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06 September 2022

Dear Thomas

Accelerating onshore electricity transmission investment

We welcome the opportunity to respond to Ofgem's consultation on accelerating onshore electricity transmission investment and appreciate Ofgem's constructive and collaborative engagement to date. We strongly support Ofgem in reacting quickly to propose a package of measures to facilitate accelerated delivery by the Transmission Owners (TOs). All projects, identified below and in scope of the accelerated regulatory framework, need to commence delivery within the next 12 months, else the target to connect 50GW of offshore wind by 2030 cannot be met.

As we explain further throughout this response, in our view the overarching priority of the accelerated regulatory framework must be to support the delivery of all in scope schemes prior to or during 2030. Our initial project Delivery Plan[1] will provide clear commitments to deliver those strategic investments efficiently and on time, subject to factors within our control[2].

Recognising the scale of the challenge industry is facing in delivering upon these commitments, we believe there are several factors necessary to enable successful delivery of 2030 targets.

- **Progressing with all no regret, strategic investments required to deliver 2030 offshore wind targets.** We welcome the eight strategic investments in our network area included within Ofgem's provisional list of strategic onshore electricity transmission projects. These have been identified as being needed to meet the Government's 2030 ambitions and therefore in scope for the accelerated regulatory framework. We note that Ofgem confirms its provisional list does not include all schemes identified in the HND as required by 2030. This clarification is welcome, as there are three strategic projects that should be part the accelerated regulatory framework. These are required by 2030 to allow offshore generation to connect and both fall within the consultation's criteria for strategic network reinforcement:

[1] Our initial Delivery Plan will be submitted to Ofgem by 16 September as requested.

[2] TOs should not be accountable for events outwith their control which result in delayed grid infrastructure. This includes force majeure events, supply chain changes to delivery dates, delays in the consenting regime and restrictions on outages for commissioning.

- **1.8GW HVDC link from Arnish to Beauly:** National Grid ESO's *Pathway to 2030 Holistic Network Design*[3] (herein 'the HND') identified a 1.8GW HVDC link from Arnish on the Isle of Lewis to Beauly as '*essential to connecting the 23GW in scope generation for the HND to the transmission system by 2030*'. This link clearly meets Ofgem's definition of 'strategic onshore ET project' and should be in scope for the accelerated regulatory process[4]. There is currently no transmission link to the mainland. Without this link, the offshore (and onshore) generation will not be connected by 2030.
- **Beauly to Denny 275kV circuit to 400kV (BDUP):** BDUP meets Ofgem's provisional view of projects qualifying for accelerated delivery as it is identified within NOA as required to meet the 2030 targets, required for SQSS compliance (to enable connection) and has an estimated value of over £100m. The driver for BDUP is the connection of ScotWind projects due to connect in 2030. The planned generation within ScotWind Zones N3 and N4 means we can't effectively move that generation to the onshore TO network without BDUP (and therefore in accordance with SQSS requirements).
- **Aquila Pathfinder:** Our innovative proposal for a Direct Current switching station at Peterhead, approved as a "pathways to 2030" project with ministerial commitment to support delivery through the Early Opportunities Pathfinder under the Offshore Transmission Network Review (OTNR), is required to be accelerated as it is a key dependency for the full benefits of these projects to be realised from acceleration.

- **Certainty of need is required now across the 2030 programme in order to secure the supply chain.** Ambitious targets for decarbonisation have been set globally resulting in demand for High Voltage Direct Current (HVDC) technology tripling from 2022 to 2030, outstripping supply every year to 2030. It is a similar situation for traditional High Voltage Alternating Current (HVAC) assets where demand is forecast to experience growth between 31 and 131%[5]. The supply-demand capacity gap means that we are competing for technology and resources which are in scarce supply. We are competing in a global market where other market participants are already acting to secure the supply chain commitment on which delivery by 2030 depends. It is essential that Ofgem's November decision commits to the projects proceeding and to providing allowances for pre-construction and advanced construction funding. Doing so will allow us to secure supply chain participation in our tender activity, contract for manufacturing slots, involve suppliers in developing the 2030 accelerated programme, and enable the contracting industry to scale up labour resources for the challenge ahead.

- **Introducing onshore transmission competition will prevent delivery for 2030.** The introduction of onshore competition and delivery for 2030 are mutually exclusive, and therefore exemptions should be provided for all in scope projects, including:
  - Beauly to Loch Buidhe 400kV reinforcement (BLN4)
  - Loch Buidhe to Spittal 400kV reinforcement (SLU4)
  - 400kV Beauly to Blackhilloch 400kV double circuit (BBNC)
  - Blackhillock and Peterhead 400kV double circuit (BPNC)
  - East Coast Onshore 400kV Phase 2 reinforcement (TKUP)
  - Uprate the Beauly to Denny 275kV circuit to 400kV (BDUP)
  - Spittal to Peterhead HVDC reinforcement (PSDC)
  - 1.8GW HVDC link from Arnish to Beauly

[3] https://www.nationalgrideso.com/future-energy/the-pathway-2030-holistic-network-design/hnd

[4] Despite SSEN Transmission's proposed 600MW HVDC link to the Western Isles no longer being progressed, the HND would recommend a 1.8GW link even in the situation whereby a 600MW link was already in situ (see page 108 of the HND).

[5] We commissioned Deloitte to review empirical datasets and engage with external suppliers to better understand the current challenges faced across the global and domestic marketplace to inform that strategy. We will share the final report alongside our Delivery Plan due to Ofgem on 16 September.

  - Eastern Scotland to England 3rd link: Peterhead to the south Humber offshore HVDC (E4L5)
  - Eastern Scotland to England 2nd link: Peterhead to Drax (E4D3) – exemption already confirmed; and
  - Aquila Pathfinder.

  The consultation makes two key points; the earliest possible date a competitive process could begin is in 2024, and where supply chain engagement is required prior to 2024, projects should be exempt from competition. We are already undertaking meaningful engagement with the supply chain on all our projects as securing the supply chain is an early critical path activity to ensure the 2030 delivery dates. Therefore, it follows that all our projects should be exempt from competition. This aligns with the Electricity Networks Strategic Framework (ENSF) which noted that *"strategic projects which are likely to engage in the market between now and 2026 will be exempt from the introduction of onshore network competition, where in consumer interests".*[6]

- **Balanced and proportionate consumer protection measures.** Consumer protection should be inherent to any regulatory framework. We are largely supportive of Ofgem's framework, and we support balanced licence mechanisms which align with consumer interests. Government, Ofgem and industry all recognise the herculean effort required to meet the 2030 delivery challenge. The BESS, the ENSF, as well as this consultation, are all very clear on this. It is therefore wrong to recognise the challenge of delivering 2030 targets (the asymmetric risk) and then apply a punitive penalty regime for late delivery (an asymmetric response). We are ready to respond to the 2030 challenge with flexibility and innovation. However, such a regime disincentivises networks to take risk, innovate or strive for accelerated delivery. This is not in consumer's interests and risks the financial stability of transmission networks. Therefore, we cannot support the proposed accelerated delivery ODI.

- **The scope and scale of works must be financeable.** As with any previous regulatory processes, whether price controls or significant reopeners, Ofgem should ensure it considers financeability in line with its statutory duties. This includes considering the impact of financial parameters such as the cost of capital, asset lives and capitalisation rates. In line with RIIO-T1 and RIIO-T2, undertaking robust and plausible scenario analysis to stress test financeability is a key pillar of the regulatory process. As a result, Ofgem's proposed consumer protection measures should be considered alongside whether the proposed investment is financeable (and therefore the RIIO-3 financial parameters). Ofgem cannot reach a conclusion within the consultation that *'the overall price control package was appropriately calibrated so that licensees can finance their activities and fund the necessary investments in networks'* absent the potential downside penalties proposed through the Accelerated delivery ODI. Ofgem should not reach that conclusion without undertaking the analysis to support it which we are considering as part of our investment to 2030 in line with what is required by our regulatory licence obligations.

Following this consultation, we would welcome continuing the collaborative engagement with Ofgem, Government, and other stakeholders on the policy issues required to enable timely delivery of the required onshore transmission capacity. We are continuing to draft our delivery plans and will submit robust evidence for inclusion of each scheme within the accelerated framework (including the Arnish to Beauly HVDC link and Beauly to Denny 400kV upgrade).

In order for us to commit to 2030 delivery and maintain the critical path for delivery, it is essential that Ofgem's decision document addresses the success factors as set out above and provides:

- Confirmation that the need for all strategic projects is approved based on the option identified as optimal in the National Grid ESO's Pathway to 2030 Holistic Network Design;

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1096283/electricity-networks-strategic-framework.pdf page 50

- Confirmation that all strategic projects will be exempt from competition and the TO will be responsible for delivery;
- Confirmation that Ofgem will approve all efficient pre-construction and advanced construction expenditure to advance these strategic projects; and
- Balanced and proportionate consumer protection measures that recognise the extraordinary effort required to meet the 2030 delivery challenge.

Our response follows the chapter structure of Ofgem's consultation. Most sections contain our overarching views upfront, along with a response to specific questions posed within the consultation document.

We are happy to discuss any of the points raised within this response at Ofgem's earliest convenience.

Yours sincerely

Steven Findlay
Senior Regulation Manager

Appendix 1: Answers to Questions 1 to 14

Chapter 3 Response – What Strategic onshore ET projects are in scope?

It is our view that Ofgem should review the proposed list as a priority and ensure it contains all projects that are necessary to meet Government 2030 targets related to connecting 50GW of offshore wind, as included in National Grid ESO's *Pathway to 2030 Holistic Network Design*[7] (herein 'the HND'). For completeness, in relation to SSEN Transmission, we consider the following schemes as in scope to achieve network capacity for 50GW of offshore wind by 2030:

- Beauly to Loch Buidhe 400kV reinforcement (BLN4)
- Loch Buidhe to Spittal 400kV reinforcement (SLU4)
- 400kV Beauly to Blackhillock 400kV double circuit (BBNC)
- Blackhillock and Peterhead 400kV double circuit (BPNC)
- East Coast Onshore 400kV Phase 2 reinforcement (TKUP)
- Uprate the Beauly to Denny 275kV circuit to 400kV (BDUP)
- Spittal to Peterhead HVDC reinforcement (PSDC)
- 1.8GW HVDC link from Arnish to Beauly
- Eastern Scotland to England 3rd link: Peterhead to the south Humber offshore HVDC (E4L5)
- Eastern Scotland to England 2nd link: Peterhead to Drax (E4D3); and
- Aquila Pathfinder.

If the projects listed above are not in scope and delivery is not commenced within the next 12 months, the target to connect 50GW of offshore wind by 2030 cannot be met (as explained with our response to Question 5).

We require certainty as to which projects are in scope of the accelerated regulatory framework as soon as possible and therefore we welcome a decision during 2022. Specific project issues may also drive a requirement for an indication of certainty ahead of that publication date[8]. We will work with Ofgem to identify and provide the necessary information to inform an early decision.

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

We agree with the first and second criterion but have concerns regarding the third; "*There is clear evidence that the expected benefits of applying the accelerated delivery framework to the* ***project*** *exceeds the expected consumer detriment*".

There is already clear evidence of substantial **collective** consumer benefit of delivering all the strategic investments by 2030, as set out in the ESO's economic analysis in the HND which highlighted net consumer savings of £5.5bn based on constraint cost savings, and the associated connection of 50GW offshore wind avoiding carbon costs to society.[9] Ongoing engagement with Ofgem and the ESO has revealed the difficulties in unpicking project by project constraint costs. For example, attempting to calculate the benefit of acceleration related to an individual project could result in showing little benefit as alone this project will not provide the boundary uplift capability (possibly due to other system constraints aside from thermal loading) and therefore will not show alleviation of significant constraint costs. However, in combination with other projects across the same boundary, as indicated through NOA, it can deliver the collective benefit (i.e., the whole is greater than the sum of the parts). Removing any project based on a notional,

[7] https://www.nationalgrideso.com/future-energy/the-pathway-2030-holistic-network-design/hnd

[8] For example, we are currently engaging the HVDC supply chain on the Spittal to Peterhead and Arnish to Beauly HVDC links, who may require earlier certainty that the projects will progress to respond to our Pre-Qualification Questionnaire (PQQ) issued in September and certainly will require certainty to respond to our Invitation to Tender (ITT) planned to be issued in December.

