

# Early Competition Plan Cost Benefit Assessment

Responses to consultation &  
summary of updates to  
methodology

Onshore electricity transmission  
February 2024

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## Executive summary

In November 2022, we consulted on the early competition CBA. We received responses from Transmission Owners (“TO”), potential bidders, and other stakeholders alongside supplementary reports from third party consultants. Responses were provided in respect of the specific questions and granular arguments were presented to augment the methodology. In some instances, evidence was provided for consideration. Where specific considerations were raised in respect of competition itself, we defer to the published Ofgem early competition impact assessment<sup>1</sup> where necessary and maintain focus on the CBA methodology only.

We have taken stakeholder feedback into consideration and have decided to implement some of the proposed amendments. This document summarises the responses per theme and outlines general feedback paired with our position.

In addition to the above, the early competition model has been developed over the period from the 2022 consultation to date. Changes have been made to the early competition model in order to align it more closely with the proposed Centralised Strategic Network Plan (CSNP) processes. However, following analysis of this alignment, no further amendments to the CBA methodology have been identified as required.

## Summary of proposed updates to the CBA

- **FOAK Premium:** We have considered a consultation response which highlights evidence from the Department of Energy & Climate Change (DECC)<sup>2</sup> on applying a novelty premium of 25bps in instances where there are ‘uncertainties about how the mechanism and its institutions will work in practice’. In response to the evidence, we are proposing to enhance the robustness of the CBA and further stress the high returns scenario by including 25bps First Of A Kind (FOAK) premium within the cost of equity calculation within the quantitative assessment. As a result of this, we have removed this factor from the qualitative assessment.
- **Qualitative scoring mechanism:** We have considered a consultation response which proposed adapting the qualitative scoring mechanism by ensuring the inclusion of disbenefit. Based on the feedback received, we have decided to reconsider the scoring mechanism presented to allow cost and benefit to be considered through negative and positive scoring.
- **Cost sensitivity benchmarks:** Following a consultation response we will amend the bidder cost low case sensitivity scenario range to 0.8, instead of 0.5, as per the literature review.

In addition to the above, all three TO’s raised feedback on the commercial risk allocation. The consultation responses highlighted various potential additional risks being passed onto a bidder under an Early Competition model when compared to the counterfactual.

The upward and downward movement in prices allowed for under repricing appropriately allocates the majority of the risk not within the control of the bidder, to customers. It is only the presence of a price cap which may result in residual risk to the bidder. Depending on the inclusion and sizing of any repricing cap following pre-tender activities, the ESO may consider additional risk costs in the re-run of the CBA should this be demonstrated, and this would be applied in the cost of equity in the factual model.

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<sup>1</sup> Ofgem – [Impact Assessment on developing arrangements to allow for early competition to be applied to future projects on the onshore electricity transmission network, March 2022.](#)

<sup>2</sup> Now reorganised into the Department of Energy Security and Net Zero

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## Stakeholder feedback on the CBA methodology

### Benchmarks

Multiple TOs responded with the view that the ESO has chosen less suitable benchmarks to study the potential costs and benefits of early competition. The main arguments presented were that benchmarks have different risk profiles, are in different jurisdictions, operate under different commercial and regulatory models and that consequently they are imperfect. The ESO should be encouraged to select benchmarks where there is as direct a comparison as possible - benchmarks from the energy sector and jurisdictions with as close as possible regulatory framework. Specifically, they suggest using the Strategic Wider Works (SWW) as a useful benchmark for savings under the RIIO regime.

Two further references are made to benchmarks used in the CBA methodology and highlight that the benchmarks are not an exact match to early competition.

A TO responded citing the OFTO process, where the tendering process happens after both the consenting and build of the asset, OFTOs are a single generator driving the need that was already in place. They argue that the scope of work competitively tendered under the OFTO regime is considerably narrower than that proposed for a potential CAP model in onshore transmission. Consequently, these projects have a different risk profile from likely future transmission assets that might be developed through an early competition, making any direct read-across unreliable.

A TO responded “For the North American benchmarks the projects take place in the context of a different regulatory regime, market conditions and geography. This is likely to lead to differences in the cost of equity.”

