 2037 period. However, in light of the optimal design identified in the HND, these projects are now required to be delivered by 2030 to ensure GB meets the Government's 2030 offshore wind ambitions. If these projects are not delivered by 2030 not all of the anticipated offshore wind generation that is expected to connect by 2030 will be able to fully connect in a safe and compliant manner.

6.5. Secondly, there is £9.2bn of investment that relates to 16 projects that the ESO has also identified through the NOA Refresh as being needed to ensure GB meets its 2030 offshore wind targets and are already forecast to be delivered ahead of 2030.

6.6. We have approached the quantifying of the benefits of speeding up our regulatory approval process (including through applying exemptions to onshore competition) for the two categories separately. This is because the benefits of speeding up the approval process for the two categories of projects would differ significantly. For the purposes of our analysis, we have assumed that the implementation of our accelerated delivery framework would a) in the case of the first group of projects, allow the delivery dates to be brought forward to 2030, and b) in the case of the second group of projects, avoid any projects being delayed beyond the current EISDs.

Projects that need to have their delivery date brought forward to 2030

6.7. We have worked with the TOs and with the ESO to model the benefit of bringing these projects forward. Full detailed studies of each of the ten projects are required to fully quantify the benefit of bringing each project forward to 2030. This requires TOs to model what the network capability (i.e. increased capacity to transport electricity) would be over the ten-year period from 2030 - 2040 with these projects being delivered by 2030 compared to the originally expected dates between 2031 and 2037. The ESO would then use this data to model the future dispatch of generation, network flows across the network in each of these two scenarios. Given the time needed to carry this work out, it has not been possible to complete this analysis for use within this consultation.

6.8. However, the ESO has been able to model the collective short-term impact if the ten projects are delivered in 2031 rather than 2030. This analysis shows that there would be additional constraint costs of £1.3bn if these projects are delivered in 2031 rather than 2030. As this is a combined view across the projects, it is not feasible to identify the specific benefits driven by each individual project. The more detailed studies referenced above in paragraph 6.7 should help us to identify how this overall benefit of £1.3bn is distributed across the 10 projects. This is important to help us identify the specific projects that are likely to deliver the greatest value from accelerating delivery, whilst also ensuring that the benefit associated with other projects is not sufficiently limited as to question the benefit case for including them within this analysis.

6.9. We expect the TOs to work with ourselves and the ESO over the summer to complete the required network studies and analysis to allow us to confirm that each of these ten projects individually delivers sufficient consumer benefits to justify retaining them within the framework proposed within this consultation.

Projects that can already be delivered by or before 2030

6.10. Capturing the potential benefits accelerating the delivery of the second category of 16 projects is more challenging. These projects can be delivered before 2030 and have been identified as having an economically optimal delivery date in 2030 or earlier. Given the interaction between the projects within the NOA process[30], and the collaborative way that the projects address network needs to reduce constraints, multiple model iterations would be required to capture the notional individual benefit of the 16 projects being brought forward by any specific number of years.

6.11. Instead, we have focused on quantifying the benefit of these projects not being delivered late (i.e. beyond the EISD within the latest NOA Refresh publication in July 2022[31]), using the most recent delay regret cost information calculated by the ESO for the "Leading the Way" FES 2021 scenario which underpinned the January 2022 NOA report[32]. The delay regret cost for each project is the additional NPV (net present value) cost to consumers of delaying a project by one year compared to its EISD.

Quantifying the cost impact of delay

6.12. Some of the projects that have been identified in the recent July 2022 NOA Refresh were not included in the January 2022 NOA report, and as such do not have applicable delay regret costs. To address this, in our analysis we have applied the average delay regret value as a percentage of the total cost (calculated from the projects that have this data) and

[30] The latest NOA recognises that these projects are highly interrelated. The way that the projects interact to reduce constraints, makes isolating their individual benefits of accelerating delivery challenging to model
[31] July 2022 NOA Refresh publication: https://www.nationalgrideso.com/document/262981/download
[32] January 2022 NOA publication: https://www.nationalgrideso.com/document/233081/download

applied this to the 16 pre-2030 projects. We have calculated this from two different subsets of the projects.[33] The post-2030 projects have a separate calculation on constraint costs, as mentioned in paragraph 6.8.

6.13. Based on just the projects over £100m, this indicates that the average constraints associated with a 1-year delay is equivalent to 35% of the project's value. Using a wider data range that includes projects below £100m, this average percentage figure rises to 40%. Therefore, we have used 35%and 40% within our analysis to consider a range of constraint impacts from delays. Applying these values to the £9.2bn of investment across the 16 projects equates to a constraint cost impact of a one-year delay of £3.2bn - £3.7bn.

Quantifying the probability of delay

6.14. The EISDs for the second group of projects have been determined by the TOs based on the existing regulatory arrangements. Whilst we do not consider that our existing regulatory approval process has led to projects being delayed, we do however consider that speeding up this process could reduce the probability of delays occurring. The dates used in the ESO NOA analysis to determine the optimal list of ET investment projects is provided by the TOs as the EISDs. There is a reasonable level of judgement by the TOs around what these EISDs are, and whilst we expect them to put forward challenging dates that can be realistically delivered under the existing regime, we recognise that these dates are not guaranteed.

6.15. TOs have explained that typically these dates are provided on a P50 basis, meaning that there is a 50% chance that the dates are not met. This implies that under the current regulatory arrangements and planning process, half of the £9.2bn across the 16 projects in this category, £4.6bn, may not be delivered on time. Based on a scenario where a delay of one year is avoided across all projects, this would equate to a value of constraint savings approximately £1.6bn - £1.8bn. Without detailed assessment of each project's EISD and the methodology used to determine it, it is not feasible to determine an implied length of delay associated with a P50 estimate of the EISD. In the Table 10 below we have modelled the additional constraint cost impact of different assumed lengths of delay avoided up to a year.

[33] Both subsets looked only at projects with an EISD of 2030 or earlier, that were also required for the 2030 targets. The first subset included with an estimated Capex of >£100m. The second subset looked at projects of all Capex values.

Table 9: Estimated constraint cost impact of project delivery delay

	£4.6bn delayed by 12 months	£4.6bn delayed by 9 months	£4.6bn delayed by 6 months	£4.6bn delayed by 3 months
Delay regret value: 40%	**[£1.83bn]**	**[£1.37bn]** (9/12 pro-rata x [£1.83bn])	**[£0.9bn]** (6/12 pro-rata x [£1.83bn])	**[£0.45bn]** (3/12 pro-rata x [£1.83bn])
Delay regret value: 35%	**[£1.60bn]**	**[£1.20bn]** (9/12 pro-rata x [£1.60bn])	**[£0.80bn]** (6/12 x pro-rata [£1.60bn])	**[£0.40bn]** (3/12 pro-rata x [£1.60bn])

6.16. If the package of proposals included in this consultation and changes to the planning approval process provide the conditions for these projects to be delivered by the relevant EISD, we consider that a range of £0.4bn - £1.8bn represents a sensible benefit range to use in our analysis.

Indicative benefits of implementing the proposed accelerated delivery framework

6.17. Across the 26 projects that make up the two categories of projects captured in our analysis, we have identified an indicative potential consumer benefit of £1.7bn – £3.1bn from accelerating their delivery:

- £1.3bn from the 10 projects that need to be delivered earlier
- £0.4bn - £1.8bn from the remaining 16 projects that can already be delivered by 2030 or earlier

6.18. We recognise that this represents a wide range. As we further engage with the TOs to understand the specific details of project delivery plans we will make any relevant adjustments to our analysis accordingly ahead of our final decision.

6.19. Our analysis of the benefits of accelerating delivery of these projects is predicated on each project being delivered by 2030. Where TOs are unwilling or unable to agree to meeting these dates, we will ensure that we update the analysis accordingly ahead of our final decision to ensure that we only pursue these changes where we are sufficiently convinced that the benefits will be delivered.

Consumer detriment associated with exempting projects from competition

Potential savings from competition that will not be passed on to consumers

6.20. It is complex to quantify and monetise the efficiency and dynamic benefits of opening markets to competition, such as the scope of increased innovation and the introduction of new products, services and technologies. However, we are able to draw on significant quantitative assessments of recent developments on the GB network and comparable competitive regimes internationally. Our experience with the OFTO and interconnector Cap and Floor regimes shows that new entrants into the domestic transmission sector can bring new approaches to contracting and operational approaches and can drive significant savings for consumers. The growth of Independent Distribution Network Operators (IDNOs) and Independent Connection Providers (ICPs) in the distribution connection market shows that there is appetite for a range of parties to compete for work on the electricity network at a range of different values.

6.21. Effective early competitions can allow new and efficient solution types to solve issues arising from network constraints, including novel non-network solutions. This can result in lower costs and better value for consumers as bidders seek to create innovative and cost-saving solutions in order to submit competitive bids. It can also have wider benefits, as innovations adopted by one party may be relevant for the rest of the industry and could help drive down wider costs, leading to benefits for consumers.

6.22. Effective competition can also enable efficient delivery costs to be revealed. Within some set parameters of project scope and regulation, the pressure of competition encourages parties to reveal the true cost of constructing and operating a project. Parties competing to be appointed are likely to put forward costs that are closer to the efficiency frontier than an incumbent constructing and operating a particular asset under a traditional price control approach, where this overall competitive pressure (i.e. the pressure associated with seeking the overall right to deliver the project) is not at play. Cost discovery should also improve over successive competitions, as bidders gain experience, allowing them to price more competitively. Specifically, relative to late competition, we consider that early competition can improve bidders' understanding of how the planning process can impact on design and cost assumptions. This can lead to increasing efficiency in bids over time, which could reduce costs to consumers.