[9] https://www.nationalgrideso.com/future-energy/the-pathway-2030-holistic-network-design/hnd

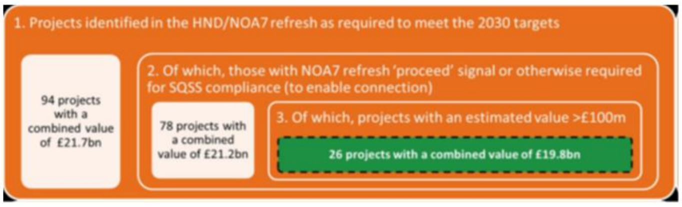
assumption-packed constraint value will risk delivery of the Government's 2030 ambitions and the collective consumer benefit already identified.

It is our view that the overarching objective of the accelerated framework must be in facilitating delivery by 2030 of all projects to protect this significant collective consumer benefit and therefore, a more suitable the third criterion is: *"There is clear evidence that by not applying the accelerated delivery framework to the project, delivery by 2030 is significantly put at risk."*

This would mean Ofgem's criteria will recognise the consumer benefit of delivering 50GW of offshore wind to the overall GB system by 2030 and therefore meeting Government targets, both of which are not explicitly recognised within the proposed criteria as per paragraph 3.5 of the consultation.

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

No, three projects are missing.



Source: Ofgem Consultation (August 2022) – *Accelerating onshore electricity transmission investment, page 22.*

The consultation document has correctly included all North Scotland projects as identified in the **NOA7 refresh** within the 26 projects for inclusion within the accelerated delivery framework. However, it excludes three vital North Scotland projects - the **1.8GW HVDC link from Arnish to Beauly** and **Beauly-Denny 275kV to 400kV upgrade (BDUP) –** identified by the ESO within the **HND as required to meet 2030 targets** (criterion 1 in the Figure opposite), and also **required for SQSS compliance**[10] **(to enable connection)** (criterion 2), as well as our innovative proposal – the **Aquila Pathfinder - for a HVDC switching station at Peterhead**. For the avoidance of doubt, all three meet the third criterion. It is also our view that all three meet the accelerated delivery framework criteria as set out in paragraph 3.5, noting our response to question one above.

We welcome the inclusion of footnote 18 on page 22 of Ofgem's consultation, which recognises that the 1.8GW HVDC link from Arnish to Beauly was not included in the NOA but has been identified in the HND as required to meet 2030 ambitions, and the commitment for continued further engagement on this and other relevant projects within the scope of the accelerated framework. In response to this, we are providing further detail below on our proposed Arnish to Beauly 1.8GW HVDC link, our Beauly-Denny 275kV to 400kV upgrade (BDUP) and the Aquila Pathfinder, all of which we consider meet the criteria for acceleration. We will also provide further detailed information for the three strategic investments within our delivery plan submission.

Arnish to Beauly 1.8GW HVDC link (Western Isles)

As identified in the HND, the Arnish to Beauly 1.8GW HVDC link needs to be operational by 2030 to meet the Government's ambition to connect 50GW of offshore wind generation. It should therefore be in scope for the application of the proposed accelerated delivery framework.

As already recognised, the HND creates a clear road map for the network growth required in the coming decade. The clarity of the 2030 network requirements allows us to coordinate different investment drivers and achieve outcomes that are better, in the round, for consumers and customers. We clearly see this effect in how the HND conclusions interact with the reinforcement required to connect both the offshore wind located adjacent to the Western Isles and onshore wind in the region. Specifically, the ESO has confirmed through the HND that based on the location of SW_N4

[10] The NOA Refresh does not address network compliance with the NETS SQSS and additional reinforcements (such as BDUP) can be identified for network compliance, which is an integral part of designing a secure, operable, transmission system capable of facilitating net zero.

(740MW), the recommended design to connect the offshore site is a radial link to Lewis on the Western Isles, and then onward onto mainland GB via a 1.8GW HVDC link (with this reinforcement forming part of SSEN Transmission's network). There is currently no transmission link to the mainland. Without this link, the offshore (and onshore) generation will not be connected by 2030 (or any date). This was considered optimal when compared to the alternative options assessed by the ESO.

Whilst this strategic reinforcement has been identified as the optimal solution to connect SW_N4 (740MW), due to its capacity, this reinforcement will also serve the benefit of enabling the connection of known planned onshore wind developments on the Western Isles (439MW) who have been awarded CfD, as well as providing headroom for further renewable developments in the future (both offshore or offshore).

In light of this information, following the publication of the HND recommendation in July 2022, we informed Ofgem of our decision to withdraw our existing needs case seeking approval for a 600MW HVDC link, which had been designed only to meet the need of existing known onshore renewable generation. This was on the basis that, given the information outlined above, there was no substantive consumer justification to pursue both links.

Uprate the Beauly to Denny 275kV circuit to 400kV (BDUP)

BDUP meets Ofgem's provisional view[11] of projects qualifying for accelerated delivery as it is identified within NOA as required to meet the 2030 targets, required for SQSS compliance (to enable connection), and has an estimated value of over £100m.

The driver for BDUP is the connection of ScotWind projects due to connect in 2030. The planned generation within ScotWind Zones N3 and N4 means we can't effectively move that generation to the onshore TO network without BDUP (and therefore in accordance with SQSS requirements).

In effect, we need both Arnish to Beauly 1.8GW HVDC link and BDUP to connect offshore wind in and around Western Isles. We note that accelerating BDUP would also have the additional benefit of allowing the full proposed capacity of the 1.5GW Coire Glas pumped storage scheme to connect (currently 2029). Until BDUP is fully commissioned Coire Glas would only be able to partially connect, reducing the benefits to consumers of the scheme.

We will provide Ofgem with further information as to the expected benefits of applying the accelerated delivery framework within our Delivery Plan.

Aquila Pathfinder Project

Lastly, we would like to bring to Ofgem's attention the Aquila Pathfinder, a Direct Current Switching Station (DCSS) at Peterhead, designed to facilitate the co-ordinated connection of offshore links and windfarms and which has been designated a pathfinder project by BEIS through the OTNR[12]. As already outlined, the NOA7 Refresh and HND have identified a number of strategic investments as low regret for the purposes of meeting 2030 net zero targets. One of the strategic hubs identified within our network is Peterhead, with two offshore HVDC links (EGL4 and PSDC) and the potential for a number of HVDC connections landing (offshore connections, future interconnectors etc). Through a co-ordinated approach to network design, the potential opportunity has been highlighted that the most economic and efficient design in delivering these strategic investments would be to construct a DCSS at Peterhead for 2030. This could unlock the potential to deliver a fully interoperable DC network post 2030 which could reduce the number of converter stations required for future connecting circuits, as well as providing several economic and environment benefits for this area.

[11] Figure 2, page 22 of the consultation document.
[12] Ministerial letter regarding SSEN / HVDC Centre's proposal for Project Aquila (publishing.service.gov.uk)

We are including the need for the DCSS within our submission, as this project requires acceleration to unlock the benefits of these projects and deliver the opportunity for network flexibility, at the lowest cost to consumers.

To be clear, this is not a “project” in the sense of the other HND projects listed, but rather is a solution to successfully deliver the HND projects in a way that maximises future opportunities (i.e. potentially deliver a fully interoperable DC network with the potential to avoid significant future constraint costs). We require that it is part of the accelerated framework as there is no other natural home for this approved “pathways to 2030” Pathfinder project to secure the funding. This is the natural fit given Aquila is forms part of the 2030 solution.

Chapter 4 Response – The role of competition and exempting projects

All projects required to enable the 2030 targets should be exempt from competition[13]. In our transmission area this includes:

- 400kV Beauly to Blackhillock 400kV double circuit (BBNC)
- A new 400kV double circuit between Blackhillock and Peterhead (BPNC)
- Beauly to Loch Buidhe 400kV reinforcement (BLN4)
- East Coast Onshore 400kV Phase 2 reinforcement (TKUP)
- Spittal to Peterhead HVDC reinforcement (PSDC)
- Loch Buidhe to Spittal 400kV reinforcement (SLU4)
- Uprate the Beauly to Denny 275kV circuit to 400kV (BDUP)
- 1.8GW HVDC link from Arnish to Beauly
- Eastern Scotland to England 3rd link: Peterhead to the south Humber offshore HVDC (E4L5)
- Eastern Scotland to England link: Peterhead to Drax offshore HVDC (E4D3 – competition exemption approved); and
- Aquila Pathfinder.

It is not in consumers' interests to introduce onshore transmission competition for the following reasons.

Competition is a barrier to 2030 delivery: The consultation correctly concludes that delaying critical activities, such as supplier engagement, leads to consumer detriment. *"[D]elaying 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."*

This applies to all project development activities on the critical path which depend on the delivery party being known to progress. Therefore, the uncertainty and delay to critical path activities will continue until the conclusion of a competitive process and identification of the delivery body. The consultation confirms that a competitive process cannot commence until 2024 at the earliest. Using estimated timelines from recent consultations on competition models[14], this delays the finalisation of the delivery arrangements until at least mid-2025. Critical activities impacted by this continued uncertainty include engaging and securing the supply chain, securing land and access rights.

- **Land and access rights:** Successful bidders in competitive models would require additional time upon which to engage contractors, place contracts, engage with stakeholders etc. For example, a third-party contractor would need to renegotiate wayleaves as any agreed between TOs and landowners are not legally capable of being transferred or assigned to a third party. This will add further delay to the delivery timeline and increase consumer detriment.
- **Supply chain engagement:** Evidence from the supply chain highlights that it is facing significant constraints in meeting exceptional growth in global demand. The market therefore requires contract certainty from us to hold manufacturing windows, commit scarce resources or begin investing to stimulate manufacturing and skills capacity in the UK. Therefore, while competition prolongs delivery uncertainty, we are unable to make progress to secure limited supply chain availability. This leads to two outcomes. The risk of being unable to secure capacity at a later date to deliver the project or paying a heavy premium to secure capacity. Neither outcome is in consumers' interests. In response to the current supply environment, we plan to begin issuing

[13] We assume that early competition models are not being considered in this evaluation process as they would already need to be running to have delivered projects by the early 2030s.

[14] Page 20, Consultation - Competition in Onshore Electricity Networks, BEIS, August 2021; Paragraph 3.2, Page 27, Consultation – Minded-to Decision and further consultation on Pathway to 2030, Ofgem, May 2022

Invitations to Tender (ITT) prior to the end of 2022, with contract award before the end of March 2023 for HVAC and the end of August 2023 for HVDC.

Our initial Delivery Plan, which will be submitted to Ofgem on 16 September, contains independent evidence of the supply–demand gap to 2030. It substantiates our assessment that securing the supply chain is an early critical path activity on which the 2030 delivery dates and consumer benefit depend. Notwithstanding this, our Delivery Plan programmes show that progress on the critical path activities must be achieved before the earliest plausible windows for the introduction of competitive models. Furthermore, our Delivery Plan will also demonstrate there is no scope within the current programme timelines to allow for a hiatus period and maintain EISDs.

Competition could introduce costs for consumers: Ofgem's analysis concludes that the total net benefit for consumers is positive in all scenarios considered by Ofgem. This holds even when the analysis accounts for the loss of assumed benefits emerging from competitive processes. The case for not applying competition to 2030 investments is reinforced following independent analysis conducted by Oxera. We commissioned Oxera to assess the available evidence base for the introduction of competition to comparable sectors. Oxera used this research, building on Ofgem's March 2022 impact assessment to undertake an analysis of the potential range of costs and benefits that could result from the introduction of a competition model for delivering new onshore transmission assets, relative to a RIIO regulatory model counterfactual (and TO delivery). This arrives at a central case result where competition will result in cost to consumers. We have provided a summary of this analysis in Appendix 2, and also attach Oxera's full report to this consultation response.

Competition limitations recognised by the consultation: The consultation further notes the "*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*". Subject to factors within our control and changes to the regulatory framework, we are committing to the required delivery dates and therefore support this position from Ofgem.