### Our response

We are not proposing any changes to our methodology around benchmarks based on the responses received. Our rationale for each area is covered in detail in the subsequent sections of this document. Generally, we recognise that benchmarks will not be entirely comparable as there is not a similar early competition model in the UK. Benchmarks were selected on the basis of relevance, the appropriateness based on assessment of project outturns, and literature reviews. This included an assessment of whether costs were needed for the CBA methodology, whether they can be quantified and what the best approach to quantification is. If appropriate sources for benchmarking was identified, we assessed the associated cost data for inclusion into the qualitative part of the methodology. This provides us with confidence in the process.

In any case, early competition is uniquely different to the late competition model ordinarily used for the delivery of infrastructure within the UK and elsewhere. We recognise that it is difficult to benchmark projects. The range of benchmarks and sources across different industries strengthens our view that the CBA methodology is robust. We also note that additional benchmarks will become available following the conclusion of the first and subsequent rounds of competition.

### Benchmarked gearing

A TO responded with the view that the risk profile of a CATO is not significantly different to a TO. CATOs are expected to have the same obligations as TOs, including the requirement to undertake wider works as identified in the CSNP, and facilitate user connections. The TO argued that the assumption that CATOs have a lower risk profile has yet to be confirmed as it is dependent on the outcome of development of the commercial model and commercial arrangements between the ESO and the CATO. Due to this, a CATO would not be able to achieve the gearing levels assumed in the methodology and suggest using gearing that is similar to RIIO-T2 price control of 55%.

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A TO responded identifying the gearing assumptions are based on experience from Public Private Partnership (PPP) and Private Finance initiative (PFI) projects but these projects have a very different risk profile from likely future transmission assets that might be developed through an early competition, making any direct read-across unreliable.

### Our response

We are not proposing to change the methodology used to assess gearing based on the responses received. Under the factual case the components of the cost of financing are the benchmarked cost of debt, cost of equity and levels of gearing. Under the counterfactual case the cost of financing will be the Weighted Average Cost of Capital (WACC) for the relevant regulatory period. The use of project finance structures under the factual case will enable detailed allocation of risk which can allow for higher levels of gearing. Regarding the gearing assumption, only one of the benchmarked OFTO projects had gearing below 80%. Similarly, the average gearing levels of the 80 assessed PPP projects was 85%. This indicates that a gearing assumption of 55% for a CATO, as suggested by a TO, to match the RIIO-T2 price control gearing, may be less appropriate.

Final risk allocation is expected to facilitate gearing higher than the notional gearing from the price control. While no project will be fully comparable due to the novel nature of early competition, we give regard to the ranges within our assumptions and will present results based on a range of sensitivity tests, including gearing. We also note that following the first debt competition, the ESO will have additional benchmarks to consider. Finance will also be raised after significant risk mitigation during the PPWCA process. A CATO will also be subject to known licence conditions at the time of bidding which stipulated the obligations during construction, connection and operational periods.

### Benchmarked cost of debt

A TO responded citing a report which found no evidence of potential cost of debt benefits and argued that TOs are likely to raise debt in a similar way to CATOs and there is no empirical evidence of third party being able to raise debt more efficiently compared to a TO. Similarly to gearing, another TO noted that cost of debt assumptions is based on experience from PPP/PFI projects and that these projects have a very different risk profile making any direct read-across unreliable. Another TO said that the ESOs cost of debt is estimated from insufficient amount of evidence and data points.

A TO responded that the timing of when debt is raised is likely to have an impact on any difference in cost of debt driven by changes in market conditions between the date at which the TO raises debt and when the CATO raises debt. Given that macroeconomic conditions are a feature of both the TO and CATO delivery models, the TO suggested that this is neither a source of a cost or benefit for either model. Further it is unclear to a responding TO whether or how the ESO forecasts future debt (or equity) costs in the counterfactual.

### Our response

We are not proposing to change the methodology used to assess cost of debt based on the responses received. It should be noted that debt financing for EC will be raised post bid award. A debt competition would be run after preliminary works and cost of debt would be fixed at that point. Project risks at this point would be significantly mitigated through the preliminary works phase and the debt competition would be based on similar risk profile to late competition as outlined in the Early Competition Plan (ECP).