6.23. For the purposes of our analysis, we have attempted to quantify the potential benefits that can be delivered by competition by assuming that the net impact of competition on the delivery of projects will fall within the range of 10% - 15%. This has been informed by both our recent consideration of the benefits of introducing early competition[34], and the recent consideration of late competition applied to the delivery of Offshore works as part of our Pathways to 2030 workstream[35]. Given the progression to date of a lot of the projects that are needed for 2030, our analysis has focused on the likely benefits of late competition.

Which projects might be subject to competition under the existing regulatory arrangements

Projects that the ESO does not think meet the criteria for competition

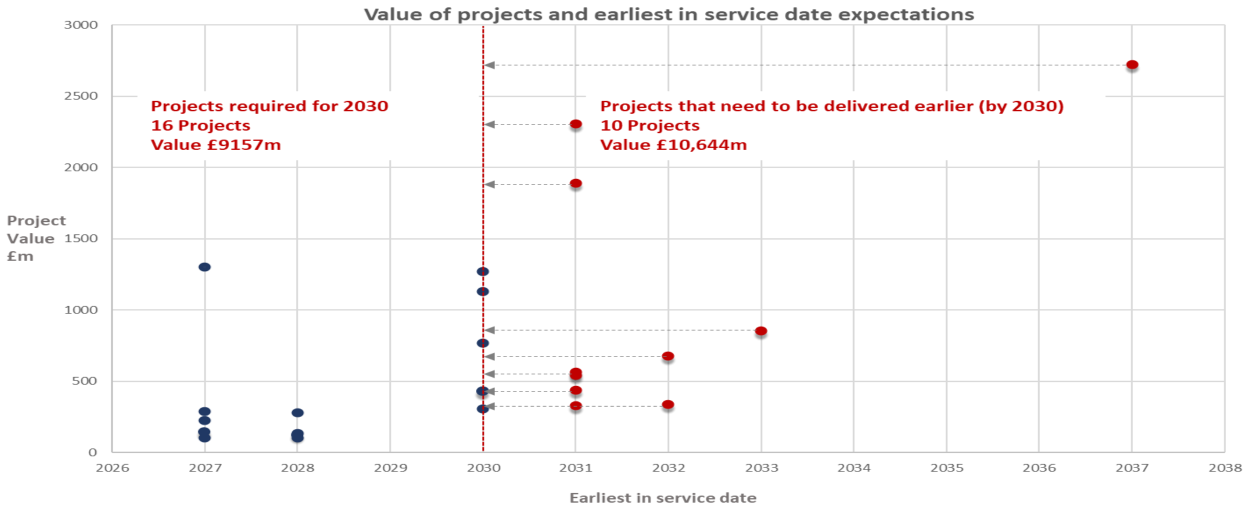
6.24. Figure 3 below identifies the project value and delivery date of each of the 26 projects in scope of this consultation. The ESO has indicated that it considers five of the projects, with a value of £0.7bn, do not meet the criteria for competition. Whilst we are responsible for the final decision on this consideration, for the purposes of this analysis we have assumed that these projects will not be eligible for delivery through competition under the existing regulatory arrangements that form the basis of the counterfactual for this analysis.

Projects that we think need to be delivered too soon for competition to be applied without causing project delays

6.25. Of the remaining 21 projects, our analysis considers that the five projects costing £4.1bn that have an optimum delivery date between 2027 and 2029 are unlikely to be able to be delivered through competition without causing a delay to their optimal delivery date. The enabling legislation for onshore competition was introduced to Parliament on 6 July 2022. Additional time will be needed to pass this primary legislation, associated secondary legislation and for policy arrangements to be finalised before a first competitive tender can be run. This first competitive tender is unlikely to be able to take place in time to allow these five projects, which the TOs have already started designing and developing, to be delivered through the competition regime.

[34] Decision on early competition in onshore electricity transmission networks | Ofgem
[35] The Impact Assessment contained without our recent 'Pathways to 2030' consultation contains analysis on the benefit of applying competition to the delivery of network infrastructure.

Figure 3: Project values and delivery dates



Projects that could have competition applied to them

6.26. There are six projects, with a total value of £4.3bn that have an optimal delivery date of 2030. Whilst each of these projects is needed to allow offshore generators to connect by 2030, we note that three of these projects, worth £2.8bn, have not yet started. As explained in paragraph 4.13, until we have concluded a more detailed assessment of the TO delivery plans for all of these projects as part of the next stage of this project, we do not consider it appropriate to decide yet on whether exemptions from consideration for competition should be given to any of the six projects.

6.27. However, for the purposes of our analysis on the potential consumer downside from competition not being considered for projects under the counterfactual existing arrangements, we think a reasonable modelling assumption is for that the three projects that haven't started to be subject to competition in the counterfactual. As these projects have not started, we consider that under the existing regulatory arrangements, it is reasonable to assume that engagement with the supply chain for constructing the projects is unlikely to start before the enabling legislation for onshore competition is finalised.

Projects that need to be delivered earlier

6.28. The 10 projects that need to be delivered earlier (by 2030) all meet the criteria for competition, so could be considered for delivery through late competition. However, as explained in paragraph 4.12, we consider that subject to confirmation through additional

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system studies that each of these projects is likely to deliver benefits that offset the expected benefits of them being subject to competition. We propose that, subject to the additional studies referenced in paragraph 4.13, these projects should be exempt from consideration for competition in the interest of ensuring earlier delivery.

6.29. If we ultimately decide not to implement the package of measures to speed up our regulatory approval process for these ten projects (including upfront exemptions from competition) it is likely that it would remain in the interests of consumers for these projects to be progressed by the TOs as soon as possible. In this context, we do not consider it appropriate for our analysis to assume that all these ten projects would be subject to competition. Instead, we have focused on the six projects that have not started, with a value of £5.5bn. Our analysis assumes these six projects would be subject to competition under the counterfactual.

Overall quantification

6.30. Overall, our analysis indicates that there is a credible saving of between £0.8bn and £1.2bn that we consider could be delivered through the competition on the projects in scope for this consultation. Our findings our summarised in Table 11 below. This is the estimate we have used to quantify the detriment to consumers of exempting all 26 projects from consideration for competition.

Table 10: Projects in scope for accelerated delivery

	Projects that do not meet the criteria	Projects that need to start too soon for competition	2030 EISD projects (6 total)		Projects that need to be delivered earlier (10 total)		Total
			Started	Not started	Started	Not started	
Number of projects	5	5	3	3	4	6	26
Value of projects	£0.7bn	£4.1bn	£1.5bn	£2.8bn	£5.2bn	£5.5bn	£19.8bn
Adjusted value included in analysis[36]	£0	£0	£0	£2.7bn	£0	£5.2bn	£8.3bn

[36] We have removed 5% of the project value to account for pre-construction spending, which is assumed to occur before competition is applied. We think 5% is appropriate based on analysis of annual expenditure profiles of projects within the NOA7 refresh

15% saving from competition	Not Included	Not Included	Not Included	£0.40bn	Not Included	£0.78bn	£1.18bn
12.5% saving from competition	Not Included	Not Included	Not Included	£0.34bn	Not Included	£0.65bn	£0.99bn
10% saving from competition	Not Included	Not Included	Not Included	£0.27bn	Not Included	£0.52bn	£0.79bn

Consumer detriment associated with potential changes to our regulatory approval and cost assessment processes

Changes to the regulatory assessment process

6.31. This consultation is looking into the potential to change our project assessment process. As such, we have started with a consideration of the effectiveness of our current process. We have measured this effectiveness by comparing original project expenditure requests to the final determined allowance. The dataset we have looked at is from our SWW programme, this closely resembles the LOTI process (through which we do not have enough completed projects to assess in this way). From the SWW data (albeit a limited sample size) we have calculated that our assessment process achieves an 7.6% average reduction in costs from initial request to final approved costs (see Table 12).

6.32. We do not anticipate a reduction in the robustness of our cost assessment in this new process, as ensuring a high level of consumer protection remains an essential priority. Under our preferred options within this consultation, we will still be carrying out a rigorous assessment of whether the presented costs are efficient. However, for the purposes of this quantitative analysis we have assumed that our cost assessment may save consumers 3.4-4.6%[37] of the total project value. This is due to the proposed earlier assessment of the efficiency of proposed TO costs which may mean more uncertainty in them. We consider that this is a suitably conservative estimate of the potential downside for consumers. We are also proposing additional consumer protection measures to reduce the risk to consumers (see Chapter 7).

[37] This is modelling a reduction of 2-3% of Capex savings when compared to the 7.6% achieved on average in SWW projects.

6.33. Across the 17 projects that our analysis assumes would not be subject to competition in the counterfactual, our analysis has identified a potential consumer detriment of £0.2bn - £0.3bn.

Table 11: Allowance change following complete Ofgem project assessment (PA)[38]

Project	Initial funding request (£m)	Final Allowance (£m)	PA cost reduction %
Caithness Moray	1059.6	958.3	9.6
Kintyre-Hunterson	182.1	169.2	7.1
Hinkley-Seabank	545.9	499.4	8.5
Shetland	482.5	470.8	2.4
Total	**2270**	**2097.7**	**7.6**

Additional consumer risk of incurring abandoned costs

6.34. Currently the LOTI process is designed to ensure that consumers are not exposed to abandoned costs on projects that may end up not getting planning consent. The early approval of funding is likely to increase the risk that this happens more regularly in the future. We have indicatively quantified this in our analysis.