Competition criteria is not satisfied: The results of the ESOs Pathway to 2030 naturally do not include detail on how projects will be developed and therefore fail to identify where projects are not easily separable. Our Delivery Plan submission will highlight the interdependencies that will not have been evident at the initial assessment. For example, this includes the interdependency of the Spittal to Peterhead HVDC link with the HVDC hub at Peterhead (where both the East Coast HVDC links land) and the development of the approved Pathfinder project, Project Aquila, developing DC interoperability at the hub.

Development is underway for all our in-scope projects: It is unclear how Ofgem has made its decision on which projects have "not started" within the consultation. We note that the HND has identified the Spittal to Peterhead HVDC reinforcement (PSDC) and the Beauly to Loch Buidhe 400 kV reinforcement (BLN4) as at the "Strategic Optioneering" phase and the Beauly to Blackhillock 400kV double circuit addition (BBNC) as at the "design/development and consenting" stage[15]. Development of all in scope projects is underway and should not be classed as "not started"[16].

Linked to this, in our view all our projects should be exempt from competition. We provide further input to Ofgem's cost benefit analysis and the detriment from not applying competition in our response to chapter eight.

[15] https://www.nationalgrideso.com/document/263426/download

[16] Of the SSENT strategic investments, Ofgem has stated BBNC (Beauly to Blackhillock 400kV double circuit addition, PSDC (Spittal to Peterhead HVDC reinforcement) and BLN4 (Beauly to Loch Buidhe 400 kV reinforcement) has not yet started

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

Yes. Ofgem's current cost benefit analysis (CBA) demonstrates it is in the consumer interest to provide an exemption for all projects in scope of the accelerated framework.

Even before considering the results of Ofgem's CBA, the overarching objective of the accelerated framework must be ensuring that all schemes required for 2030 are deliverable. Competition will lead to delay (as described below) and risks achieving the Government's 2030 targets which seek to bring significant benefits to consumers in the form of reduced energy bills through connecting cheaper renewable energy, carbon saved through reduced emissions and society benefits through investment and jobs.

On affordability, the current wholesale price of electricity is higher than renewable sources (ca £200 per MWh[17] vs ca. £40 per MWh[18]) and increasingly exposed to fluctuations due to various geopolitical factors. From this data and long-term energy trends, many forecasters in the industry predict that energy prices will remain high for customers.

Accelerating the transition of the GB electricity transmission network to achieve net zero will bring forward reductions in customer bills through connecting cheaper renewable generation, helping to alleviate the current cost of living crisis and improve affordability. We also question the estimated benefit calculations applied for competitive models. We therefore question whether the perceived benefits of competition would offset the associated carbon and affordability benefits that earlier delivery without competition would bring.

As an industry we must consider whether the priority is to achieve Government policy ambitions or potentially reduce customer bills by a marginal amount through an untested competition model which introduces delay. There is no guarantee that an outcome of a competitive tender for a third party to design, build and operate critical national infrastructure will lead to consumer savings relative to delivery by a TO (see below). We recognise that there are theoretical benefits of competition, however it is not in the interest of consumers, and users of the network to rely on previous reported savings in relation to OFTOs due to the differing nature of these assets (i.e., point to point with a single generator).

For the reasons set out below, and the additional evidence which emerges from consideration of our accelerated Delivery Plan, we request early confirmation that our projects are exempt from competition. This will enable us to engage with the supply chain and maintain the critical path to 2030 delivery.

Uncertainty on which party will deliver these critical national infrastructure projects will mean we cannot commit to 2030 delivery.

<u>Procurement benefits lost when applying onshore competition</u>

There is a loss of efficiency (e.g., reducing interface risk, ability to plan work efficiently, improved market prices, securing 2030 delivery programmes) where our 2030 projects are delayed while awaiting competition exemption or where the overall programme of work we can offer the market is diluted. The supply chain is international and has opportunity to accept work elsewhere (as described in response to Q5). Bundling of contracts for larger volumes of work and providing certainty of work across several years will attract a wider pool of providers and increase the overall competitiveness of any bids. This is a benefit of consumers.

For example, TenneT, has confirmed that a €30bn programme of work[19] will be tendered through a framework agreement with call offs with a series of preferred suppliers. Other countries and TOs are moving at pace to secure

[17] Wholesale market indicators | Ofgem
[18] See AR4 CfD auction results CfD Allocation Round 4 results (publishing.service.gov.uk)
[19] Large-scale offshore tender sets TenneT on course to deliver 2030 offshore expansion targets - TenneT

the supply chain through significant volumes. Delays while awaiting the development of competitive models, risk the loss of supply chain availability and the deliverability of these projects for the 2030 Required In Service Dates (RISDs). The continued uncertainty and fragmentation of programmes of work, e.g., HVDC offshore cable contracts, into single projects will severely limit the pool of engaged suppliers, decrease competition, increase costs, and potentially introduce quality, technology and schedule issues and constraints.

Without a higher committed volume which comes from the certainty of regulatory approval, we believe that the European supply base will not respond effectively to individual project requirements and will lack the investment certainty to increase capacity and invest long-term.

<u>Competition introduces delivery delay</u>

The consultation document states Ofgem's view that it does 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.'

Under a 'late' competition model, the Invitation to Tender (ITT) will be issued immediately prior to when construction would otherwise be starting. BEIS estimate[20] this process to last anywhere between nine and 15 months, with an additional three to six months for a decision on preferred bidder to be announced, open to challenge and for final checks to be undertaken, as well as licences/contracts being issued. The only logical conclusion is to assume that, against a counterfactual of TO delivery, the competitive model will be anywhere between 12 (best case) and 21 (worst case) months longer.

In addition, as noted in relation to the constrained supply chain capacity and the plethora of opportunities worldwide, there is a 'confidence' factor to consider. If there is uncertainty as to whether a TO is likely to be responsible for delivery, the supply chain will almost certainly refuse to engage, and we will be unable to progress thus resulting in further delay against our accelerated programme

The timeline also does not take account of the time required for the successful bidder requiring additional time to mobilise into a position to begin construction. In addition, considering the significant value of the investments within scope of the accelerated framework, we consider the above timescales to extremely ambitious.

Furthermore, the timelines described above do not accommodate the additional time a successful bidder will require following a competition process to engage contractors, place contracts, secure access and legal arrangements and engage stakeholders effectively. These are only some of the activities which they would need to commence prior to starting delivery. For example, a third-party contractor would need to renegotiate wayleaves. Any such arrangements agreed by other parties in advance (e.g., SSENT/landowners) cannot be legally transferred or assigned to a third party. The Delivery Plan we will submit demonstrates there is no scope within the current programme timelines to allow for a hiatus period and maintain EISDs.

We estimate, as a minimum, the effect of running late competition models will be to delay delivery commencing by between 12 to 21 months. The corresponding detriment to consumers is missing from the current cost benefit analysis. These costs include delayed carbon benefits, prolonged higher consumer energy costs, and ongoing network constraints. Adding these costs into the modelling further strengthens the justification of applying programme wide competition exemption. These delay windows will increase further depending on when a function competition model could be finalised. As the process is still in the legislative stage with development of the industry wide roles and

[20] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1008115/competition-onshore-electricity-networks-consultation.pdf

responsibilities yet to commence, we would contest that functioning models, if achievable, would emerge well after 2024.

<u>Coordinated Network (the 'hub' model)</u>

Our 2030 Delivery Plan submission describes how, to achieve the Government's 2030 targets, we need to create delivery "hubs" on our network which connect a variety of HVAC overhead lines and HVDC cables in one location. Efficiencies of scale would be lost at these hubs if any one project was removed and put to competition. It would also lead to the delay of several projects that all connect at one hub and are therefore dependant on other projects being complete before they can be commissioned. In these circumstances the benefits of delivery for 2030 are not realised.

An example of this is the requirement for a new Beauly substation, which is part of the scope of our proposed Beauly-Blackhillock 400kV double circuit addition (BBNC). This new substation is required to enable several other projects – the Western Isles 1.8GW HVDC and Beauly to Loch Buidhe 400kV reinforcement (BLN4) will connect directly into this new substation. The Beauly-Denny line then moves power directly south to demand centres, and therefore uprating the Beauly to Denny 275kV circuit to 400kV (BDUP) is essential to enable the full benefits of these other projects. The line north of Loch Buidhe, also due for reinforcement (SLU4) is also dependant on these projects being complete.

A further example could be used at the Peterhead hub where our Aquila Pathfinder has been given pathfinder status through the Offshore Transmission Network Review (OTNR) by BEIS[21]. The Early Opportunities workstream of the OTNR is seeking to enable developers of inflight projects to pursue greater coordination and thereby realise the benefits of coordination with the wider network. BEIS approved the progress of our Aquila Pathfinder to advance the development of multi-vendor operability on the DC network as a pathfinder project.

Through a co-ordinated approach to network design, further supported by the approval from BEIS Pathfinder, an opportunity is being evaluated to construct a DC Switching station at Peterhead for 2030 which could create efficiencies in the network design of the NOA/HND investments. If proven, this could reduce the overall number of converter stations required for future connecting circuits, as well as providing a number of economic and environment benefits for this area and for every other GB DCSS that applies an interoperability design philosophy. The proposed solution will deliver a new switching station on the DC side of the Peterhead site with new projects. E4L5 and PSDC will be passed through the switching station and provide the ability to connect further ends (offshore wind, interconnectors etc).

Across our 2030 strategic programme, the integrated nature of the projects and the shared benefits from economies of scale mean that competition should not apply as it fails the separable test and reduces consumer benefit.

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

We strongly support Option 1, to exempt all projects from consideration for competition.

We note Option 1 also states that it is '*subject to network studies*'. We are engaging with Ofgem, National Grid ESO and the other TOs to determine a proportionate approach which delivers these network studies. We expect these studies will evidence that exemption from competition for these projects is likely to deliver benefits that offset the cost to consumers of foregoing perceived competition benefits. We would reiterate that analysis from Oxera indicates that the perceived competition benefits will outturn as a cost to consumer.

It should be noted that analysis undertaken by the ESO in the NOA/HND identified that overall net consumer savings of approximately £5.5 billion. The recommended design set out in the HND does include capital costs of £7.6 billion but this is offset by significant benefits of reduced constraint costs of £13.1 billion. National Grid ESO state that this

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[21] Ministerial letter regarding SSEN / HVDC Centre's proposal for Project Aquila (publishing.service.gov.uk)

equates to a bill saving on the average consumer electricity bill of £2.18 per year.[22] Accelerating will unlock these benefits for consumers earlier than if they were put to competition which would make government targets unachievable and lead to unnecessary delays.

To achieve the overall **collective** benefit identified, we must deliver all relevant projects prior to or during 2030. If we adopt an approach whereby competition is applied to one or several of these projects, which are then delayed, it will severely impact on realisation of the overall benefit identified within the HND/NOA.

Noting the uncertainty associated with the process and outcome of a competition, as set out above, Ofgem has the necessary information now to provide exemptions for all of the projects within scope of the accelerated regulatory framework. We will seek to provide additional information in support of this position as of the Delivery Plan due to be submitted on 16 September.

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?

Yes, we agree that without upfront certainty we will not be able to secure the supply chain to deliver project on time.

Earlier this year, recognising the need to be ready to deliver the outcome of the HND, we engaged Deloitte[23] to better understand if and how our procurement strategy would need to change to accelerate delivery. Part of Deloitte's scope was to review empirical datasets and engage with external suppliers to better understand the current challenges faced across the global and domestic marketplace to inform that strategy.

What emerged is clear evidence of supply chain constraints during this decade. There is a widening gap between the forecast demand for electricity transmission infrastructure and the corresponding capacity of the supply chain to respond. Data extracts from this report are included in summary form below, all of which points towards the need for us to act now to effectively engage with the supply chain in order to secure scarce resource and stimulate supply (manufacturing and skills capacity).

Furthermore, market insights also indicate a clear requirement for the TOs to make financial commitments in order to secure that scarce supply chain resource, a limited willingness of manufacturers to work on small project volumes, and a reluctance to invest in the skills where volume and pipeline of work is not guaranteed. The supply base requires commitment of volume and a pipeline of work to create the investment certainty in order to increase capacity and invest long-term.

As noted already, in response to this shifting competitive landscape, other TOs outside of the UK are starting to take bold market positions to secure supply, exacerbating the challenges. For example, TenneT has revealed a €30bn programme of work will be tendered through a framework agreement with call offs with a series of preferred suppliers[24].