Regarding the reference rates of cost of debt they will be defined as per the CBA methodology and will be drawn from market data to match the envisaged construction and operation periods. There are two components to the reference rates of cost of debt – a base rate drawn from market forward rates and the project specific margin. The key distinction is that the base rates are driven by the

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market whereas the factual case margins are mostly reflective of the project specific risks. Regarding the timing of when debt is accessed, this is relevant consideration for the CBA as the CATO is likely to source debt for the entirety of the project in a manner which minimises volatility. The cost of debt for the CATO is not used as a direct comparator to the cost of debt of a TO. The cost of debt is only used as a component of the of the CATO financing cost. In the case of the counterfactual, only the regulatory WACC is considered.

Our methodology allows for sensitivities around cost of debt which can be reassessed when more market data becomes available, and we note that better alternatives have not been provided, so we consider that we have adopted a robust approach.

### Benchmarked cost of equity

A TO responded that there is limited evidence of cost of equity savings available from competition and a possibility that cost of equity increases, based on an assessment of the benchmarks selected by ESO. In particular they noted that cost of equity expected from investors in other sectors, for example aviation, transport, offshore wind and PFIs is likely to be significantly higher than that set at a RIIO price control. The TO went further to suggested that evidence from the OFTO regime points to a real, post-tax cost of equity of least 4.90% and a real cost of equity from the North American projects of 7.63%. This TO however highlighted that ultimately the level of return required will depend on the risk allocation of the projects which in turn are driven by the contractual and commercial arrangements which have not yet been finalised.

A TO responded citing the ESO believes there are significant benefits as a result of being able to access new capital from investors who do not traditionally invest in the GB energy sector. A TO responded suggesting that these benefits are theoretical and there is limited real world evidence of additional sources of capital that would lead to a lower cost to the consumer. The majority of investors may expect higher returns than regulated allowances, as shown by the OFTO regime and North American examples.

A TO responded that the evidence presented on ESO cost of equity sensitivities provide no basis for proceeding with early competition as (a) the cost of equity will depend on contemporaneous financing conditions and the interest rate environment (b) the cost of equity depends on the risk of the activity concerned and its correlation with the market portfolio - the ESO has no basis for assuming that the risk inherent in PFI contracts in benchmarks are good proxies (c) the range of the ESO's estimates of the cost of equity itself is extremely wide and therefore which value the ESO picks within the range is likely to drive the EC recommendation.

### Our response

We are not proposing any changes to our methodology used to assess the cost of equity on the basis of the responses received. We recognise that the cost of equity for a CATO may be higher depending on the final risk allocation from the still developing commercial model. What is clear is that the bidder retains risks which cannot be transferred and consequently should receive a commensurate return.

In any case, the cost of equity should be considered as one component of the cost of finance impacting the TRS rather than in isolation. The impact of an increased cost of equity may be reduced by the increase in gearing. The cost of equity benchmarks has been selected using various sources, including target Equity Internal Rate of Returns (EIRRs) of bidders in competitive tenders, of investors in transactions and estimates of allowed equity returns by regulators. We recognise that no benchmark will be a perfect comparator for early competition and therefore our methodology allows for sensitivities around cost of equity, as one part of the overall assessment.

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## Financing costs methodology

A TO responded that the ESO financing cost methodology is flawed as the components of the cost of capital are interdependent while the ESO estimates cost of debt, cost of equity and gearing separately across four different samples. The TO argued that by selecting financing components from various examples risks that jointly they do not form a credible set of assumptions.

A TO responded that in the current economic climate with high inflation and challenges to accessing debt, estimating the cost of capital components by using historic financing costs is inappropriate. Further, they suggest that financing benefits are likely to have large measurement errors citing that the range from the ESO's benchmarking exercise on the cost of equity is between 6.5 to 16 per cent.

An investment company responded that with incumbent TO delivery, consumers take most of the pre-construction, construction, future operating cost risks and schedule overrun risk, while also being exposed to capital markets (the cost of capital being restated every 5-years under RIIO). In comparison, CATO equity holders explicitly take risk on overruns in cost and schedule, operational availability risks, and provide long-term certainty to consumers on the returns they will pay.