6.35. Based on a starting assumption that 5% of the £19.8bn could in future be incurred ahead of planning consents across the 26 projects, this equates to almost £1bn of costs that are incurred by consumers at additional risk. However, evidence to date suggests that it is very rare that large projects funded through the LOTI process would be unable to secure planning consents. For the purposes of ensuring an overall robust analysis, we have made the analytical assumption that costs equivalent to one in every 10 and one in every 15 project is unable to secure planning consent. This indicates a range of potential consumer detriment of £0.07bn to £0.1bn.

Overall results of quantitative analysis

6.36. In Table 13 below we have summarised the overall results of our analysis. This summarises the quantification of the potential benefits that our proposed changes to the

38 This assessment was undertaken under the SWW framework in RIIO-ET1; figures are in the 09/10 price base.

regulatory approval process can deliver if supported by corresponding changes to the planning process. It compares this against our counterfactual in which certain projects within the scope of this consultation are delivered through competition and the remaining projects can be delivered at slightly lower cost due to a cost assessment process (broadly an unchanged LOTI process) that is better aligned with the timing of the TO's actual procurement process.

Table 12: Overall Results of Quantitative Analysis

	Best case (£bn)	Worst case (£bn)	Central view[39] (£bn)
Benefit of proposed accelerated delivery framework	3.1	1.7	2.1
Detriment from not applying competition	-0.8	-1.2	-1.0
Detriment from revised regulatory approach	-0.3	-0.45	-0.37
Total Net Benefit	**2.0**	**0.05**	**0.73**

6.37. We consider that the above results indicate that as long as the TOs are able to commit to meeting the required delivery dates there is a clear quantitative benefit from further developing these arrangements and consider the case for exemptions from competition through to our decision.

6.38. We intend to keep this assessment under consideration through the consultation period and will adjust it accordingly in light of any relevant evidence received by stakeholders in response to this consultation, and as our understanding of the relevant projects and the benefits case for applying competition to them becomes clearer through additional information provided by the TOs outside of this consultation.

6.39. It is important to note that within this analysis, we have sought to quantify benefits wherever possible through the ESO modelling for the NOA and HND processes, within which constraint costs are a key consideration. There are wider societal benefits of prioritising

[39] Our central view of the benefit of proposed accelerated delivery framework is calculated from the £1.3bn referenced in paragraph 0 and the midpoint of the £0.4bn and £1.8bn range (also referenced in paragraph 0). For the detriments, our central view reflects the mid-point between our potential best and worst case scenario

reaching the Government's 2030 offshore wind ambitions that are difficult to quantify. There are environmental benefits in terms of carbon reduction and the earlier strategic benefits of reducing reliance on gas in the fuel mix. These aspects are considered within the model that the ESO uses to calculate constraint impacts of delayed delivery, but not explicitly calculated as a benefit. We will look to incorporate as many aspects of these benefits as appropriate as we further develop our analysis ahead of our decision.

7. Potential measures to protect consumers

Section summary

This section provides details of our proposed measures to protect consumers from the exposure to potential additional risk which would result from modifying the current transmission investment process.

Questions:

Question 10: What are you views on introducing a package of regulatory measures which Ofgem may apply to protect consumers?

Question 11: What are you views on the design of each of regulatory measure? (Please clearly reference which measure(s) your comments relate to e.g. Accelerated delivery Output Delivery Incentive, Ex post efficiency review, etc)

Introduction

7.1. Chapters 4 to 6 detail the concerns we have that making changes to the LOTI framework and the scope of competition could lead to additional risk and costs to consumers, and highlight some potential mitigations against that risk. As explained in the CBA, while we consider that accelerating delivery of strategic projects may lead to net consumer benefits, these benefits are contingent upon the projects identified in the NOA as being essential to meet 2030 targets being delivered by their EISDs.

7.2. To protect consumers from excessive risk, we think a package of regulatory measures may be appropriate to introduce into any revised LOTI framework in order to (i) protect consumers from risks arising from the changes to the regulatory approval mechanisms on our part, and (ii) incentivise the TOs to deliver strategic projects in a timely manner.

Setting clear outputs and delivery dates in licences

7.3. Under our proposed accelerated delivery framework, we propose to link price control allowances to clearly specified outputs (including delivery dates) in the relevant TO's licence. This is consistent with the current LOTI framework. This would allow us to hold the TOs accountable for delivering work that has been funded by consumers through the price control on time.

7.4. Under the current RIIO-2 framework, there are two options for setting outputs. These are not mutually exclusive and can be used concurrently.

- **Licence Obligations**. Under this option, we would make the delivery of the specified output an obligation within the relevant TO's licence. Failure to deliver the output as specified or by the delivery date specified could lead to enforcement action being taken by us and consequent penalties being imposed on the TO, which could include returning to consumers the funding provided.

- **Price Control Deliverables (PCDs).** Under this option, we would set the output as a PCD with associated allowances. While there would be no enforceable licence obligation to deliver the output as specified, failure to deliver the output as specified could lead to the return of funding to consumers.

Ofgem current view

7.5. Our current view is that all outputs under the revised framework would be set out as licence obligations.

7.6. PCDs can provide a simpler and more straightforward route for adjustments to allowances in the event of non-delivery or substitution of outputs. However, we do not consider that it would be appropriate to rely solely on allowance adjustments through the PCD framework to protect consumers in the case of strategic investments that are needed to meet the 2030 targets. Failure to deliver these projects on time could have significant detrimental impacts on consumers and we consider that specifying the relevant requirements as licence obligations better reflects the importance that we attach to their delivery.

7.7. We are considering whether the use of PCDs concurrently with licence obligations could provide an efficient means of allowance adjustments while protecting consumers against the risk of non-delivery.

Accelerated delivery Output Delivery Incentive (ODI)[40]

7.8. Every transmission project that qualifies for funding under our proposed accelerated delivery framework has been identified by the ESO as being required to meet the

[40] RIIO-2 Final Determinations - Core Document (REVISED) (ofgem.gov.uk) Chapter 4

Government's 2030 ambitions. For each project, the ESO has specified the year by which the project must be delivered. Analysis undertaken by the TOs and the ESO suggest that consumers would face significant detriment in the form of increased constraint costs if these projects are not delivered on time.

7.9. The analysis set out in Chapter 6 suggests that the consumer benefit from (i) avoiding delays to projects currently scheduled to be delivered on or before 2030 and (ii) bringing forward projects that are currently scheduled to be delivered after 2030, could be up to £2.0bn.

7.10. Any delay to the delivery of these projects could threaten the realisation of these benefits for consumers. There is significant consumer interest in avoiding such delays. In some cases, there may be benefits to consumers from delivering earlier than the dates set by the ESO.

7.11. Under the current electricity market arrangements, TOs are not exposed to the consequences of delays (i.e. constraint costs). These costs are entirely passed through to consumers. This means that while the TOs have significant influence on whether transmission projects are delivered on time, they are not exposed to the financial consequences arising from delays. Ofgem has the power to take enforcement action and levy penalties for breach of licence obligations, but this is a lengthy and burdensome process for both sides and the outcome is hard to predict, making it difficult for the TOs to manage risk efficiently.

Ofgem current view

7.12. We believe that a well-calibrated incentive mechanism with rewards for early delivery and penalties for delay could help achieve this objective by better aligning the interests of the TOs and consumers. We propose to link the penalties and rewards for each project to the expected consumer detriment and benefits of delivering late or early.

Incentive design principles

7.13. We used the following principles to guide the design and calibration of the proposed accelerated delivery ODI:

- As the entity with the most influence on the outcome (i.e. whether the project is delivered on time), the TOs should bear a significant share of the financial risk associated with delivery times.

- The financial risk exposure should be of sufficient materiality to act as a meaningful incentive to take necessary and proportionate steps to avoid delays, and where appropriate, deliver early.

- The risk exposure (i.e. the size of the penalty/reward) to the TOs should be set at the level of individual projects and be proportionate to the expected detriment/benefit from delivering that project later/earlier than the delivery deadline. This would allow the TOs to prioritise their efforts on projects with the biggest impact on consumer value and to take proportionate steps to mitigate the risk of delay or to expedite delivery.

- The project-specific financial parameters of the incentive should be fixed in advance and known to the TOs at an early stage of the project timetable. This would allow the TOs to take account of these parameters when engaging with potential suppliers.

- The incentive should target actions that the TOs can reasonably take to expedite delivery of projects. It should not penalise TOs for delays caused by factors that are beyond their reasonable control, and it should not reward the TOs where a project was delivered early due to factors beyond their reasonable control.

- The incentive design and parameters should not create excessive financial risk for the TOs.

Setting delivery deadlines

7.14. For each qualifying project under our accelerated delivery framework, the ESO has specified the year by which the project needs to be delivered so that the 2030 targets are met.

7.15. For the majority of projects, these years are aligned with the TOs' own views of the 'Earliest In Service Date' (EISDs) associated with the project. For a smaller number of projects, the ESO has required the project to be delivered earlier than the TOs' view of the EISD.

7.16. Our current view is that the delivery deadline for each project should be set to match the year in which the ESO has required the project to be delivered.

Calibration and application of penalties and rewards

7.17. We propose to apply automatic penalties if a project is not delivered by its delivery deadline and automatic rewards if a project is delivered early, unless the penalty or reward is disapplied under circumstances described further below.

7.18. The penalty and reward rate would be set on a project-specific basis in advance and would be determined as a proportion of the estimated consumer detriment from delivering late and estimated benefit from delivering earlier than the delivery deadline. Our current view is that the penalty and reward should be set and applied as a daily rate.