Deloitte's analysis and market insights provide the evidence that corroborates the feedback we have received, and are continuing to receive, from our supply chain; action is needed now to secure delivery and realise long term benefits for consumers. A different approach to procurement is now needed to ensure the supply chain can be secured to deliver the necessary network reinforcements for the benefit of consumers. Therefore, to compensate for what we are witnessing and experiencing, we are developing a new, accelerated delivery strategy, encompassing early contractual and financial commitments to secure the supply chain and we will detail this in our initial Delivery Plan.

[22] HND summary document page 9
[23] We will share Deloitte's final report alongside our initial Delivery Plan submitted on 16 September.
[24] TenneT Starts Activities Under EUR 30 billion Offshore Wind Tender | Offshore Wind

Overall, this necessitates the following changes to the regulatory framework:

- Confirmation that the need for **all** strategic projects is approved based on the option identified as optimal in the HND;
- Confirmation that all strategic projects will be exempt from competition and the TO will be responsible for delivery;
- Confirmation that Ofgem will approve all efficient pre-construction and advanced construction expenditure to secure the supply chain and advance these strategic projects;
- Confirmation that any delivery ODI will not be excessive as the supply chain will not take on significant liability, especially as this is not expected in other markets.

Supply chain evidence

As noted above, we will share Deloitte's final report alongside our initial Delivery Plan submitted on 16 September. Key points include:

- Global demand is outstripping supply: Driven by policies and commitments to deliver low-carbon energy and increase national energy independence there is significant global demand for both HVDC (cables, convertors, civils and vessels[25]) and 'traditional' HVAC electricity transmission assets (substations, overhead lines, transformers, underground cables and civils). Global demand for the former is expected to triple from 2022 to 2030, outstripping supply every year to 2030, and for the latter forecast growth of between 31% and 131% by 2030 is expected. Regionally, demand centres have shifted focus away from solely Europe towards Asia and the USA.
- Capacity constraints and bottlenecks are imminent: This anticipated level of demand is significantly beyond what suppliers are forecast to be able to produce, even after allowing for their planned growth in production capacity. The analysis highlights a widening gap between the forecast demand for electricity transmission infrastructure and the corresponding capacity of the supply chain to respond. This signals an acceleration and intensification in the competition to procure technology and assets in Europe and across the globe. Suppliers of assets used in electricity transmission also supply other markets covering both power generation/transmission and non-power generation/transmission. Market research and supplier interviews have demonstrated that supply is already being outpaced by demand, with procurement bottlenecks occurring now to secure against pinch-points expected in 2026 and 2027.
  While the limited number of suppliers and the number of large-scale programmes (globally and within the UK) already pose supply challenges for TOs seeking to acquire the necessary inventory and resources, there is a risk this could be exacerbated for GB TOs as suppliers can choose to focus their capacity to secure higher returns, from confirmed investments, with lower risk of penalty, in industries and regions with less regulatory burden.
- Skills shortages in the high voltage market in total, the electricity sector may need to recruit up to c.173,000 people by 2030, due to increased demand, retirement, and natural attrition, to deliver the planned projects by 2030[26]. With it taking at least c.3 years to train new starters to add value to the workforce, the stimulation of the scale of skills resources, is therefore urgent. This challenge is intensified by the specialist nature of skills in some areas, e.g. HVDC specialists and project management to support the design, development, construction and commissioning for concurrent HVDC programmes, and because demand in other sectors is also growing, including water and transport who are therefore also committing for this skilled resource.

[25] Global demand to 2030 represents an increase of 109 converters, 21,760 km of cable, and 50 cable-laying and support vessels. UK demand is expected to scale up by 30GW, 12 converters, 2,516 km of cable, and 3 vessels in the same period.

[26] Synthesis of Deloitte resource 2030 forecast,2022

Chapter 5 Response – Changes to Ofgem assessment process that could support accelerated investment

We support Ofgem's review of the existing regulatory framework and the identification of changes to support accelerated delivery. The model proposed is largely aligned to our preferred approach, but we believe further amendments can be made to ensure deliverability of the 2030 schemes. We request that Ofgem seeks to avoid creating any regulatory gates that are critical path (i.e., fixed reopener windows) that could risk leading to "stop-start" scenarios for those projects in scope. TOs and the supply chain need confidence to continue development while regulatory processes are run in parallel. Ofgem should also consider the benefits of a flexible approach to cost assessment, working alongside TOs as each programme develops and new information comes to light.

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

Yes. It is in consumers' interests to streamline the regulatory process as this will allow us to commit to 2030 delivery and maintain the critical path for delivery. By streamlining the regulatory approval process, we have considered how a combination of approach one and two, with appropriate modifications, could work in practice. For us this means:

- Confirmation from Ofgem now that the need for all strategic projects is approved based on the option identified as optimal in the National Grid ESO's Pathway to 2030 Holistic Network Design, and that this will not be re-opened at a later date;
- Confirmation now that Ofgem will approve all efficient pre-construction and advanced construction expenditure to advance these strategic projects (the principle to be confirmed, the quantum can come later via reopeners and/or full project assessment); and
- Confirmation to work with TOs to develop a cost assessment process that is flexible enough to reflect the accelerated timescales we are seeking to achieve, the programmatic approach we are taking and the constrained supply chain we are operating under.

The alternative is to risk the delivery of the necessary electricity transmission infrastructure required to achieve 2030 offshore wind targets. Ofgem's own cost benefit analysis demonstrates that, even in the unlikely worst-case scenario, the accelerated framework will deliver consumer benefit.

As Ofgem is aware, we are working alongside National Grid ESO to demonstrate the benefit of accelerating certain schemes from the original EISD to the optimal date (known as Required In Service Date or RISD). In our view, the projects in scope will deliver a collective benefit for consumers and so the focus of the regulatory framework should seek to enable delivery of those schemes as referred to throughout this response.

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

We are supportive of Ofgem's minded positioning for a combination of option 1 and option 2, subject to the following additional considerations:

Ofgem confirms need within its decision

We note Ofgem's intention to provide early acceptance of need on all projects within scope of the accelerated framework before the end of 2022. For the avoidance of doubt, the "need approval" is approving the preferred option in the HND (see section below on "Review and approval of project design").

We are seeking approval as early as possible, and before December, to enable early meaningful engagement with the supply chain. Several of our projects will be entering supply chain negotiations ahead of Ofgem's intended decision date and any uncertainty is likely to inhibit our ability to effectively engage with potential suppliers (as per the issues highlighted within chapter two). For example, we are currently engaging the HVDC supply chain on the Spittal to Peterhead and Arnish to Beauly HVDC links. We therefore may require earlier certainty that the projects will progress in order to respond to our Pre-Qualification Questionnaire (PQQ) issued in September, and certainly will require certainty to respond to our Invitation to Tender (ITT) planned to be issued in December.

As previously indicated by Ofgem, it is also our expectation that as well as approval of need, it confirms we are responsible for delivery of the projects, and that they are exempt from competition. We have provided evidence to support this in response to Q3-5 of this response and will provide additional project specific evidence within our initial delivery plan submission.

Review and approval of project design

We acknowledge Ofgem's position in the consultation that by providing early approval of need for strategic projects, Ofgem is not endorsing particular design choices or costs.

We recognise that the scope and purpose of the needs case process under LOTI is to allow Ofgem to assess the need for a transmission reinforcement, the options that have been considered, and determine on whether the preferred option is the most efficient to meet the identified need. The HND outcome likewise substantively addresses the options assessment for need.

In providing early approval of the need for strategic projects, it is our expectation that Ofgem is also approving the preferred option (at high level e.g., voltage, route, and sizing), akin to a decision on a needs case. The preferred option details are specified in the HND/NOA7 Refresh and will be set out against each project in our delivery plan submission. It is important that Ofgem does not at a later date reopen its decision on whether the right option (the 'preferred option') has been taken forward by the TO, given that our accelerated delivery strategy (procurement, planning etc) is dependent on early certainty of this.

We note that by approving the need and preferred option, Ofgem is not endorsing the detailed final design, and we would propose that at a later stage, once the projects are further developed, we would present this information to Ofgem for review. The scope of Ofgem's review would be to assess the efficiency of the final design, in relation to factors such as technology choice, layout, ancillary equipment, including the impact on expected cost, ahead of the final cost assessment. To support this process, we would also be open to considering the option of appointing an expert engineering consultant to act as an Independent Examiner, tasked with reporting to Ofgem on the development of the final technical design. We will continue to engage with Ofgem on this and other proposals through the policy working groups over the coming months.

Proposed amendments to Approach 2

We note Ofgem's current proposal under Approach 2 is "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".

We appreciate that detailed policy has yet to be developed through the policy working groups but would encourage Ofgem to adopt a flexible approach that does not prevent a project progressing whilst awaiting planning consent. We are keen to avoid a situation whereby we approach Ofgem for a direction from this requirement for each in scope project (as is currently the case under the LOTI reopener).

Pre-construction Funding

For the purposes of this response and our initial project delivery plans, we are assuming pre-construction works will be consistent with that currently defined within our RIIO-2 Special Conditions and includes: (a) surveys, assessments and studies; (b) project design; (c) engineering development; (d) stakeholder engagement and consultation; (e) tasks associated with wayleaves; (f) planning applications; and (g) tender activities.

We propose Ofgem create a reopener window in April 2023 to provide efficient totex allowances to enable pre-construction to progress as currently planned.

We request a decision on efficient pre-construction funding as soon as reasonably practicable following amendments to the licence. We propose to submit our pre-construction funding request in September (draft) and December (final) alongside our updated project delivery plans to commence advanced assessment by Ofgem with allowances released as soon as possible once licence conditions are in effect in April 2023.

Advanced Construction

For the purposes of this response and our initial project delivery plan, we consider Advanced Construction relates to allowances for 'construction' activities which need to be brought forward ahead of the main construction window to maintain 2030 delivery (and EISDs, where earlier). This includes activities such as substation works, overhead line (OHL) works, securing subsea cable manufacturing slots and the early commitment to contract awards (further detail will be included in our initial delivery plan submission).

We welcome Ofgem's recognition that early certainty of project funding, specifically early construction funding in advance of any planning permission, is one of the key factors that will enable TOs to deliver the required strategic onshore transmission infrastructure to meet the Government's 2030 targets.

We are aware that significant costs will need to be brought forward and paid to the supply chain sooner than would otherwise be the case in previous projects (see our response to Q5). Our market intelligence and research undertaken by Deloitte has highlighted that some suppliers are requesting up to 30% of total project value to secure manufacturing slots for HVDC cables, a position supported by recent tender returns. Other suppliers have told us that they are operating on a first come, first served basis, rather than accepting any advanced payments to secure their manufacturing capacity, while others will opt for parent company guarantees or cancellation clauses. This means it is essential that Ofgem's regulatory framework allows flexibility for TOs to engage the market in procurement exercises as soon as possible. Any delay in launching procurement events (through uncertainty around whether the project is in scope or not exempt from competition) may delay the securing of the supply chain and therefore the achievability of 2030 RISDs or pre-2030 EISDs.

To maintain RISDs/EISDs, and to avoid the regulatory process becoming a blocker to critical path activity, our proposal would be for either:

- recovery of costs through additional reopener windows: a TO triggered reopener mechanism to issue totex allowances for advanced construction which has been requested by TOs (indicative dates for when these allowances may be required will be evidenced in our delivery plan submission); or
- **recovery of costs at the final cost assessment:** a suitable mechanism to allow TOs to confidently incur and recover at a later date the efficient costs for these advanced construction activities, potentially at final cost assessment stage or through a separate cost assessment process in the unlikely event that a project is abandoned, and a final cost assessment is not undertaken.

At this stage we are open to exploring both options with Ofgem and welcome further engagement through the policy working groups over the coming months. However, we would require a clear decision in the November Decision Document that efficiently incurred advanced construction activities will be recoverable in full and a definition of advanced construction activities will be set out.

Final cost assessment

We welcome Ofgem's approach to work with TOs to develop high level guidance to support the final cost assessment.