A TO responded that the cost of capital set by Ofgem for TOs covers a much larger set of risks faced by the business and that ultimately the cost of capital for EC will depend on the structure of the contracts and on which risks within those contracts are allocated to the consumer and which to the business.

### Our response

We are not proposing to change the methodology based on these responses received. The risk allocation that is being developed during the ECP implementation phase aims to appropriately balance market interest through a commensurate risk return profile. The components of the financing costs were estimated through an approach outlined in the methodology, including an assessment of whether costs were needed for the CBA methodology, whether they can be quantified and what the best approach to quantification is. If it was decided that benchmarking provided the best available data, we identified potential sources of benchmarks and tested the robustness of the cost data. We have used more than one benchmark from a wide range of literature review, which in itself is adaptable in the future. A range is identified for each component of the financing cost further increasing the robustness of the CBA and reducing the impacts of any interdependencies. Results of the CBA are also interpreted based on scenarios indicating a directional view of the outcome. The robust approach mitigates any risk associated with the reliance on point estimates, and interdependencies of the benchmarks considered.

This has given us confidence that the methodology approach is sensible. We agree that the structure of the final contract will influence the final cost of finance. At the point of the first CBA we will have to make assumptions based on the information within the indicative solution and our knowledge of the financing costs in the market.

## Embedded debt

A TO response on embedded debt refers to the fact that TO's have a range of debt facilities that they take on to finance a variety of projects and operations. The cost of debt comparison between TO and CATOs would not be accurate as the allowed return on the RAV at Ofgem's price controls reflects an average of the cost of debt on a portfolio of investments whereas CATOs will raise finance at one point in time. Consequently, comparing the cost of debt between a CATO and a TO can give the false impression of financing benefits.

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A TO responded that the allowed rate of return under the RIIO price controls represents average not marginal cost of capital. Consequently, TO's cannot finance specific projects at less than the allowed cost of capital, but this does not imply that consumers will be better off if competing providers are offered the opportunity to do so.

### Our response

We are not proposing to change the methodology based on the responses received on this topic. We recognise limitations in a direct cost of debt comparison between the CATO and TO. The CBA does not propose such a comparison. Cost of debt is a component of the CATO WACC used to derive a TRS. Efficiently in raising finance will impact the final TRS, and the cost of debt is one of the contributing parameters.

### First of a kind (FOAK) premium

A TO encouraged the ESO to review literature in this area and consider including an estimate, or range in the sensitivity analysis for the FOAK premium within the cost of capital expected by bidders. A TO noted that the Department for Energy & Climate included a "novelty premium" of 25 basis points in its modelling assumptions when implementing the Electricity Market Reform (EMR), and felt that it would be prudent for the ESO to include a similar assumption within the methodology.

A TO responded that under the factual case there would be a need for duplication of a number of systems and requirements, including but not limited to: Access arrangements between parties, Supervisory Control and Data Acquisition (SCADA) and telecommunications systems, Black-start resilient control rooms, active engagement in outage planning, Network and Information Systems (NIS) Regulation compliance, as Competitively Appointed Transmission Owner's (CATOs) could potentially be Operators of Essential Services (OES). As a party to the System Operator Transmission Owner Code (STC), CATOs would need to maintain a level of activity in managing the SCS, data exchange, system modelling, and other roles. It does not appear that these, largely opex, costs have been considered in the factual cost estimate.

An investment company responded that the FOAK premium should be a negative cost for the factual case, off-setting early projects that may be 'loss-leaders' to allow consumers to access the considerable long-term benefits from competition.

### Our response

We are proposing to change the methodology based on the responses received on this topic. To further enhance the robustness of the CBA and further stress the high case, we propose to include a 25bps premium on the high return scenario. Specifically, we have considered the DECC evidence on applying a novelty premium of 25bps due 'to uncertainties about how the mechanism and its institutions will work in practice'. We do however consider that some of the cost of equity benchmarks in the methodology, as outlined in Appendix 2, may have novel 'mechanisms and institutions' as defined by DECC at the point in time when the cost of equity was set.