7.19. We believe that setting the penalty and reward at 50% of the estimated detriment or benefit (based on estimated constraint costs) represents a reasonable balance between providing strong financial incentives for timely delivery and avoiding excessive financial risk for TOs.

7.20. We propose to cap penalties and rewards under the mechanism to 15% of the estimated value of the project to limit the overall risk for the TOs and consumers. We consider that this figure is broadly in line with the liquidated damages clauses typically used in large construction projects in the energy sector.

7.21. We propose to include a mechanism to allow the TOs to apply for any penalties under the ODI to be disapplied (for a limited period) if they were to provide clear justification that a delay is caused (or is expected to be caused) by factors outside of their control. In assessing any application from the TOs under this mechanism, we will consider whether the TOs have taken reasonable steps to mitigate the risk of the delay occurring.

7.22. We propose that the TOs will not be eligible for rewards under this mechanism if a project is delayed for any reason. We also propose that the TOs should not be eligible for rewards if a project is delivered early due to circumstances outside their reasonable control.

Analysis to support the setting of rewards and penalties

7.23. We do not currently have project-level data on the estimated benefits from early delivery and estimated detriment from late delivery. Our understanding is that compiling this information will require new analysis to be undertaken jointly by the TOs and the ESO. We will be engaging with the TOs and the ESO over the coming weeks to ensure that this analysis is completed, and the results made available to us before we make a final decision on the accelerated delivery framework.

Risk of excessive financial exposure to the TOs

7.24. As set out in the next chapter, we intend to work with the TOs over the coming weeks to better understand the financial risk associated with this ODI. If we are satisfied that the proposals set out above could lead to excessive levels of financial risk to the TOs, we will put in place appropriate risk mitigation measures. Please see Chapter 8 for further details.

Reduced incentive rates under the Totex Incentive Mechanism (TIM)

7.25. Under the RIIO-2 framework, any under or overspend against ex ante total expenditure (totex) allowances are shared between the TOs and consumers through the Totex Incentive Mechanism (TIM). Under the TIM, TOs are exposed to a fixed proportion of the under or overspend, and this proportion is determined by a confidence-dependent incentive rate.

7.26. Incentive rates were set individually for each TO based on the proportion of its cost base in which Ofgem had high confidence in our ability to set efficient cost allowances. The incentive rate for each TO could take any value between 15% and 50%. The higher the proportion of high confidence costs, the closer the incentive rate would be to 50%.

7.27. This approach recognises the trade-off between two risks to consumers:

- The risk that allowances are set too high. The higher the incentive rate, the greater the incentive for TOs to submit inflated cost forecasts. These inflated cost forecasts could lead to higher totex allowances, and therefore increasing the scope for underspends against those allowances.

- The risk that TOs have insufficient incentives to control costs. The lower the incentive rate, the weaker the incentive for the TOs to control costs as a higher proportion of any cost over-runs are borne by consumers.

7.28. Where we had higher confidence in our ability to independently set efficient cost allowances, we prioritised within-period efficiency and set a relatively high incentive rate. In other cases, we could set a lower incentive rate recognising our dependence on cost evidence provided by the TOs. Lower incentive rate in such cases would mitigate the risk that allowances could be set too high, leading to excessive costs to consumers.

Ofgem current view

7.29. Our current view is that a move towards providing earlier funding certainty for strategic projects means that there is likely to be greater uncertainty about efficient costs at the time of setting allowances compared to the situation at the time of setting the RIIO-2 price control. This increases the risk that allowances are set too high, leading to higher costs for consumers.

7.30. Given this risk, we think it would be appropriate to set a lower incentive rate under the TIM mechanism in situations where we consider this risk to be material. We propose to do this following a case-by-case assessment of the quality of cost evidence available to us at the time of setting allowances for particular activities (e.g. pre construction) or entire projects. We will also take a view on the appropriate level of the incentive rate in light of this assessment. The lower our confidence in the quality of information, the lower we will set the incentive rate (subject to the lower limit of 15%).

7.31. Setting lower incentive rates under the TIM also reduces financial risk to the TOs by reducing their exposure to overspends against allowances. We accept that reducing incentive rates could weaken incentives for TOs to seek cost efficiencies. However, we believe that in circumstances where there is relatively high-cost uncertainty, the risk posed by weaker efficiency incentives is outweighed by the risk of consumers funding excessive cost allowances.

7.32. We are mindful that introducing different cost sharing incentive rates for different categories of totex could increase the risk to consumers from any misallocation of costs by the TOs. We would expect the TOs to use robust cost allocation methods to ensure that reported costs are correctly allocated to each project. Further details about our proposed reporting obligations for the TOs are set out below.

Ongoing monitoring and reporting obligations

7.33. Efforts by the TOs to accelerate the delivery of strategic transmission projects means that critical decisions on project scope, design and costs are taken earlier than they would have been otherwise. Taking these decisions early could mean that there is greater uncertainty surrounding information that feeds into these decisions (e.g. demand or generation growth forecasts could change over time). Likewise, our proposals for providing early certainty on project approvals and funding mean that we could be making our funding decisions on the basis of information that carries greater uncertainty.

7.34. The risk to consumers is that decisions on scope, design and costs made in an environment of greater uncertainty could lock in inefficient or inappropriate choices which are difficult to unwind. While this risk is not entirely avoidable in circumstances where speed of delivery is of the essence, we believe it is possible to mitigate this risk through effective and ongoing monitoring of the factors that could materially alter the need, scope and costs of the project.

7.35. Ongoing monitoring would allow any changes to external circumstances (e.g. planning outcomes or conditions, updates to the NOA, changes to underlying demand or generation forecasts) to be promptly and appropriately reflected in TOs' delivery plans and price control allowances.

7.36. While the TOs are under statutory and licence obligations to act in an efficient manner, we propose to introduce specific licence obligations on the TOs to put in place effective monitoring arrangements so that changes to factors affecting project scope, design and costs are appropriately and promptly taken into account in their delivery plans. Where necessary, and material, the TOs would be able to put forward requests for changes to project allowances through a re-opener mechanism (see further down in this chapter).

Ofgem current view

7.37. In order to effectively implement the accelerated delivery framework and manage risks to consumers, we propose to require the TOs to submit annual reports to Ofgem setting out the delivery status and forward-looking outlook for all projects included within the framework. This should reflect the TOs' up-to-date views on factors affecting project need, scope, design and costs. Where any changes to outputs or allowances are necessary, we would expect the TOs to flag this to us promptly so that appropriate action can be taken.

7.38. We also propose to amend the Electricity Transmission Regulatory Instructions and Guidance (RIGS) framework to require the TOs to submit accurate data on costs incurred at the project-level for each qualifying project. This cost information should be provided in accordance with the requirements of, and be subject to the quality assurance procedures set out in, the RIGS.

7.39. If any changes are made to price control allowances to take account of information submitted through these annual reports, we would ensure that TOs are not unduly penalised for doing the right thing. For instance, we would not seek to clawback any expenditure that can only be demonstrated to be inefficient in light of information that the TOs could not reasonably have taken into account at the time of its decision.

7.40. We will work with the TOs over the coming months to develop the exact scope of these proposed new obligations.

Reopeners to adjust outputs and allowances

7.41. We believe that there is significant consumer value in ensuring that the proposed accelerated delivery framework is sufficiently flexible to allow necessary changes to outputs and price control allowances to be made in a timely manner. Having this flexibility reduces risk for consumers and TOs by ensuring that project design and funding is up to date and reflects to most recent available information.

7.42. We propose to put in place a reopener mechanism that would allow outputs and price control allowances to be adjusted (upwards or downwards) if required. Our current view is that the reopener would be based on the Cost and Output Adjustment Event (COAE) mechanism included in the current LOTI process, with targeted changes where necessary to take account of the particular circumstances of the proposed accelerated delivery framework.[41]

7.43. Changes under the COAE mechanism within the current LOTI framework are subject to a default materiality threshold of 20% of relevant project allowances (before the application of the relevant totex incentive rate). Our current view is that, given the scope for greater uncertainty when setting allowances, a lower materiality threshold (i.e. 10%) should apply under our proposed accelerated delivery framework. We also propose that both Ofgem and the TOs would be able to trigger the reopener mechanism if the relevant conditions are met.

7.44. We intend to work with the TOs over the coming weeks to finalise the design of this reopener mechanism.

[41] The COAE framework is described in paragraphs 7.8 to 7.11 of Large Onshore Transmission Investments (LOTI) Reopener Guidance | Ofgem

Ex post efficiency review

7.45. We believe that the funding approaches proposed in this consultation involve a higher level of risk that consumers are exposed to excessive and inefficient levels of cost compared to the current LOTI arrangements.

7.46. This risk is particularly high in the following circumstances:

- Where TOs face relatively weak incentives to keep costs under control. This is relevant in the case of approaches involving greater levels of cost pass-through (under Use-it-or-lose-it (UIOLI) or pass-through with a cap approaches).
- Where there is a relatively low level of upfront regulatory scrutiny of cost submissions, or where the quality of information available is such that we are unable to effectively scrutinise those cost submissions.

7.47. In such circumstances, we believe it is necessary to protect consumers by retaining the ability to undertake an ex post review of expenditure incurred by TOs. If we were to find that inefficient behaviour by the TOs has led to consumers facing higher costs, we would look to claw back allowances such that consumers only pay efficient levels of costs.