We note that Ofgem's proposal, under approach two, is *"that the full cost assessment would be consistent with the current project assessment phase of the LOTI process."*[27] While we expect the process that Ofgem takes to be largely consistent with prior project assessments undertaken under the LOTI process, in so far as **no less scrutiny is placed on efficiency of costs**, we also ask that Ofgem recognise that, where possible and appropriate, the cost assessment is flexible enough to reflect the accelerated timescales we are seeking to achieve, the programmatic approach we are taking, and the constrained supply chain we are operating under. For example:

- it may be possible to **bundle cost assessments**, for example where projects are linked, or the procurement of the supply chain followed the same process;
- we would encourage Ofgem to **accelerate the cost assessment process as much as possible and not delay the final cost assessment until planning has been awarded**, particularly if this risks delaying project EISDs or RISDs. For all of our projects currently in scope, we anticipate submitting our full project cost assessment ahead of a decision on planning. If we await a decision on planning before submitting a full project cost assessment, we will be unable to maintain current EISD programmes (i.e., both activities are concurrent on the critical path). Consistent with our views on the project assessment under LOTI, rather than waiting to commence the final cost assessment until planning has been awarded, we would request that Ofgem commences the final cost assessment in advance, so that final approval of allowances can be made once planning has been awarded (with the option for a minded-to decision, conditional on planning, to be made before this). Any delay to the approval of full allowances will delay our ability to enter final agreement/contracts with the supply chain, subsequently delaying deliverability by 2030. Our delivery plan submission will identify these key dates for each strategic project;
- depending on the route taken for TOs to request advanced construction allowances, the cost assessment could be **de-scoped, significantly reducing the timescales for completion** (e.g., in the scenario where advanced construction allowances have already been assessed and approved via a previous reopener);
- consistent with our views on the project assessment under LOTI, it is important for Ofgem to **accept that the provision of competitive tendered prices act as a confident and unfailing source of information** when setting efficient allowances, when procurement rules have been duly followed. This negates the need for desktop benchmarking exercises which in reality will be unlikely to reflect the market price in a constrained and highly competitive market;
- that Ofgem accept in the project assessment the **impact of the procurement strategy** that was adopted a number of years previously in order to secure scarce supply chain resource;
- that the cost assessment process is flexible to respond to market intelligence which reveals **contract prices are being held for much more limited timeframes** in the past, meaning the contracted prices may change *during* the cost assessment process; and that **non-tendered costs may not always be available**. We welcome Ofgem's openness to considering alternative sources of evidence if they are sufficiently robust. We intend to provide further details of the evidence we can provide at a later date however, overall, we ask that Ofgem takes a flexible approach to this type of evidence.

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[27] Consultation on accelerating onshore electricity transmission investment | Ofgem page 35

Real price effects (RPEs), Inflation and Foreign Currency

The accelerated regulatory framework should also consider the impact of RPEs on TOs.

During 2022, inflation has increased significantly as a result of geopolitical and macroeconomic conditions. This can be seen in the headline rates of inflation; however, hyperinflation has been seen in commodity and material prices. Therefore, the input cost pressures we are currently facing in the organisation are increasing significantly and measures must be put in place to ensure there are protections around cost inflationary on totex allowances. For example, RPEs and inflation should be key factors in setting totex allowances. Additionally, we would continue to advocate foreign currency being a relevant cost element as we previously set out in our Shetland HVDC Link Project Assessment.

Considering the current market conditions, thought must be given as to how to protect consumers and TOs from increasing commodity costs. Determining the best approach, whether that be a defined RPE mechanism or a more targeted strategy, is partly dependent on what form the cost assessment stage will ultimately take. We would therefore welcome further engagement on RPEs topic throughout the policy working groups.

Chapter 6 Response – Cost Benefit Analysis

We welcome Ofgem's publication of its cost benefit analysis (CBA) within chapter 6. Ofgem's CBA supplements the range of consumer benefits associated with implementing the accelerated regulatory framework (across all scenarios). The **collective** benefits of acceleration have been demonstrated through the economic analysis which underpins the recommendation made in NOA and HND.

We should also recognise acceleration of schemes (and therefore constraint savings) is not the sole benefit of the proposed accelerated framework. We should seek to capture the benefit of connecting renewable energy (therefore displacing carbon intensive generation), achieving Government targets and objectives, and maintaining network compliance with the SQSS.

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

While it identifies some elements, the CBA underestimates the overall benefit of achieving 2030 Government targets. We should recognise, as part of value assessment, that not implementing the accelerated regulatory framework will mean that the Government's 2030 targets are missed.

We appreciate it is difficult to value the achievement of Government targets and agree that this is a wider question that Ofgem alone cannot answer. However, Government policy is clear and achieving 2030 targets fulfils the interests of consumers. Therefore, we ask Ofgem to recognise that the result of a CBA is not the only evidence it should consider when deciding on whether to implement the framework. The decision must be taken in the round and consider all factors on the need for a new framework to accelerate strategic transmission investment.

Projects included within the competition counterfactual

Ofgem's counterfactual assumes 17 of the initial in scope projects as delivered through LOTI and nine through competition. The nine projects assumed to be subject to competition are broken down as follows:

- Three projects that Ofgem is minded not to exempt[28], on the basis that Ofgem considers their development has not started and that they have 2030 EISDs; and
- six that Ofgem is minded to exempt[29], but considers that their development has not started and that the ESO has stated that they that need to be delivered before the EISDs and by 2030.

Notwithstanding our response to Q2 which outlined that all of our strategic projects are in development, we ask that Ofgem reflect whether it should include the six projects that it is minded to exempt from competition given that the current expectation is that these projects will be exempt. As noted above, and in particular chapter two, we do not believe it is possible to deliver these projects by 2030 via a competitive model and so these projects should be removed from the counterfactual, thus recognising the benefits of the accelerated regulatory framework.

Suggested improvements to the CBA methodology

We feel that there are potential improvements in the analysis that could be made to demonstrate additional consumer benefit in implementing the accelerated regulatory framework, these include:

- The benefits of avoiding constraint costs associated with a delay in delivery which applying a competitive model would bring.
- The carbon benefits of accelerating delivery (recognising the ESO's model calculates some of these figures which should be recognised as a benefit).

[28] See table 14 in appendix 2 of the consultation document, page 76, includes BBNC, PSDC and SCD1.
[29] Includes BLN4, CGNC, EDN2, GWNC, LRN4 and PSNC

- The benefit of avoiding carbon costs associated with delay.
- Increased financing costs as a result of introducing a competitive model.
- Allowing for a less pessimistic assessment of potential abandoned costs.
- Ofgem's expected range of capex savings through competition is optimistic.
- The timing of when costs are incurred should be considered.

We discuss each of these in turn below.

Benefit of avoiding constraint costs associated with delay

We welcome Ofgem including the constraint savings identified as a direct result of acceleration. However, it is also worth considering the benefit of avoiding constraint costs that would occur because of a delay under the counterfactual. Any delay will lead to increased constraint costs and these costs should be included within the CBA given that they would be avoided under an accelerated framework. This is important for those projects which do not have a different EISD / RISD date but would be delayed as a result of running a competitive tendering process.

We would also ask that Ofgem considers whether the delay scenarios contained within the CBA are appropriate. It has only considered four delay scenarios – 3 months, 6 months, 9 months and 1 year. Our analysis to date has found that the length of delay under a competitive model could be much longer than that compared to TO delivery. BEIS has stated that it expects a competitive tender would take 2-3 years. We therefore would expect that delays could be longer than 1 year and could possibly extend to 3 or 4 years. We therefore ask Ofgem to consider longer potential delays under the counterfactual, as well as the potential that the competitive regime is not effective by 2024.

Carbon benefits of accelerating

Carbon prices can be used to monetise carbon emissions from fossil fuel generation that continues to generate as a result of delaying the connection of renewable energy. While we recognise there are challenges with this analysis, we feel it is a relevant consideration and that further analysis is warranted given the overall benefit to society in replacing polluting fossil fuel generation with sustainable, zero carbon generation. This analysis has already been considered by Ofgem within its OTNR pathway to 2030 consultation[30] where Ofgem considered delay costs, including carbon costs, when considering appropriate models for the delivery of offshore transmission assets. We see no reason why this analysis does not equally apply in the onshore space and therefore ask Ofgem to consider and reflect on the potential to incorporate similar analysis into its CBA.

Benefits of avoiding carbon costs associated with delay

Similar to the above, there is an additional benefit of avoiding carbon costs that would occur as a result of fossil fuel generation continuing to operate during any delay. This can be monetised and included as an additional benefit of accelerating.

Increased financing costs through a competitive model

Although we cannot forecast what the allowed cost of capital set by Ofgem will be in future, we consider that Ofgem should reflect on whether financing costs faced by consumers will be equal to the current level set for RIIO-T2. Given that Ofgem has included three scenarios within its CBA – Best, Central and Worst – we suggest that different levels of allowed return should be considered.

The analysis we commissioned Oxera to undertake on the benefits and costs of competition in onshore transmission assets highlighted that financing costs could increase as a result of introducing competition. It cited evidence that the

[30] Minded-to Decision and further consultation on Pathway to 2030 | Ofgem see table on page 23

cost of equity achieved for projects under the OFTO framework is higher than the comparable cost of equity set at RIIO-T2, when analysed over a comparable time frame. Furthermore, Oxera's report also highlights that, the cost of equity achieved under the three North American comparators has been observed to be significantly greater than the OFTO or RIIO-T2 regimes. While neither case represents a full comparison to the introduction of a CATO model in the context of GB, these highlight the scope for financing costs to increase, rather than decrease, noting the absence of evidence that competition has or will lead to a lower cost of equity.

Furthermore, Ofgem should consider the overall risk and reward balance being set for a competitive model. Given the regulatory protections within the RIIO framework, and the uncertainty that exists on what level of risk a CATO would be expected to accept, it may be unrealistic to assume that investors within a CATO would be willing to accept the same level of reward (in the form of the allowed cost of capital) that is achieved through the RIIO regime. Our view is it is likely a competitively appointed TO would expect a premium on top of the cost of capital set under a RIIO regime, unless the regulatory framework were to be more protective than RIIO. Early appointed CATOs may expect a "pilot" premium as a result of being the first party to be awarded a licence under an untested regulatory framework.

Given these findings, we encourage Ofgem to consider the impact of differences in financing costs in its counterfactual where competition is considered.

Abandoned costs (planning loss) is pessimistic

While we welcome Ofgem's analysis to consider abandoned costs within the CBA, we expect that Ofgem's analysis is pessimistic given the overwhelming cross-stakeholder consensus that the projects included within the NOA and HND are needed. The support provided by Government, through the BESS and the ENSF, as well as recognition of the value of the ESO's planning process through NOA and HND, highlights that there is every likelihood that these projects will go ahead in some form.

Furthermore, abandoned costs would also be a risk that exists under a counterfactual where competition is applied and where the original LOTI process is followed. A significant proportion of the development costs will already have been incurred by the time planning consent is decided. Therefore, these are not new costs or new risks.

Competition cost benefits are optimistic

We note that Ofgem has used a range of between 10-15% capex benefit within its CBA. We consider that this range is optimistic and is a competition model "best case". Although there are potential cost benefits for consumers as a result of competition, this range may not always be achieved in every project that is put to competition. We note that the Oxera paper identified a range of net capex benefits of between -1.6% to 22% (with a maximum central case of 4% for very large projects). We would welcome greater transparency as to how the 10-15% range has been estimated, and what evidence has been used to construct it.

Timing of costs incurred

Ofgem's impact assessment does not seem to account for the timing of when costs or benefits accrue to customers. For example, constraint costs are incurred immediately, while the customer bill impact of other costs and benefits in terms of efficient delivery (such as lower CAPEX or higher financing costs) are spread out over the project lifetime—and should be appropriately discounted. We would ask that Ofgem consider this within its analysis.

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

Yes, we largely agree with the conclusions of the cost benefit analysis presented in Chapter 6, however as included in our response to Q8 we believe additional improvements could be made to the methodology that will lead to a more accurate conclusion. Ofgem's analysis concludes that consumers would expect to receive an overall consumer benefit of between £0.05bn to £2.0bn. Ofgem's analysis shows that even in a "worst" case scenario, consumers would benefit from implementing the framework (before noting the current limitations as described within our response to Q10).

We consider that Ofgem has constructed a clear "worst case" scenario for accelerated delivery, and under this scenario the benefits are still positive for consumers. Therefore, stakeholders can take confidence that Ofgem's analysis shows the implementation of this new regulatory framework is low risk.