The change in methodology implies a quantitative assessment by including a 25bps premium on the high return scenario. Previously the CBA methodology only recommended the FOAK premium for a qualitative assessment. The qualitative will also remain. As we gain more experience and knowledge about EC, we will be able to more accurately price and manage risks, leading to a reduction to the FOAK premium. We do note however that the FOAK premium is applicable only for the initial projects and the suitability of the 25bp inclusion will be reviewed for future projects.

### Capex and Opex Savings

Multiple TO's responded that there is limited evidence of the assumed CAPEX savings. Responses summarised that there are multiple examples of benchmark PFIs not being value for money

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including the National Audit Office (NAO) and the Public Accounts Committee (PAC) questioning whether PFI has been value for money for taxpayers. A TO expressed that four of nine papers cited in the literature review, including both papers produced by the NAO, suggest there was limited or no increase in capex efficiency as a result of a PPP. The lack of relevant evidence is why it is not appropriate to assume significant savings from third-party delivery. Respondents suggested that the assumed construction savings of a 10% is entirely hypothetical rather than based on empirical evidence and that BEIS does not recognise the 10% CAPEX efficiency figure put forward by Ofgem as appropriate. One TO consequently suggested that the CAPEX saving should be set at the lower end of the range at c4% to 5%.

Similarly to CAPEX savings, TO responses suggested there is limited evidence of the assumed OPEX savings. The literature review has included two studies that found no evidence of third-party cost efficiency, and one study that is of very limited relevance to the relevant opex costs considered in the CBA.

A TO response looked at CAPEX savings to customers observed under the three SWW projects, which ranged from 11.4% to 16.7%. They argue that this range represents a counterfactual of the CAPEX savings achievable under the RIIO-regime. One TO makes the argument that the potential CAPEX savings translate into very small customer bill saving.

A TO response questioned the applicability of relying on OFTOs as a benchmark which are already built assets while also suggesting that the ESO has assumed the midpoint of capex efficiency between 5%-20% with no legitimate evidence for selecting the midpoint. A TO suggested sensitivity ranges of 5-20% savings should either be removed and set to 0% or should be made symmetrical.

A TO responded that for Opex efficiency it is important to take into account the benefits of the RIIO framework, where the frontier shift assumption is typically applied.

Further, a TO responded suggesting that the methodology does not recognise the competitive tension that already exists in the delivery of transmission infrastructure. Given that a significant proportion of strategic infrastructure costs (c. 75-80% typically) are already subject to competitive tender with the supply chain, we would expect there to be limited scope for absolute cost reductions. Any saving would likely come from a transferring of risk, rather than the cost of work delivery being fundamentally lower.

### Our response

We are not proposing any changes to the methodology in respect of capex and opex efficiency assumptions. Our methodology allows for sensitivities around the level of capex savings which is necessary to account for a range of capex savings from the relevant case studies.

A TO response analysed the CAPEX savings in the Ofgem impact<sup>3</sup> assessment (IA) which considered three North American projects, specifically the Hartburg-Sabine, Junction and Duff-Coleman projects undertaken by the Midcontinent ISO.<sup>4</sup> This study suggests a range of savings from 22% to 42% relative to the initial indicative design. The TO response uses these studies to make a further comparison between the winning bid and initial indicative design, which yield capex savings of 15-22%, still above the savings assumed in the methodology.

It is proposed by the TOs that capex savings achieved through competition should also be netted off against savings achieved through a subset of delivery models within the regulatory regime namely

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<sup>3</sup> Ofgem, [Ofgem Impact Assessment on developing arrangements to allow for early competition to be applied to future projects on the onshore electricity transmission network](#), March 2022.

<sup>4</sup> We will create a live benchmark library where we will include these additional benchmarks and keep updating the library as early competition process and number of projects develops.

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SWW. This remains an imperfect comparison as we compare early competition to general delivery within the regulatory regime. The capex cost of a project in the factual case is based on the counterfactual indicative value ordinarily provided in the NOA by the TO. An applied capex savings is proposed within the CBA methodology at 5-20% (midpoint 10%). We used a wide range of benchmarks for the estimation of capex and opex savings and therefore do not believe that the value should be set to 0% or be symmetrical.