7.48. Again, we would not seek to clawback any expenditure that was efficiently incurred based on information that the TOs could reasonably have taken into account at the time. We would not deem expenditure to be inefficient solely with the benefit of hindsight.

8. Financeability and financial risk to the TOs

Section summary
This chapter discusses our initial views on whether our proposals would raise financeability concerns or would lead to excessive financial risk for the TOs.

Questions:
Question 12: Do our you think our proposals raise any finaceability concerns or create excessive financial risk for the network companies? If so, how could they be addressed?

Introduction

8.1. As set out in the introduction to this consultation, accommodating the substantial growth in renewable electricity generation required to meet Government ambitions by 2030 will require significant new investment in the onshore ET networks.

8.2. We recognise that delivering this significant new investment at pace could create additional financial risk to the TOs. We are also mindful that aspects of our proposed accelerated delivery framework, specifically those proposals intended to protect consumers, could lead to increased financial risk to the TOs.

8.3. It is in consumers' interests to ensure that the necessary investment in transmission infrastructure can be financed by the TOs at the lowest possible cost to consumers. This chapter discusses our initial views on whether our proposals would raise financeability concerns or would lead to excessive financial risk for the TOs.

Financeability

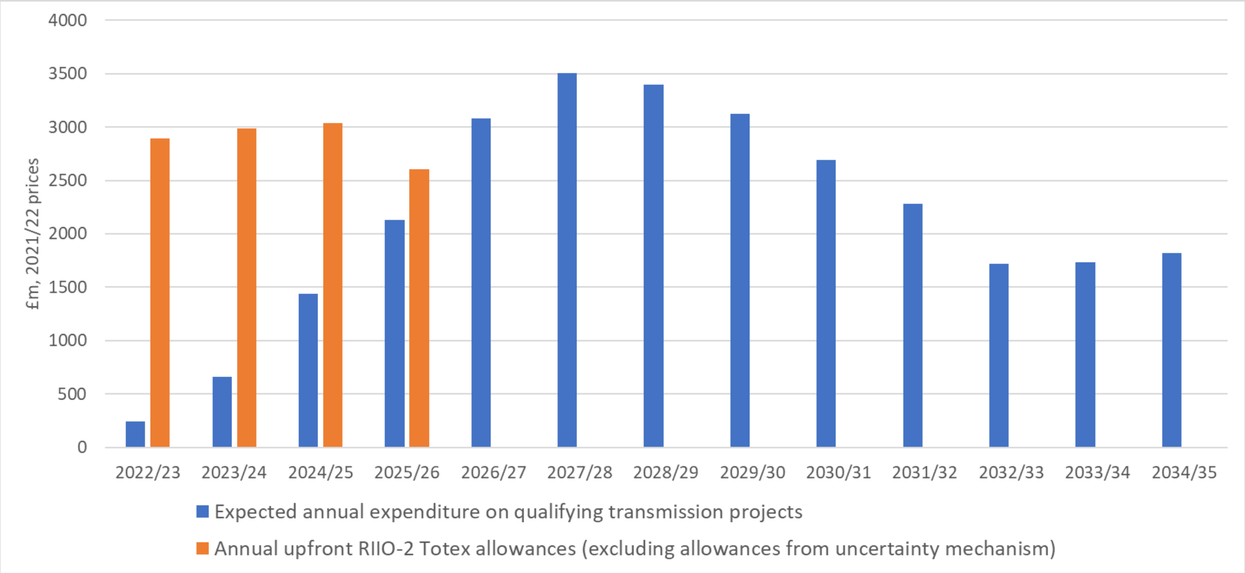
8.4. This section sets out our initial views on whether there are financeability concerns relating to the delivery of the transmission upgrades needed to meet the 2030 targets.

8.5. Our assessment focuses on the RIIO-2 price control period which runs until 31 March 2026. At this point, it is not possible to reach a definitive view on whether the necessary investments would remain financeable under price control packages that would apply from 1

April 2026. However, it is in consumers' interests to ensure that any necessary investments are financeable, and we will take account of financeability when setting future price controls.

8.6. Figure 4 below sets out a comparison between the TOs planned expenditure on qualifying projects and upfront totex allowances set as part of the RIIO-2 price control. The figures show that the expected additional expenditure on qualifying projects within the RIIO-2 period is low relative to upfront totex allowances[42], although it is expected to increase steadily over that period.

Figure 4: A comparison of expected annual expenditure on qualifying transmission projects and annual RIIO-2 upfront totex allowances for all TOs



8.7. We are mindful that meeting the 2030 targets will require bringing forward the delivery dates of some projects, which in turn could mean that a bigger share of the overall expenditure could be incurred within the RIIO-2 period. We await the TOs' delivery plans for further information on expenditure profiles.

8.8. In any event, we were clear in our RIIO-2 Final Determinations that we expected significant new NZ investment to be funded through within-period uncertainty mechanisms (i.e. reopeners, UIOLI and volume drivers), and that this funding would be additional to upfront funding provided at the start of the period. Although there was significant uncertainty at that time about the extent of investment that would be needed, for the purposes of our

[42] Upfront totex allowances are allowances provided at the start of the RIIO-2 period and exclude any additions made within the period as part of uncertainty mechanisms such as reopeners and volume drivers.

financeability assessment we considered scenarios with £8bn of additional investment during the RIIO-2 period across the transmission licensees and concluded that that the overall price control package was appropriately calibrated so that licensees can finance their activities and fund the necessary investments in networks.[43]

8.9. We also undertook detailed analysis of financeability and financial risk for the TOs on a notional efficient operator basis. This included 'stress testing' the overall package by looking at a range of scenarios, including ones that involved significant downside outcomes, specifically RORE[44] underperformance of 200 basis points and a 20% totex overspend. Following this analysis, we concluded that the downside scenarios tested did not raise material concerns about financeability.

8.10. In its final determinations on the RIIO-2 transmission and gas distribution appeals, the CMA agreed with Ofgem that allowances for the costs of equity and debt were set at a level that would allow the TOs to finance the necessary NZ investments.[45]

Ofgem current view

8.11. Our initial view is therefore that the TOs are adequately remunerated within the RIIO-2 price control package to allow the investment necessary to meet the Government's 2030 ambitions to be financed efficiently. In the next section, we consider whether our proposed changes to the regulatory approval framework, including the consumer protection measures, could lead to a material increase in the financial risk for the TOs to that extent that it raises concerns about financeability.

8.12. At this point, it is not possible to reach a definitive view on whether the necessary investments would remain financeable under future price controls beyond 1 April 2026. We will take account of the need for these investments to remain financeable when setting those controls.

Financial risk

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[43] RIIO-2 Final Determinations – Finance Annex (REVISED) (ofgem.gov.uk) Chapter 5; RIIO-2 Final Determinations - Core Document (REVISED) (ofgem.gov.uk) paras 1.2-1.3
[44] Return on regulated equity (RORE) is a measure of the financial return achieved by shareholders in a licensee during a price control period
[45] CMA Final determination Volume 2A paras 5.881-5.885

8.13. In this section we consider the impact of our proposed accelerated delivery framework on financial risk to the TOs. Excessive financial risk could increase the cost of capital and could introduce a mismatch between regulatory allowances and actual costs, thereby raising concerns about financeability.

8.14. As part of our initial analysis of financial risk, we considered two broadly defined hypothetical circumstances under which we might have concerns that the financial risk to the TOs is excessive. These are where:

- The proposed changes represent an asymmetric and downside adjustment to the balance of overall financial risk to the TOs, causing the expected returns to equity for the licensee to be materially lower than the baseline returns assumed at the time of setting the RIIO-2 price control allowances.

- The proposed changes create the risk that, under plausible circumstances, financial adjustments under the proposed framework lead to unacceptably low RORE outcomes for one or more TOs.

8.15. We now look at each of these hypothetical circumstances in turn and consider whether there is a realistic risk of these materialising as a result of the introduction of the accelerated delivery framework.

The risk of an asymmetric and downside adjustment to overall financial risk

8.16. The drive to deliver a large number of high value transmission projects concurrently in an expedited manner could itself lead to higher risk for the TOs even if the regulatory framework is unchanged. Apart from the challenges of delivering these projects by 2030, faster delivery might require innovative and non-standard contracting and delivery strategies, bringing higher risk of cost over-runs that are not fully recoverable from consumers. However, our proposed framework introduces a number of measures that could help mitigate this risk.

- Giving the TOs early clarity and certainty on project need means that the TOs are able to engage with their suppliers earlier, giving them more time to put in place appropriate risk management measures.

- The provision of regulatory funding for early construction costs before planning permission is obtained significantly reduces the risk to the TOs of stranded or unrecoverable expenditure.

- The TOs are able to defer full project cost submissions until there is greater certainty about project scope and costs.
- A reopener mechanism to help manage the risk of unexpected changes to project costs and scope.

- Reduced incentive rates under the TIM mechanism to reduce the TOs' exposure to cost over-runs relative to allowances.

8.17. The proposed accelerated delivery ODI includes a reward for early delivery and a penalty for late delivery. While our proposed design for this ODI is symmetric in principle, the impact of the ODI on the overall balance of risk in practice will depend on how the mechanism is calibrated and applied.

- The approach to setting deadlines for the purposes of the ODI affects the probability of different ODI outcomes (i.e. penalty or reward). For instance, if the deadline is set such that the project is more likely to be delivered early than late, a reward is more likely than a penalty for that project. As set out in Chapter 7, our current view is that the delivery deadline for each project should be set to match the year in which the ESO has required the project to be delivered. For the majority of projects (16 out of 26), these years are aligned with the TOs' own views of the EISD associated with the project. We consider that the risk that these projects are more likely to be delayed than delivered early is small. For the remaining projects, we will come to a view on the appropriate delivery deadlines taking account of information on delivery plans to be submitted by the TOs.