Although we welcome the CBA, as highlighted previously in this response there are also additional important benefits of acceleration and costs of delay (whether through LOTI or a competitive model). Ofgem has recognised this in paragraph 6.39 where it states that *"there are wider society benefits of prioritising 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*." It goes on to state that *"[it] will look to incorporate as many aspects of these benefits as appropriate as we further develop our analysis ahead of our decisions."* Based on this, we consider that Ofgem should look to quantify these additional benefits where possible. These benefits mentioned will only strengthen the quantitative analysis and show there is increased benefits to consumers with implementing the framework.

Chapter 7 Response – Potential measures to protect consumers

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

Our view is that balanced and proportionate consumer protection measures should be inherent to any framework, and we support balanced licence mechanisms which align with consumer interests. Government, Ofgem and industry all recognise the herculean effort required to meet the 2030 delivery challenge. The BESS, the ENSF, as well as this consultation, are all very clear on this. It is therefore wrong with one hand to recognise the challenge of delivering 2030 targets (the asymmetric risk) and then propose to apply a punitive penalty regime for late delivery (an asymmetric response). We are ready to respond to the 2030 challenge with flexibility and innovation. However, such a regime disincentivises networks to take risk, innovate or strive for accelerated delivery. This is not in consumers' interests and risks the financial stability of transmission networks. Therefore, we cannot support the proposed Accelerated Delivery ODI.

We agree that we should collectively aim to protect consumers from risk associated with moving towards an accelerated regulatory framework. We also recognise that there is considerable benefit to consumers in making the changes to try to deliver an accelerated programme. This therefore is a balance. Within the consultation document Ofgem notes several perceived risks and, based on the framework we are proposing, we have sought to set out the proposed mitigation (see table below). Only if the proposed mitigation is ineffectual (i.e., is there a gap in the design of the regulatory framework) should we then consider whether additional consumer protection measures are required. Overall, we do not see a material change in the rigour, scrutiny, and oversight Ofgem will have in the accelerated process. Therefore, increased consumer protection will be unwarranted.

Risk Identified by Ofgem	Likelihood/Proposed Mitigation
Risk 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.	**Low**. Aside from obligations to ensure the development, maintenance, and operation of an efficient, economical, and co-ordinated system of electricity transmission, we are proposing a **full cost assessment** prior to construction late in the process, similar to timelines for LOTI, for construction costs. Both pre-construction and advanced construction costs will also be subject to a full cost assessment with the majority of the advanced construction costs being "**high confidence" tendered costs** at the time of submission. We note that Ofgem is now required to commit earlier to the "need" (optimal option in the HND) under this process than under LOTI, but Ofgem will be able to scrutinise the final design and cost decisions taken by TOs[31], which is no different to the current regulatory regime. Similar to the current regime, where Ofgem has low confidence in cost categories or projects it has the option to apply a lower **sharing factor.**
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.	**Low.** All projects in the HND have been identified as optimal to deliver 50GW of offshore wind by 2030. Nothing short of a complete U-turn in government policy will deem them no longer required. Although not within the control of TOs or Ofgem, the risk of assets being underutilised is highly unlikely. ScotWind Leasing Round 1 was **oversubscribed to a factor of four**. If one developer drops out, another will take its place. Furthermore, a substantial amount of work is undertaken by us through environmental assessments, site visits, surveys, and

[31] Our view on full project assessment is predicated on the assumption of a regulatory mechanism to recover efficient pre-construction and advanced construction as/when costs are incurred.

	stakeholder engagement to understand project contestability and key risks ahead of submitting planning applications.
Risk consumers are exposed to inefficient and excessive levels of additional cost owing to expedited regulatory scrutiny of projects.	**Low.** As above, we are proposing a full cost assessment prior to construction (encompassing pre-construction, advanced construction and construction). Ofgem will be able to scrutinise all scope, design and cost decisions taken by TOs.
Risk that 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).	**Extremely Low.** As noted above, the application of competition to any of the in scope projects will lead to a delay and overall cost consumers. Indicative findings from independent analysis shows that, based on central assumptions, the introduction of competition in our projects[32] alone would cost consumers in the region of £310m; consumers do not benefit.

We have set out below our views on the design elements of each proposed regulatory measure plus, where appropriate, proposed improvements to guard against the negative consumer impacts envisaged. We welcome ongoing discussion on the consumer protection framework but consider a decision on whether to implement the measures proposed is **not** required before the end of 2022. **Interaction of the consumer protection framework, financeability, and Accelerated Delivery ODI needs to be carefully considered.** The proposed consumer protection measures should not be considered in isolation and separate to whether the proposed investment is financeable (and therefore the RIIO-2 financial parameters) absent the potential downside penalties proposed through the Accelerated Delivery ODI.

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

Setting clear outputs and delivery dates in licences

We understand and accept Ofgem's proposed approach to setting outputs/delivery dates within the licence (as Licence Obligations (LOs)) and we recognise Ofgem seeking to hold TOs to account for delivery of the accelerated schemes via the regulatory enforcement process.

However, it is vital that Ofgem considers the potential interaction between any enforcement action and the proposed Accelerated Delivery ODI. If not addressed within the framework there is a risk that TOs could be subject to double jeopardy, whereby we could be liable for both enforcement penalties (up to 10% of turnover) and ODI penalties (up to 15% of project value, which exposes us to an exorbitant £1.125bn penalty based on c£7.5bn of projects). This is clearly unreasonable and excessive and would drastically change our risk profile. Instead, we believe that any enforcement penalty should be *net* of any ODI penalty and that this principle should be enshrined within the final direction and licence (and updated in the Ofgem enforcement guidelines).

We further note the potential use of PCDs concurrently with LOs. It is again this interaction with the ODI that raises concern. If Ofgem intends to use the PCD mechanism to claw back allowances for late delivery (i.e., not "Fully Delivered") we will be subject to this on top of the above.

Clarification from Ofgem on the interaction of the LOs, PCDs and ODIs is required.

Accelerated Delivery Output Delivery Incentive (ODI)

[32] These include some of the projects in scope for the accelerated framework.

We are committed to achieving delivery of the 2030 Delivery Plan but recognise the risks and challenges associated with delivery of the project portfolio. These challenges (which are recognised by Ofgem) include: an unprecedented and substantial schedule of works; hitherto unknown levels of investment/spend, with significant procurement requirements which will need to be managed and delivered; and, a constrained timetable.

We do not believe that the current ODI proposal recognises these challenges and ensures (i) TOs are properly held to account for delivering on time in a manner which is proportionate and reasonable; and (ii) TOs are not put at significant financeability risk.

Ofgem's current proposals for an Accelerated Delivery ODIs creates material asymmetric outcomes. This approach disincentivises networks to identify and pursue innovation, flexibility and change because they represent potential risk to delivery and therefore punitive negative incentive rates. Ultimately, this will lead to suboptimal outcomes for consumers and represent a failure to achieve its stated purpose. It will increase the cost to consumers of decarbonisation, threaten the stability of the industry tasked with delivering it, and increase the likelihood of delay across the portfolio of investment.

We have made representations to Ofgem regarding the significant reservations we have about the current measures in place within the LOTI framework for incentivising timely delivery of large projects (the Project Delay Charge (PDC) element of the Late Project Delivery mechanisms proposed at Final Determinations). We appreciate Ofgem's engagement on this topic so far and acknowledge that Ofgem has listened to some of our legitimate concerns and accordingly proposed an ODI which proposes to address some of the issues.

However, in order for us to support any Accelerated Delivery ODI, further and significant amendments are required to the mechanism in order to ensure there is a balance of risk and reward that incentivise timely behaviours and safeguards consumers against late delivery, as well as protects TOs from excessive risk they were not previously exposed to and addresses financeability concerns. Fundamentally, any proposed ODI must be shaped by recognition of the stretching nature of targeted programme of works. An incorrectly calibrated ODI will risk jeopardising achievement of the strategic aims of this initiative.

<u>Incentive Design Principles</u>

We have the following comments on the design principles articulated by Ofgem in its consultation:

Design principle	Our feedback
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.	We accept that TOs have influence on project delivery outcomes and so should bear a share of the financial risk associated with delivery. However, as this ODI presents new risk for the TOs this must now be recognised in the price control to ensure balance of risk/reward either through a change in the price control financial parameters or in the calibration of the ODI. Notably, the TOs are not the only parties with significant control over delivery outcomes and so should not bear all of the associated financial risk. Contractor behaviours and exogenous events will also influence outcomes – this needs to be appropriately reflected in any framework.
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.	We understand Ofgem's desire to design a sufficiently high powered mechanism to drive TOs towards timely delivery. However, the current financial risk exposure which will accrue to TOs is so material that it risks perverse outcomes, skewed market interactions with suppliers, and manifesting the

	consumer detriment the policy is designed to avoid. This is explored further below. ODI penalties of up to 15% of project value exposes us to an exorbitant £1.125bn penalty (based on c£7.5bn of projects). This is clearly unreasonable and excessive and would drastically change our risk profile.
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.	We do not support this principle. It incorrectly assumes one contractor has been awarded all projects and therefore the TO can notionally influence that contractor to assign resources in favour of one project over another. It also ignores the fundamental point of developing an electricity system as opposed to individual projects (and the assumptions in determining constraint costs on an individual project basis). Once a system has been designed the aim must always be to manage all projects to success, rather than creating a perverse signal to manage one project over another.
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.	While we agree the financial parameters should be known in advance, the final calibration of any ODI must take account of market negotiated rate to incentivise delivery. The supply chain will determine what level of risk it is willing to bear and TOs will negotiate an efficient cost to ensure on time delivery in the interests of consumers. If the financial parameters (day rate and cap of any ODI) exceed the efficiently negotiated rate, then TOs will be exposed to additional risk beyond their direct control. As above, this additional risk will need to be recognised in setting the ODI framework and/or the price control parameters.
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.	We agree that TOs should not be held accountable (penalised or rewarded) for impacts on delivery (both negative and positive) caused by external and uncontrollable factors.
The incentive design and parameters should not create excessive financial risk for the TOs.	We support this principle.

<u>Proposed ODI Framework</u>

In order to balance the risks associated with timely delivery and align with the principles identified above, we have set out below our proposed changes to the mechanism for consideration by Ofgem. It is our view that any reward/penalty mechanism associated with timely delivery should: recognise the unprecedented level of investment and associated delivery challenges; establish appropriate delivery dates; remove the “double jeopardy” risk of enforcement; recognise that TOs will not be held accountable for external and uncontrollable factors; and not create financeability risk for the TOs.

Our proposal ensures a clear and transparent mechanism to protect consumers. It avoids extreme policy positions which purport to protect consumers but would ultimately lead to higher overall costs and/or delayed delivery. Our target has been to identify an efficient and effective solution for consumers. The key attributes of this proposed mechanism are:

- Source of delay **risk** matched with the party best able to **mitigate** or avoid.

- Incentive strength calibrated to **avoid inflating consumer costs** (excessive incentives will lead to this) while delivering efficient consumer protection (mitigate delays).
- The need for **reasonable commissioning windows** recognised as decade-long investments approach completion (target delivery dates).

In the accelerated delivery window, consumers benefit and therefore no penalty is warranted. Within that window, incentivisation of delivery is justifiable.

In order to address the issues with Ofgem's proposals, we suggest the following approach is implemented instead (with the different aspects of this proposal explored further below):

	Ofgem Proposal	SSENT Proposal
Uncontrollable events	No penalty applied	No penalty applied
Contractor (fault) events	**Day rate:** set by 50% of the NPV value of constraints of 1 year delay **Penalty cap:** 15% of project value	**Day rate:** set by market negotiated LDs per contract **Penalty cap:** set by market negotiated LDs per contract
Other events (incl TO fault)		**No penalty** (unless price control parameters revisited)
Date of application	Earlier of EISD or RISD (set at project initiation)	**Target Date** (+ commissioning window) (Set at cost assessment stage i.e., following tender process/supply chain engagement) There should be no penalty in the acceleration period.
If price control parameters are revisited, it may be possible to introduce a balanced and fair accelerated delivery ODI into the price control which incentivise timely behaviours, safeguards consumers against late delivery and protects TOs from excessive risk. The following principles and design factors could help achieve this.		
Principles		
Risk	Automatic nature of proposed ODI introduces additional risk for TOs. We do not accept introduction of additional risk in price control without changes to price control parameters.	
Financeability	TOs must remain financeable	
Interaction with Enforcement	Ofgem should remove the risk of double jeopardy. However, if Ofgem maintain that enforcement remains available (e.g., following a delay where an ODI penalty was levied), any enforcement penalty should be net of ODI penalties.	
ODI Calibration/Design		
Exemptions	A list of exemptions should be agreed up front and these should apply automatically (albeit TOs accept need to provide robust supporting evidence).	
Commissioning window	+6 months from Target Date	
Advanced delivery	Advanced delivery (no cost to consumer) leads to neutral or positive ODI	
Profile	The penalty/reward curve should recognise asymmetry of relative probabilities of acceleration and delay.	