We also note that while BEIS has suggested that the evidence for construction cost savings from the SPV model is not as robust as the evidence from the OFTO experience, “it constitutes the most relevant and best evidence available at the time of writing”, and not including it would risk being too conservative in the size of the savings that the policy option may realise.<sup>5</sup> Similarly, we note that the NAO do not form a view on the VfM of PFIs,<sup>6</sup> instead citing data availability issues to quantify the benefits of private finance procurement.

Regarding Opex, studies estimate opex efficiencies for OFTO projects vs RIIO delivery, which lead to opex savings of up to 27%.<sup>7</sup> Consultees have echoed what is stated in the CBA methodology indicating that the OFTO regime transfers the asset following construction which may allow for more accurate and competitive pricing of opex costs. For this reason, a high-case opex efficiency is selected at a level significantly lower than what is established in a source within the literature review. There is a recognition of the limited sources available for the literature review, and sensitivity ranges help us deal with this uncertainty. Ultimately, the assessment compares a range of sensitivities ahead of project recommendation.

The efficiency challenge applied under the RIIO framework is put forward as an instance where benefit is passed on to customers and in turn should be netted from the efficiency gain under competition. We will engage with Ofgem for input on what assumptions should be included in the quantitative assessment regarding future cost efficiency challenge for the counterfactual case when future regulatory deals are agreed with incumbent TOs. However, we do note that under the regulatory regime, the efficiency challenge of TOs in the form of ongoing efficiency is embedded in the overall totex allowance, and we cannot empirically estimate the opex efficiency achieved on an individual project. In any case, TO under or overspend is shared with customers through the TIM, limiting the overall customer benefit. An additional benefit of early competition may also be in its provision of additional benchmarks to Ofgem for setting appropriate efficiency challenges based on data from delivered projects as opposed to largely relying on the in-house delivery.

The study estimating opex efficiency within the CBA methodology comparing OFTO projects vs RIIO delivery, leads to savings of up to 27%. We will maintain the opex savings proposed within the CBA methodology at 5-20% (midpoint 10%) relative to the opex for the initial solution. As network competition matures there will be an opportunity to do a relevant and appropriate assessment of comparable infrastructure delivered under different delivery models.

Regarding competitive tensions already existing in project delivery, we acknowledge that Capex costs are subject to competitive tender however these are in the context of the incumbent TOs own asset management policies, project management policies, risk profiles, innovation appetite, operational requirements, finance arrangements, and business constraints. We believe there is value to be obtained in opening these aspects up to competition.

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<sup>5</sup> BEIS, [Extending competitive tendering in the GB electricity network](#). July 2021. Page 47

<sup>6</sup> NAO, [PFI and PF2](#). January 2018. Paragraph 5, page 5.

<sup>7</sup> CEPA, [Evaluation of OFTO Tender Round 2 and 3 Benefits](#), March 2016.

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## Cost Sensitivity Benchmarks

A TO responded: It is not clear why the ESO selected a lower bound of 0.5 per cent of total costs for its bidder cost sensitivity range, given that the lowest value from its benchmarking exercise is 0.8 per cent. The ESO's choice may be based on ensuring that the bidder cost range is equivalent to the procurement cost range, but this is inconsistent with the evidence that the ESO presents itself on bidder costs and so undermines its analysis.

### Our response

We will implement changes to the methodology based on the submitted consultation answers. We will amend the bidder cost low case sensitivity scenario range to 0.8 within the bounds of the literature review.

## Risks & Incentives

A number of the TOs raised various risks which they consider should be included in the CBA

### Procurement failure risk

Risk of procurement failure and associated delay while project is re-tendered or reverted to TO delivery.

### Our response

The risk of procurement failure has been considered by the ESO within the Early Competition Plan<sup>8</sup>. We do not consider these risks as appropriate to include in the CBA as these are risks held by the procurement body rather than the project. These risks are better suited to Ofgem's impact assessment of competition. Cost and time associated with running a competitive tender has been taken into account in the methodology.

### Risks that third party ownership of assets pose to the network

These include:

- Risk of financial distress of a CATO
- Asset failure through either the poor quality of design, build, or asset management

### Our response

#### Financial distress.

Our Early Competition tender process allows for a Pre-Qualification Questionnaire (PQQ) process to ensure those competing in the bid have the financial capability and standing to deliver and maintain their proposed solution. We believe this mitigates this risk.