- We expect to set the rewards and penalties under the proposed ODI by reference to expected benefits from early delivery and expected detriments from late delivery respectively. It is possible that the benefits from early delivery do not exactly mirror the detriments from late delivery, both in terms of size as well as profile over time. Without further analysis and evidence relating to individual projects, it is hard to come to a view on whether rewards and penalties are symmetrically distributed around the delivery date.

8.18. Our proposed package of consumer protection measures includes ex post reviews of expenditure in certain circumstances. Following an ex post review, we may decide to disallow expenditure that we find to be demonstrably inefficient. However, we would only undertake an ex post review in circumstances where we believe that the risk to consumers of exposure to inefficient costs is particularly high. Moreover, this mechanism does not create new obligations for the TOs, who are already under statutory and licence obligations to act efficiently and face the prospect of significant penalties if found in breach. Therefore, we do not consider that inclusion of this mechanism represents an asymmetric and downside adjustment to expected equity returns.

8.19. Our initial assessment is that the impact of our proposed changes on the overall balance of financial risk for the TOs is uncertain. While there are aspects of the proposed framework that could, in theory, increase the overall balance of risk to the TOs, the impact in practice will depend on how delivery dates are set and the mechanism is calibrated. We will need to undertake further analysis based on the TOs' delivery plans to better understand this.

The risk of unacceptably low returns to equity under plausible circumstances

8.20. As highlighted earlier in this section, while efforts by the TOs to accelerate the delivery of transmission projects could increase the risk of cost over-runs relative to early forecasts, our framework includes measures that mitigate this risk.

8.21. We have also considered the risk of penalties under our proposed Accelerated Delivery ODI leading to large downside adjustments to returns. Please see Chapter 7 for further details about our current proposals for this ODI. We accept that there is a risk that projects could be delayed, and if that were to happen, the TO responsible for the project could face large penalties under this ODI. The financial risk is greater if multiple projects are delayed at the same time.

8.22. We note that the RIIO-2 price control package includes the Return Adjustment Mechanism (RAM), which moderates downside risk to returns (and upside returns) arising from Totex sharing and ODIs if certain thresholds are exceeded. We are not currently in a position to confirm whether the RAM would apply in future price control periods.

8.23. In addition, under our proposals, where a project is delayed due to factors that are demonstrably outside the reasonable control of the TO, the TO will be able to request a time-limited disapplication of penalties. This significantly reduces the financial risk to the TOs from the introduction of the Accelerated Delivery ODI.

8.24. As far as the RIIO-2 price control period is concerned, we have not yet seen strong evidence to suggest that the introduction of our proposed framework would increase the risk of downside totex outcomes such that the results of our previous financeability analysis are no longer valid. As set out earlier, our assessment of financeability and financial risk at the time of setting the RIIO-2 price control package did look at a range of extreme downside outcomes.

8.25. In relation to future price control periods, we recognise that exposing the TOs to excessive downside risk without appropriate mitigation could lead to inefficient outcomes for consumers by increasing financing costs.

8.26. We intend to work with the TOs to better understand the risk of extreme downside outcomes and welcome any evidence and analysis that the TOs can provide in this regard.

8.27. If this further analysis and evidence suggests that our proposals could lead to excessive downside RORE outcomes for TOs in plausible circumstances (whether in the current price control period or in future ones), we propose to address this through one or more of the following mitigating measures:

- Setting a limit on aggregate penalties (net of any rewards and liquidated damages from contractors) and aggregate rewards (including any liquidated damages from contractors and net of any penalties) that may apply in any regulatory year.

- Reducing the exposure of the TOs to consumer detriments from delays and consumer benefits from earlier delivery by reducing the sharing factor.

- Lowering the project-level cap on penalties and rewards.

8.28. When considering the implementation of one or more of these risk mitigation measures, we will seek to ensure an appropriate balance is struck between protecting the TOs from excessive financial risk and providing strong and targeted incentives for the TOs to deliver the transmission network upgrades needed to meet the 2030 targets on time.

9. Next steps

Section summary

We set out how we plan to take forward our work over the rest of the year.

Questions:

Question 13: Is any further guidance, or additional specific information, needed as part of the TOs' project delivery plans?

Question 14: Are there any additional timetable issues that need to be considered?

The implementation stages

9.1. To support the accelerated delivery of strategic onshore ET projects, we have broken our work into three stages for implementing changes:

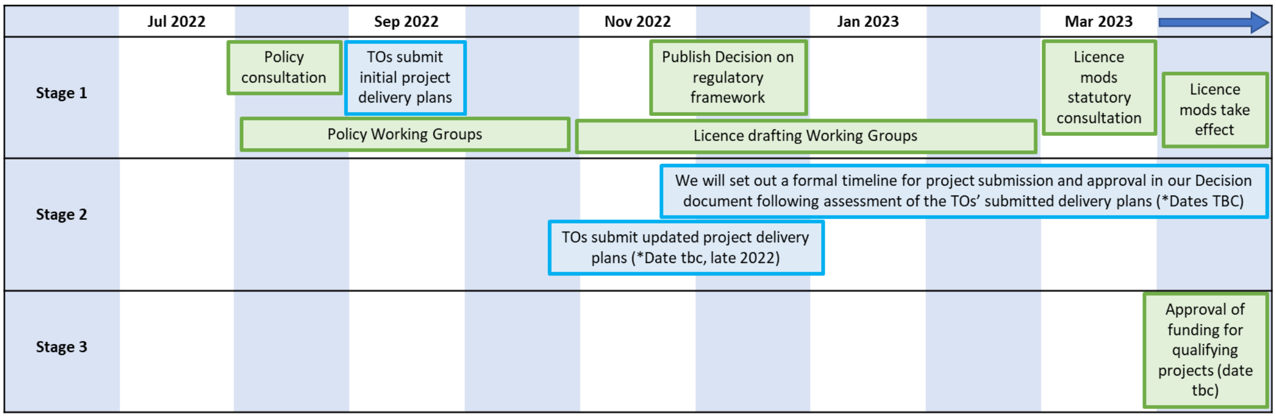
- **Stage 1 – Creating the new regulatory framework** (the focus of this consultation)**:** Develop, assess and having considered consultation responses and the TOs initial delivery plans, decide whether to implement the necessary changes to the regulatory funding and approval framework to support accelerated ET investment.

- **Stage 2 – Approving the strategic need for qualifying projects:** Review initial and updated project delivery plans from the TOs on projects that meet our criteria for inclusion within the accelerated delivery framework and consider whether to approve the strategic needs case for those projects and to exempt them from competition. Approval of the strategic needs case does not include approval of specific solutions, design choices or costs. We intend to publish an initial list of projects that clearly qualify for strategic needs case approval and competition exemption by the end of 2022. We intend to keep this list under review, and if appropriate, add new projects to the list at later dates.

- **Stage 3 – Approval of funding for qualifying projects**: Review of project design, scope and funding requests from TOs in line with their project delivery timetables for individual projects that meet the criteria for inclusion within the accelerated delivery framework. We set out a number of different approaches for how this stage could work in Chapter 5.

9.2. Figure 5 sets out the indicative timetables that we intend to follow for the stages. Stage 3 timelines are relatively uncertain and dependent on further discussions, particularly with the TOs and Government, on what is achievable and by when. Stages 2 and 3 also depend on the extent to which proposed reforms to the planning and consenting system have progressed and on the viability of TOs' accelerated investment delivery plans.

Figure 5: Indicative timeline for change



Stage 1 – Further information

Working groups

9.3. Alongside this consultation, and before making a decision on any proposed changes to the regulatory framework, we plan to hold an industry working group(s) to engage with interested stakeholders.

Implementation of regulatory processes

9.4. We intend to publish a decision on the regulatory framework in late 2022. If change is needed it is likely to then require modification of the licence, the introduction of new licence conditions and changes to the associated process guidance documents - such as the one for the LOTI re-opener.[46] We will also seek to update our guidance on supporting cost information to be provided by the TOs following our consideration of any representations from TOs on non-tendered costs. In parallel to this consultation, we intend to establish a working group with the TOs to consider where changes are needed and develop drafting to reflect the potential policy. This will help ensure that any changes can be implemented as quickly as

[46] Large Onshore Transmission Investments (LOTI) Reopener Guidance | Ofgem

possible. Our current intention is to consult informally on any proposed licence modifications ahead of a statutory consultation under the Electricity Act 1989 and implementation.

Stage 2 – Further information

9.5. While the conclusion of Stage 1 will provide the necessary regulatory framework to help accelerate ET investment projects, we will need more information on the specific projects from the TOs in order to apply the framework – this is the key part of Stage 2. Furthermore, information submitted to us as part of Stage 2 (i.e. project delivery plans) will inform our decisions on design and implementation of the framework.