Calibration and the application of penalties and rewards

The proposed penalty/reward cap under the mechanism of 15% of the estimated value of the project is too high and we challenge the point in the consultation that "*this figure is broadly in line with the liquidated damages clauses typically used in large construction projects in the energy sector*."

First, liquidated damages (LDs) clauses are set at the individual contract level and not at the project level. For example, in the HVDC market, even if 15% was achievable (which we dispute), this 15% would be capped to the value across each of the three main *contracts* – cables, civils and convertors – none of which will ever reach 15% of *project* value.

Second, we disagree that there is an industry standard. LDs are bespoke to each project as they based on the legal test of a genuine pre-estimate of loss for that project. On the previous large onshore transmission investments progressed under the T1 Strategic Wider Works initiative, we were able to negotiate the following indicative Liquidated Damages with suppliers, showing both the cap on an EPC contract of 10% and the 10-15% range across a multi-contract approach:

Project	Contract	Liquidated Damages (LDs)
Caithness-Moray	All HVDC Works	• LD range scaling from £25k per day to £221k per day increased based on length of delay (see below extract from contract). • LD cap of 10% inclusive of LD's and Low Performance Damages.
Kintyre-Hunterton	Cable	• £22k per day with 10% cap (one-off).
	Overhead Line	• 18k per day with 15% cap (one-off).
	Substation	• £2k per day with 15% cap (Framework).

Third, as described in our response to Q5, we engaged Deloitte to undertake analysis of the supply chain and capacity to delivery. The key conclusions are that there is significant global demand for new transmission infrastructure, with HVDC demand outpacing supply. None of our 2030 HVDC projects have secured supply chain availability and therefore action is needed promptly to secure HVDC delivery capability and realise long-term benefits for consumers.

It is highly unlikely then (against this background) that TOs would be able to negotiate LDs of a level higher than that previously secured on SWW projects. Importantly, the SWW projects' LDs only allowed us to cover the costs associated with prolongation (i.e., did not cover any penalty/fine element which consumers would seek to secure as compensation against the detriment arriving from delay.)

There is therefore a very real risk which TOs are left fully exposed to the costs associated with the potential penalties applying on delay. We do not believe this is reasonable, as while TOs are substantially in control of delivery (through programme development, scheduling, contractor selection, etc.) we are not fully in control. We therefore do not believe we should be fully liable for costs associated with delays, particularly where the delays are not our fault. The supply chain should accordingly take on some of that risk.

We will negotiate contracts in the interests of consumers, with an efficient level of LDs. The penalty/rewards should then be calibrated against the LDs negotiated with the supply chain. The penalty/rewards calibration (including target delivery dates) should be set as early as possible (but no later than the cost assessment stage). We therefore believe that the potential penalty applied should be based on the recoverable liquidated damages (LDs). This would mean that any LDs recovered should be returned to consumers (after accounting for any TO losses). We propose that an 'indicative' penalty rate is set ex-ante based on negotiated LDs. This would be adjusted by an ex-post calculation of the LDs actually recovered to determine the final ODI penalty that Ofgem can recover on behalf of consumers.

As noted above, we accept that we may be subject to enforcement notwithstanding the existence of the accelerated delivery ODI. However, we believe that any payments made to discharge any ODI penalty should be netted out when setting an enforcement penalty.

Setting Liability

We accept that there may be scenarios where the delay to delivery of a project is due to our own fault or negligence. In those scenarios, we accept that we should be responsible for payment of any associated penalty which would then accrue. In order to properly calibrate the penalties associated with any ODI implementation for these events, we believe Ofgem either has to revise the price control parameters (to more appropriately capture the residual risk being carried by TOs accounting for these eventualities) or rely on the existing regulatory enforcement mechanisms instead.

Ofgem recognise that certain delays can be due to events outwith TOs' and contractors' control. For example, force majeure events, ground conditions, extreme weather conditions, technology risk, etc., and has already acknowledged that uncontrollable events should not lead to a liability for TOs. Uncontrollable events must include a defined list, as well as the option to justify the exceptional nature of an occurrence. Recent world events confirm that exceptional and unexpected events are not simply theory but do materialise. Exposing TOs to uncontrollable events will lead to outcomes that are not in consumer's interest:

- increased cost for consumers as TO and contractors attempt to price in the risk;
- delays in delivery as TO and contractor attempts to mitigate the exposure to unjustified risk;
- contractor no-bid scenarios where the TO attempts to share the risk with contractors;
- contractors would have to build in a premium to their costs for events which they could not predict, influence, or alter; or, otherwise, chose not to bid;
- a TO which delivered a project flawlessly but is exposed to uncontrollable events would be unable to take remedial action to prevent the delay and is unable to adjust its return or allowances to compensate. This would force TOs into financeability issues and drive them to increase baseline price control parameters at future reviews.

We appreciate that Ofgem's improved framework recognises that any such delay due to these events is not the TOs' fault and therefore they should not be held to account for their effects. The target date varying mechanisms must allow TOs to vary the date to account for such events. The table below sets out our proposed list of exceptions, including scenarios where the TOs would accept responsibility for any delay:

Events	Liability	Example sources of delay
Uncontrollable	Consumers	• Primary consents • Seabed leases • Availability of transmission system for testing • Unforeseen UXO mitigation • Unforeseeable marine cable burial risk • Marine weather above 'foreseeable' threshold • Archaeological discoveries • Unforeseeable changes in law/regulation • War, hostilities, onshore extreme weather events Other *Force Majeure* events
Contractually defined	Contractors	• Contractor performance issues • Delays due to interfacing of multiple contractors • Unavailability of equipment
Residual	TO	• Land acquisition • Availability of transmission system for connection • Convertor design data (e.g., missing/delayed) • Scope changes

Legacy LOTI Schemes

There are a number of in-flight schemes which have been submitted to Ofgem for consideration under the LOTI framework. We recognise that Ofgem's proposals for the ODI relate principally to the new regulatory architecture being implemented to facilitate delivery of the full portfolio of 2030 investments. We note that Ofgem state (on page 77) that the Eastern HVDC Link from Peterhead to Drax (E4D3) is in the scope of this consultation. We have interpreted this to mean that this legacy LOTI project will *not* be subject to the more penal timely delivery regime already proposed within the LOTI framework. We support this position as we do not believe it is defensible, in principle, for this project to be subject to a more penal regime particularly when it must be delivered to facilitate and accommodate delivery of other projects within the overall 2030 investment slate.

Reduced incentive rates under the Totex Incentive Mechanism (TIM)

As we note in our response to Q10, while we accept the principle of Ofgem's proposal for the TIM that low confidence costs would have a lower incentive rate, particularly where it allows for earlier funding for strategic projects, and still provides sufficient incentive to deliver efficiency, we are of the view that Ofgem will have the same opportunity as it does now scrutinise the cost of the final design taken by the TOs. Therefore, cost confidence should be relatively high, on par with LOTI projects now, at the time of the project assessment.

We are keen to work with Ofgem to develop the appropriate suite of consumer protection mechanisms within on the framework, while also not unduly exposing TO's to significant additional risk in delivering this programme for 2030.

The potential interaction between any consumer protection mechanisms and the proposed accelerated delivery Output Delivery Incentive (ODI) needs to be carefully considered in any decision made by Ofgem. If not considered within the framework there is a risk that TOs could be subject to a potential penalty-only framework.

At this stage we are open to exploring all the consumer protection mechanism options with Ofgem and welcome further engagement through the policy working groups over the coming months.

Ongoing monitoring and reporting obligations

We understand Ofgem's concerns regarding the risks associated with accelerated delivery of strategic transmission projects and their appetite for close and continuous monitoring of TO activity (i.e., via regulatory reporting) to guard against any emerging consumer detriment. Ofgem is proposing to require TOs to submit annual reports setting out the delivery status and forward-looking outlook for all projects included within the accelerated regulatory framework. We believe that this reporting requirement should be integrated into the Regulatory Reporting Pack (RRP) process.

We have an established and robustly governed internal process for compilation and submission of the RRP, and in the interests of efficiency believe that Ofgem should not seek to reinvent the wheel by adding on an entirely new regulatory reporting requirement which sits outside the RRP. We will work with Ofgem to develop the exact scope of these proposed new obligations.

Reopeners to adjust outputs and allowances

We support the need to ensure that the accelerated delivery framework is sufficiently flexible to allow necessary changes to outputs and price control allowances to be made in a timely manner.

We agree that the reopener should be based on the Cost and Output Adjustment Event (COAE) mechanism within RIIO-T2, with targeted changes where necessary to take account of particular events encountered through delivery of the programme.

A properly calibrated COAE mechanism provides protection for both the networks and the consumers from cost uncertainty that is outside of our control. We support Ofgem's view that a lower materiality threshold than the default 20% threshold for RIIO-T2 should apply. We believe this threshold should be calibrated with consideration of the totex incentive rate and should be cumulative for each project, rather than set per event. We are open to exploring this further with Ofgem and welcome further engagement through the policy working groups over the coming months.

Following our experience of the reopener process during the initial years of the RIIO-T2 price control, we are apprehensive about achieving the necessary flexibility required (to safeguard delivery of an accelerated portfolio of works) via implementation of a reopener mechanism to adjust outputs and allowances. In our experience, reopener applications take significant levels of resource (including review and assurance) to compile and can take time for Ofgem to review and approve.

We would ask that Ofgem implement a streamlined and well-defined reopener process, which does not require significant reams of documentation and takes no longer than six months to determine.

We would also ask that Ofgem introduce a further streamlined fast-track reopener (using the same reopener framework and requirements) which takes no longer than three months for the purposes of (i) adjusting delivery dates and (ii) accepting an exceptions claim, under the accelerated delivery ODI.

Ex-post efficiency review

We do not agree with Ofgem's proposal to introduce an ex-post efficiency review within the accelerated regulatory framework. We do not believe there is a requirement for an ex-post efficiency review given the proposals for an appropriate Totex Incentive Mechanism and an appropriately calibrated Cost and Output Adjusting Event (COAE) reopener. These mechanisms provide significant consumer protection, whilst allowing for accelerated approval of cost submissions. Introducing an ex-post review will add regulatory burden to the process, remove any efficiency incentive available to the TOs for the mutual benefit of TOs and consumers, while providing limited additional consumer protection.

We agree with Ofgem's view that costs cannot be deemed inefficient solely with the benefit of hindsight, as key decisions need to be made with the information available at the time.

Chapter 8 Response – Financeability and financial risk to TOs

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

In setting the price control, Ofgem rightly undertakes financeability analysis under a plausible range of up and downside scenarios, as well as neutral performance within a price control. For RIIO-T2, we set out our concerns around financeability including both equity and debt financeability which must be considered in equal measure. No price control should be structured as to undermine financeability of TOs, including using equity injections to subsidise debt holders. Given the scale of investment and time period it covers, we believe it is necessary to undertake that full and complete review of financial parameters covering:

- **Cost of capital** should be reviewed against the scale of investment and financeability requirements including the complexity and riskiness of the investment programme.
- Plausible **downside and upside scenarios considering ODIs and sharing factors**. At this stage, the ODIs are onerous and significantly negative and our own analysis so far indicates a serious financeability concern on plausible scenarios which could cause a material downgrade in credit ratings.
- Consideration of **asset lives** to ensure these are structured as to support financeability and spread costs over generations of consumers.
- Consideration of **capitalisation rates** which, although they do not support credit ratios directly, can be used to support cash flows during periods of high investment. We note that in RIIO-ED2, these rates have been set higher than requested by many Distribution Network Operators (DNOs) in particular for Uncertainty Mechanisms (UMs) which is significantly in excess of the rate set for RIIO-T2 for UMs.