Initial project delivery plan (September 2022)

9.6. In order to progress the delivery of this work we expect the TOs to submit to us an initial project delivery plan by 16th September 2022 covering all projects that it expects to deliver under our proposed accelerated delivery framework. This plan must provide, at a minimum, the following information for each project:

- A brief description of the project including expected overall project costs and intended outcomes in terms of benefits to the capability of the transmission network. The project must be mapped to the NOA7 refresh results using the relevant project code.
- The year by which the TO commits to delivering the project. We expect all projects to be delivered by the dates that the ESO has identified as required to meet the 2030 targets.
    - For projects where the EISD as set out in the NOA7 refresh results is 2030 or earlier, we expect a commitment from the TOs that the project will be delivered by the EISD.
    - For projects where the EISD as set out in the NOA7 refresh results is later than the ESO's Required In Service Date (RISD), we expect a commitment from the TOs that these will be delivered by the RISD.
    - Where it is not possible to provide these commitments, the TOs should explain why. We consider that without firm commitments from the TOs that projects delivered in time to meet the 2030 targets, the case for introducing our proposed new regulatory framework and competition exemptions could be weakened.
- For each project, the expected profile of expenditure so that the project can be delivered by their required dates.
- For each project, a robust estimate of the expected consumer detriment (including constraint costs) from a delay relative to the dates by which the project is required to be delivered to meet the 2030 targets. At a minimum, we would expect the quantification to

cover a scenario where the project is delayed by 12 months. We would expect the TOs to work with the ESO in order to produce these estimates.

- For each project, a robust quantification of the expected consumer benefit (including constraint costs savings) from early delivery relative to the dates by which the project is required to be delivered to meet the 2030 targets. At a minimum, we would expect the quantification to cover a scenario where the project is early by 12 months.
- A brief description of the delivery strategy to meet these deadlines, highlighting any changes needed to current approaches.
- A list of key assumptions, dependencies and risks embedded in the delivery plans.
- The TOs' approach to proactively monitor and manage delivery risk and cost risk to consumers.
- A high-level timeline setting out the key milestones and regulatory approval points for each project.

*Updated project delivery plans (*date TBC)*

9.7. Following submission of an initial project delivery plan in September 2022 we expect the TOs to submit updated project delivery plans for the projects that fall within the scope of the accelerated delivery framework.

9.8. We currently anticipate that updated project delivery plans will need to be submitted to Ofgem before the end of 2022, however we will confirm the exact timelines and any further requirements for information to be included in the plan following our assessment of the TOs' initial delivery plans and consideration of responses to this consultation.

Approval of strategic need and competition exemptions

9.9. Following our assessment of the initial and updated project delivery plans by the TOs, we will make a decision for each qualifying project on whether to:

- Approve the strategic needs case; and

- Exempt the project from onshore competition.

9.10. Our decisions will be made on a project-by-project basis and will consider our updated view on the benefits of applying the accelerated delivery framework (including competition exemptions) to each project, taking account of the information provided to us in the TOs' delivery plans. Our ability to do this is contingent on the TOs providing us with project delivery plans containing all the information requested in a timely manner.

9.11. We intend to publish an initial list of projects that clearly qualify for strategic needs case approval and competition exemption by the end of 2022. We intend to keep this list under review, and if appropriate, add new projects to the list at later dates.

Stage 3 – Further information

9.12. At this stage there is some uncertainty about how and when any project specific funding decisions will be made. The process for funding approval decisions will depend on the specific measures within the proposed accelerated delivery framework that we decide to take forward, and on the information provided to us as part of the TOs delivery plans.

9.13. It is our intention that project funding is provided in a timely manner, allowing the TOs make progress in line with their delivery plans. We will set out further details on how funding decisions will be taken as part of our final decision on the framework at the end of 2022.

Other dependencies to implementing change

9.14. BEIS' Review of Electricity Market Arrangements[47] is currently consulting on a broad range of options for updating electricity market arrangements. This includes options for improving the accuracy of locational signals to incentivise generators, demand and storage to locate and operate in a manner that minimises system and consumer costs. This has the potential to reduce spending on network reinforcement and generation capacity. For new TO investment projects, we will need to consider the impact of potential market changes on the needs case and only accelerate investment. This ongoing work supports a relatively cautious approach to accelerating TO investment so that only projects with clear benefits for consumers are considered for inclusion within our accelerated delivery framework.

9.15. There are other RIIO-ET2 mechanisms that could interact with the changes being proposed in this consultation, however these are out of scope of this consultation and we have no plans to change them. For example, the MSIP and Visual Amenity re-openers.

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[47] Review of electricity market arrangements - GOV.UK (www.gov.uk)

Appendices

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Appendix 1: CBA Sensitivities

The following tables model sensitivities of the upper, middle and lower ranges of all the variables we have identified in this document. Further detail on these ranges and our methodology can be found within Chapter 6.

- "Delivery assumption" is modelling the outcome of 50% of projects being delivered 3, 6, 9 and 12 months later than the EISD.

- "Competition %" is our assumed benefit that may be achieved by late competition under the counterfactual if certain projects were subject to competition, we have used the range of 10-15% project Capex.

- "Competition loss" is the loss in consumer benefit in £m that we may have seen had these certain projects been competed (as is assumed under the counterfactual).

- "Constaint Saving" is the combined impact of accelerating post-2030 projects, and reducing risk of delay to pre-2030 projects on constraint costs in £m. Constraints have been calculated as a percentage of project Capex (35-40%) for pre-2030 projects, for post-2030 projects the ESO provided us with an initial estimate of £1280m in alleviated constraint costs should these projects be accelerated to 2030.

- Project Assessment loss is a relative loss in cost efficiency achieved through project assessment when compared to our analysis on SWW projects (7.6% saving, assumed as our counterfactual for LOTI projects).

- Planning loss represents the risk that some project funding may be lost due to projects being rejected or abandoned during the planning stages, we have used a range of 0.33-0.5% of total Capex.

Figure 6: "Best" Scenario – Modelling the upper limit of each of the ranges used in this document.

Net outcome for all 26 projects:
Pre-2030 projects: 3 x competition exemption applied, remaining 13 assumed not to be competed.
Post 2030 projects: 6 x competition exemption applied, remaining 4 assumed not to be competed.

	Delivery assumption											
	50% 1 year late			50% 9 months late			50% 6 months late			50% 3 months late		
Competition %	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%
Competition loss	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180
Constraint Saving	3111	3111	3111	2654	2654	2654	2196	2196	2196	1738	1738	1738
Project Assessment Loss	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230	-230
Planning loss	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66
Net Outcome:	**2028**	**1832**	**1635**	**1570**	**1374**	**1177**	**1113**	**916**	**719**	**655**	**458**	**261**

Constraints:	40.0%	Number of projects abandoned:	6.7%
Project Assessment Loss	-2.0%	Cost spent pre-planning:	5.0%
Competition	10-15%	Savings from accelerating post 2030 projects:	1280

Figure 7: Central" Scenario – Modelling the middle of each of the ranges used in this document

Net outcome for all 26 projects:
Pre-2030 projects: 3 x competition exemption applied, remaining 13 assumed not to be competed.
Post 2030 projects: 6 x competition exemption applied, remaining 4 assumed not to be competed.

	Delivery assumption											
	50% 1 year late			50% 9 months late			50% 6 months late			50% 3 months late		
Competition %	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%
Competition loss	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180
Constraint Saving	2997	2997	2997	2568	2568	2568	2138	2138	2138	1709	1709	1709
Project Assessment Loss	-288	-288	-288	-288	-288	-288	-288	-288	-288	-288	-288	-288
Planning loss	-83	-83	-83	-83	-83	-83	-83	-83	-83	-83	-83	-83
Net Outcome:	**1839**	**1643**	**1446**	**1410**	**1214**	**1017**	**981**	**784**	**588**	**552**	**355**	**158**

Constraints:	37.5%	Number of projects abandoned:	8.4%
Project Assessment Loss	-2.5%	Cost spent pre-planning:	5.0%
Competition	10-15%	Savings from accelerating post 2030 projects:	1280

Figure 8: "Worst" Scenario – Modelling the middle of each of the ranges used in this document

Net outcome for all 26 projects:
Pre-2030 projects: 3 x competition exemption applied, remaining 13 assumed not to be competed.
Post 2030 projects: 6 x competition exemption applied, remaining 4 assumed not to be competed.

	Delivery assumption											
	50% 1 year late			50% 9 months late			50% 6 months late			50% 3 months late		
Competition %	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%	10%	12.5	15%
Competition loss	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180	-787	-983	-1180
Constraint Saving	2882	2882	2882	2482	2482	2482	2081	2081	2081	1681	1681	1681
Project Assessment Loss	-346	-346	-346	-346	-346	-346	-346	-346	-346	-346	-346	-346
Planning loss	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99
Net Outcome:	**1651**	**1454**	**1258**	**1250**	**1054**	**857**	**850**	**653**	**456**	**449**	**253**	**56**

Constraints:	35.0%	Number of projects abandoned:	10.0%
Project Assessment Loss	-3.0%	Cost spent pre-planning:	5.0%
Competition	10-15%	Savings from accelerating post 2030 projects:	1280

Project Categorisation

Table 13: Categorisation of projects considered for expedited delivery in our CBA analysis.

	Projects that do not meet the criteria	Projects that need to start too soon for competition	2030 projects (6 total)		Projects that need to be delivered earlier (10 total)	
			Started	Not started	Started	Not started
	EDEU	BTNO	AENC	BBNC	TKUP	CGNC
	DWNO	E2DC	ATNC	SCD1	BPNC	EDN2
	HWUP	E4D3	SLU4	PSDC	E4L5	GWNC
	PTNO	OPN2			TGDC	BLN4
	TKRE	PTC1				LRN4
						PSNC
Sum of Capex	£0.73bn	£4.1bn	£1.5bn	£2.8bn	£5.2bn	£5.5bn

Projects highlighted in blue have, for the purpose of our analysis, assumed to be competed under the counterfactual model.

Appendix 2: Project summary

Projects in the scope of the consultation

Figure 9 below shows the projects within the scope of this consultation, including the project materiality and current EISD.