We are not advocating that all elements are determined for RIIO-T3 now, but analysis should be undertaken comprehensively as if it is RIIO-T3. Certain parameters and principles may be required to be set now for that period to underpin financeability requirements over the period. This is in the interest of consumers as by giving regulatory and financial certainty, TOs can plan for the long term to 2030 and invest with confidence in line with their fiduciary and regulatory duty. Thereby retaining the principles reflected in any price control (RIIO-T2 and T3) is a key factor in this process, ensuring consumers benefit from that long term certainty which without could lead to delays or a higher cost of capital.

As we have set out above, we have concerns with the accelerated delivery ODI rates being proposed including the financeability pressure and risks it creates. We have also set out our concerns regarding the cost pressures it may add to the delivery of capital projects given the significant change in regulatory process. A full and complete financeablity assessment should be undertaken as part of the process for the 2030 investments, including some analysis around the cost of capital, asset lives, and capitalisation rates. By layering on incentives and penalties similar to RIIO-T2, a complete debt and equity financeability assessment can be evaluated accordingly.

The consultation notes that "*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*". It concludes that although see some mechanisms are seen as reducing risk such as ex-post efficiency reviews and potentially low sharing factors, these are open ended uncertainties which carry regulatory and financial risks. The consultation correctly states that "*Our [Ofgem's] initial assessment is that the impact of our proposed changes on the overall balance of financial risk for the TOs is* ***uncertain [emphasis added]****. While there are aspects of the proposed framework that could, in theory,* ***increase [emphasis added]*** *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*.".

Therefore, it is important that a full and complete analysis is undertaken. We believe it is wrong for the consultation to conclude that "*we do not consider that inclusion of this mechanism represents an asymmetric and downside adjustment to expected equity returns*" after stating that the financial risk for the TOs is "uncertain" and the framework could "increase" the overall balance of risk relative to RIIO-T2. It is therefore inappropriate to rely on RIIO-T2's financeability assessment for RIIO-T3 and the projects specified in the consultation. They have clearly different investment profiles, incentive regimes, and asset lives profiles which affects the balance of risk which the consultation acknowledges.

We agree with Ofgem that working through financeability assessment and calibration of the proposed regulatory framework is a key factor in this process. While remaining financeable, Ofgem should ensure that the right balance is struck between consumer protection mechanisms and incentivising TOs to deliver the 2030 targets on time efficiently. We would also welcome discussing debt financing strategy over the period with Ofgem particularly where it could provide access to new sources of financing that are not presently available to TOs.

Chapter 9 Response – Next steps

We welcome and broadly agree with Ofgem's next steps set out in Chapter 9 of the consultation document. We welcome, and will contribute to, the plan to hold industry working group(s) on key topics including financeability and other policy areas mentioned in this response.

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

We encourage Ofgem to view the updated project delivery plan submissions on pre-construction funding as formal submissions that can be used to set pre-construction allowances in April 2023, once the framework has been implemented. We also intend to provide early indication of our expected advanced construction funding requirements within our delivery plan submissions to help inform the design of the regulatory framework, and approval process for these early allowances.

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

We recognise Ofgem's intention to confirm, within its decision by the end of 2022, the need for the accelerated regulatory framework and competition exemptions so that TOs are certain of the need to develop these critical strategic investments at pace. However, we would ask that Ofgem considers approving the need as early as possible to enable early meaningful engagement with the supply chain as soon as possible. This includes early confirmation of TO as the delivery party and exemptions from competition.

We have proposed the first reopener on pre-construction funding (and potentially advanced construction funding) to take place in April 2023 following the implementation of the framework via licence modifications. We ask that Ofgem consider evidence submitted by TOs in their delivery plans and updated project delivery plans ahead of this reopener window, such that allowances can be set promptly to provide TOs with as much certainty as possible on the allowances that are available to support the development of the strategic investments.

We also highlight the need for a flexible, accelerated approach to Cost Assessment when projects reach that stage, so that main contracts can be awarded to the supply chain as quickly as possible to enable them to begin detailed design and early construction works. Delays to the Cost Assessment and associated decision will lead to delays in achieving the RISDs. Where possible, we ask that Ofgem ensures the Cost Assessment process is accelerated or run in parallel to avoid the process becoming critical path as much as possible to avoid any unnecessary delays that would lead to consumer detriment through constraint costs.

Furthermore, we recognise Ofgem's aim to protect consumers from the risk of abandoned costs, however we ask that Ofgem take a flexible approach to reviewing, where possible, a full project cost assessment submission prior to full planning permission being granted. This could include making provisional and contingent decisions on planning being obtained, so that the cost assessment process does not become critical path and potentially delay the RISDs leading to consumer detriment.

Appendix 2 – Assessing the benefits of Competition in Onshore Transmission – Summary of report by Oxera

At a minimum, there should be a degree of certainty that the financial benefits to consumers should exceed the costs. Yet the evidence to date does not demonstrate this.

We commissioned Oxera to undertake analysis to determine the range of likely benefits or costs for consumers of introducing a competition model for delivering new onshore transmission assets, relative to a RIIO regulatory model counterfactual (and therefore TO delivery).

Oxera's starting point was to review the evidence base used in Ofgem's March 2022 impact assessment and previous impact assessments. They implemented several modifications to construct benefits estimate that could be compared to a RIIO counterfactual. They then assessed the evidence base for the delivery of savings through the RIIO regime, drawing on the experience from RIIO-T1 and RIIO-T2. This level of savings, as a proportion of project value, shows the level of benefits that would need to be delivered by the competition policy for it to be better than the current regime.

Oxera looked to quantify the potential costs and benefits of competition, relative to the RIIO counterfactual, across the dimensions of project costs including CAPEX (design and construction costs), OPEX and financing costs. They also considered the fixed and variable costs faced in running competitive tenders, and the bidding costs faced by successful bidders – as contained within Ofgem's March 2022 Impact Assessment. Given the range of potential outcomes in each area, Oxera constructed three scenarios to consider the costs and benefits of competition and create a range.

Table A2.1 Oxera scenarios constructed to assess potential costs and benefits of competition

Scenario	Counterfactual assumption	Policy factual assumption
Competition upside scenario	Worst case data from the RIIO regime	Best case data from the most appropriate analogue to the competition regime, such as the NA case studies
Central case	Median data or the mid-point of low and high cost scenarios, as appropriate	Median data or the mid-point of low and high cost scenarios, as appropriate
Competition downside scenario	Best case data from the RIIO regime	Worst case data from the most appropriate analogue to the competition regime, such as the NA case studies

Source: Oxera analysis

They brought the impacts under these different scenarios together in net present value terms, over an assumed 45-year project lifetime, applying the 3.5% social discount rate and assuming the same funding model under both the competition model and the RIIO counterfactual. The output of Oxera's analysis is an updated, more robust impact assessment that takes into account the offsetting benefits from the RIIO regime that a competitive model for delivery would need to achieve.

This is a different approach to Ofgem's March 2022 impact assessment, which weighed the potential benefits that could potentially arise from introducing a competitive delivery model in some projects against the administrative costs to the ESO of finalising its early competition model. [33] We would consider Oxera's approach better suited to indicate

[33] https://www.ofgem.gov.uk/sites/default/files/2022-03/Transmission%20Early%20Competition%20IA.pdf

the scope for a competition model to displace the status quo RIIO model for delivering new, high value, separable onshore transmission infrastructure.

Areas of analysis

For CAPEX, Oxera reviewed the North American comparators used by Ofgem in its impact assessment. Ofgem considered that based on the three North American comparators, it expected a range of between 22-42% of CAPEX savings. This was calculated by comparing the CAPEX costs of the system operators reference bid with the lowest bid that was received. Oxera noted that a more robust range could be derived by comparing the system operator's reference bid with the winning bid. This would yield a lower expected CAPEX saving of between 15-22%.

SSEN Transmission also provided data to Oxera on the savings achieved on three historical SWW projects to provide an indicative estimate of the CAPEX benefits achieved through the existing RIIO framework. Oxera then compared the two cost saving ranges of the two regimes to calculate the net savings or costs that could be expected from a competition regime for the three scenarios outlined.

On OPEX, Oxera considered the ratio of OPEX to a projects CAPEX from previous historical SWW schemes. They then assumed an annual OPEX efficiency improvement of 0.95%[34] over a 45-year licence to calculate the expected OPEX efficiency savings over the life of an asset. For the upside scenario, Oxera assumed that a competitively appointed TO would submit a bid for OPEX net of anticipated productivity improvements over the duration of the contract – matching the OPEX savings to customers of incumbent TOs benchmarked through the RIIO process. The downside scenario assumes that the competitively appointed TO locks in the current level of operating cost efficiencies and does not pass on the benefits from anticipated productivity improvement over time to customers (as would be the case through RIIO).

Financing costs were developed by considering the incremental financing costs between a RIIO-T2 WACC and different WACCs depending on the scenario:

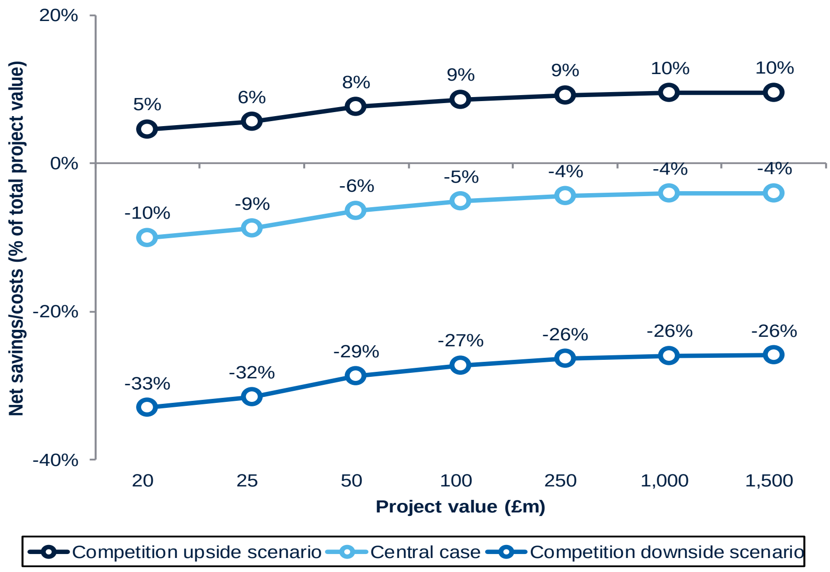
- For the competition upside scenario, it was assumed that a cost of equity equivalent to the RIIO-T2 level could be achieved through competition, and thus there would be no incremental financing costs.
- For the central case, it was assumed that the cost of equity available to a competitively appointed TO would be similar to those observed in the very late competition OFTO regime at the time of the RIIO-T2 determination, and therefore financing costs would be slightly higher than those incurred by a RIIO-T2 WACC.
- For the competition downside scenario, it was assumed that the cost of equity would be similar to that seen in the North American examples and thus significantly higher financing costs.

Results

The graph below shows the key output of the Oxera analysis. It shows the expected net savings/costs (as a % of total project value) relative to the RIIO counterfactual. It shows the expected net savings/costs for varying project values, up to a total project value of £1.5bn. It also shows three possible outcomes based on the Oxera constructed scenarios.

[34] Equal to that assumed by the CMA in its final determination in the Energy Licence Modification 2021 appeals.

Graph A2.1 - Combined net benefits (positive) or costs (negative) of competition, relative to a RIIO counterfactual (%)



Source: Oxera analysis

The graph shows that in the central case, across all project values, consumers are expected to be worse off as a result of implementing the competition policy. It also shows that in the pessimistic scenario (downside), the expected additional costs to the consumer could be significant. It also shows that in the optimistic scenario (upside) there could be savings to the consumer.

It is clear from the analysis that there is uncertainty about the outcome of an additional stage of introducing competitive tendering for in onshore transmission assets. There is a significant range of outcomes and we therefore question whether the counterfactual of applying this policy to the projects in scope of the acceleration framework is likely to generate net benefits for consumers.