Figure 9: Graph showing value and EISD of projects in the scope of this consultation

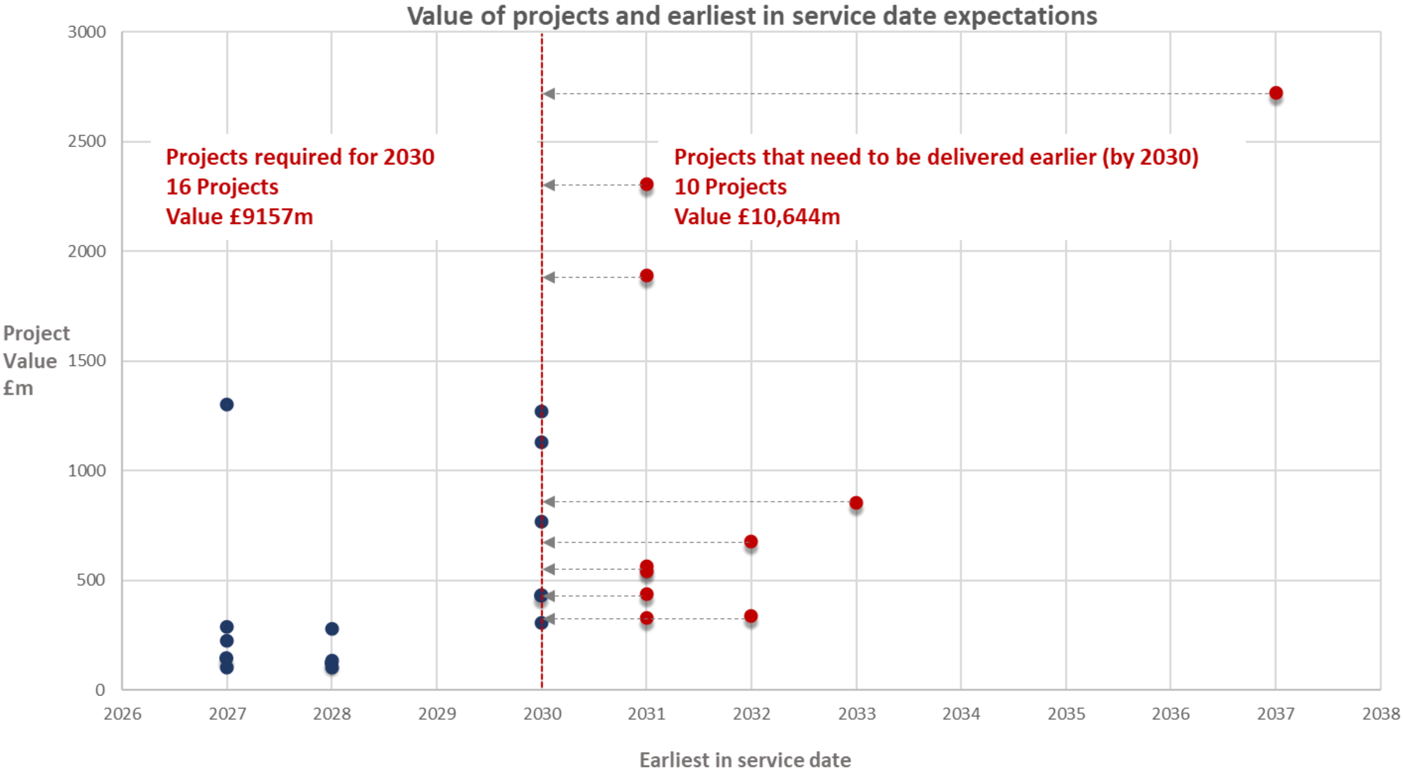

Table 14: List of projects in the scope of this consultation – Outcome of option 1 and option 2

Category of project	Assumed to be delivered via competition in counterfactual? (Yes)	Assumed to be delivered via competition in counterfactual? (No)	Exemption status - option 1	Exemption status - option 2
Projects that the ESO have identified as needing to be delivered before EISD and by 2030	BLN4	E4L5	**Exempt from consideration for competition** (subject to confirmation from additional supporting network studies)	**Exempt from consideration for competition*** (subject to confirmation from additional supporting network studies)
	CGNC	BPNC		
	EDN2	TGDC		
	GWNC	TKUP		
	LRN4			
	PSNC			
Projects the ESO		DWNO		
		EDEU		

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considers unlikely to sufficiently meet the criteria for competition		HWUP	**Exempt from consideration for competition**	**Exempt from consideration for competition**
		PTNO		
		TKRE		
Projects that we consider are unlikely to be able to be delivered through competition without the risk of delays		BTNO	**Exempt from consideration for competition**	**Exempt from consideration for competition**
		E2DC		
		E4D3		
		OPN2		
		PTC1		
Projects with 2030 EISDs	BBNC	AENC	**Exempt from consideration for competition**	**Not yet exempt from consideration for competition****
	PSDC	ATNC		
	SCD1	SLU4		

*For the purpose of our CBA analysis in Chapter 6 we have assumed that 6 of these 10 projects would be compted under the counterfactual as work has not yet started on them. These can be found listed in appendix 1, table 14.

** For the purpose of our CBA analysis in Chapter 6 we have assumed that 3 of these 6 projects would be compted under the counterfactual as work has not yet started on them. These can be found listed in appendix 1, table 14.

Table 15: List of projects in the scope of this consultation

Code	Publication header
AENC	A new 400 kV double circuit in north East Anglia
ATNC	A new 400 kV double circuit in south East Anglia
BBNC	Beauly to Blackhillock 400 kV double circuit addition
BLN4	Beauly to Loch Buidhe 400 kV reinforcement
BPNC	A new 400 kV double circuit between Blackhillock and Peterhead
BTNO	A new 400 kV double circuit between Bramford and Twinstead
CGNC	A new 400 kV double circuit between Creyke Beck and the south Humber
DWNO	Denny to Wishaw 400 kV reinforcement
E2DC	Eastern subsea HVDC link from Torness to Hawthorn Pit
E4D3	Eastern Scotland to England link: Peterhead to Drax offshore HVDC
E4L5	Eastern Scotland to England 3rd link: Peterhead to the south Humber offshore HVDC
EDEU	400 kV upgrade of Brinsworth to Chesterfield double circuit and Chesterfield to High Marnham double circuit. New High Marnham and Chesterfield 400 kV substations
EDN2	New Chesterfield to Ratcliffe-on-Soar 400 kV double circuit
GWNC	A new 400 kV double circuit between the south Humber and south Lincolnshire
HWUP	Uprate Hackney, Tottenham and Waltham Cross 275 kV to 400 kV
LRN4	New South Lincolnshire to Hertfordshire double circuit

OPN2	A new 400 kV double circuit between the existing Norton to Osbaldwick circuit and Poppleton and relevant 275 kV upgrades
PSDC	Spittal to Peterhead HVDC reinforcement
PSNC	New North Wales to South Wales double circuit
PTC1	Pentir to Trawsfynydd cable replacement
PTNO	North Wales reinforcement
SCD1	New Offshore HVDC link between Suffolk and Kent option 1
SLU4	Loch Buidhe to Spittal 400 kV reinforcement
TGDC	Eastern subsea HVDC Link from east Scotland to south Humber area
TKRE	Tilbury to Grain and Tilbury to Kingsnorth upgrade
TKUP	East Coast Onshore 400 kV Phase 2 reinforcement

Appendix 3: Consultation questions

Q1: Do you agree with our criteria for identifying projects in scope for the application of the proposed accelerated delivery framework?

Q2: Are the 26 projects identified the correct ones to initially focus on?

Q3: Do you agree that it is in the consumer interest to consider exempting projects from competition?

Q4: Which of our options for exempting projects from competition do you favour?

Q5: Do you agree that without upfront certainty that they will be delivering enough of the investment needed for 2030, TOs will face significant difficulties mobilising the supply chain to deliver the works on time?

Q6: Do you agree that it is in consumer interest to consider streamling our regulatory processes?

Q7: Which of our options for streamling our regulatory processes do you favour?

Q8: Do you agree with the costs and benefits methodology we have established?

Q9: Do you agree with the conclusions of our cost and benefits analysis?

Q10: What are you views on introducing a package of regulatory measures which Ofgem may apply to protect consumers?

Q11: What are you views on the design of each of regulatory measure? (Please clearly reference which measure(s) your comments relate to e.g. Accelerated delivery Output Delivery Incentive, Ex post efficiency review, etc)

Q12: Do our you think our proposals raise any finaceability concerns or create excessive financial risk for the network companies? If so, how could they be addressed?

Q13: Is any further guidance, or additional specific information, needed as part of the TOs' project delivery plans?

Q14: Are there any additional timetable issues that need to be considered?

Appendix 4 – Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

4. With whom we will be sharing your personal data

(Include here all organisations outside Ofgem who will be given all or some of the data. There is no need to include organisations that will only receive anonymised data. If different organisations see different set of data then make this clear. Be a specific as possible.)

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for ***(be as clear as possible but allow room for changes to programmes or policy. It is acceptable to give a relative time e.g. 'six months after the project is closed')***

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas (Note that this cannot be claimed if using Survey Monkey for the consultation as their servers are in the US. In that case use "the Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in term of data protection will not be compromised by this".

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure Government IT system. (If using a third party system such as Survey Monkey to gather the data, you will need to state clearly at which point the data will be moved from there to our internal systems.)

10. More information For more information on how Ofgem processes your data, click on the link to our "Ofgem privacy promise".