#### Asset Failure

Bidders will need to demonstrate their proposed asset management policies and procedures and demonstrate their capability to build and maintain their asset. This will be assessed as part of the technical evaluation of bids. CATOs will have to adhere to various licence obligations and meet the requirements of the Security and Quality of Supply Standard (SQSS), Grid Code, and legislation and will be required to meet performance requirements during operation, demonstrating that they are meeting their obligations. These obligations are subject to incentives captured in the payment mechanism requiring a set performance of the asset which is outcome driven. We believe this

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<sup>8</sup> ESO, [Early Competition Plan](#), April 2021. Page 150.

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mitigates this risk of asset failure given that CATOs do not have the benefit of risk mitigation through a portfolio of assets.

## Risk allocation

A TO responded: Ofgem and BEIS are seeking to allocate risk in a different way to the current RIIO framework. This allocation of risk between parties has not yet been developed and will be subject to the contractual arrangements and commercial model introduced by the ESO. It is important to note that, depending on the allocation of risk between the CATO and consumers, there is an associated impact on the level of return expected by the CATO. If a CATO is expected to take on more risk, it will in commensurate level of return which will be reflected in the TRS.

A TO responded: Comparing the operational service provided by TOs to that of DPC/OFTO/Late CATO, which aren't equivalent regimes and are more akin to financing competitions, is also likely to be misleading when considering allocation and treatment of risk.

## Our response

We will consider the risk allocation in respect of the evolving commercial model which is currently under development. The EC model is a fixed price model where the TRS is fixed following the PPWCA. After the PPWCA phase most risks will be held by the CATO and these risks will be priced as part of the tender revenue stream. The differences in risk allocation between a CATO and a TO may be reflected in the differences in financing costs in the CBA, which in turn are subject to sensitivity testing.

## Totex Incentive Mechanism

A TO responded: The CATO incentive framework is based on the OFTO framework and is significantly simpler than the RIIO incentive framework. One example which could lead to a different outcome for consumers is the use of the TIM within RIIO, where cost underspends would be shared with consumers and lead to lower bills. There is no scope for this arrangement in the CATO model and therefore we ask the ESO to reconsider whether treatment of incentives should be included within the CBA.

A TO responded: The draft CBA assumes that the incentive frameworks under the factual and counterfactual scenarios are equal, and therefore can be discounted from the CBA. This is not accurate, particularly given that a third party will not be subject to the Totex Incentive Mechanism (TIM) which shares any underspent allowances with consumers.

## Our response

We are not proposing to alter the methodology based on the responses received. How incentives set for the factual case is described in the ECP while incentives for the TOs under the counterfactual would be the RIIO incentives mechanisms and rates. Our view is that due to a number of factors, such as complexity, TO/CATO performance and comparability, it was not readily possible to determine which incentive framework was more beneficial to customers in the absence of running competitions and using outcomes as a benchmark for comparison. In any case, cost overspends are also shared with customers similar to cost underspend through the same TIM mechanism. The development of the PPWCA mechanism is considered in the implementation of the early competition commercial model and proposes a more symmetrical risk allocation. Consequently, the assumption we are proposing in the methodology is that incentives are set equal under both factual and counterfactual and are therefore discounted from the methodology.

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## Inefficient asset management including interface costs

### Supply chain capability

A TO responded: We work with third parties including the supply chain and academia to deliver innovative solutions for consumers. There is currently no evidence within the GB market of third parties being able to deliver outcomes for consumers in a faster or more efficient manner.

### Our response

We are not proposing to change the methodology based on the responses received. In the wider context of third-party delivery of system needs, ESO's pathfinders process has demonstrated the value of competition in the energy sector. Regarding supply chain and academic partnerships, we expect third parties will want to do the same in order to give them either a commercial or technical advantage and this would be considered at the bid assessment stage.

### Economies of scale

A TO responded: TOs are well placed to procure programmes of work from the supply chain for different asset types, and run their capital programmes as portfolios, helping achieve efficiencies in procurement. It is unclear whether CATO licenses will have an established supply chain or not. There is a risk of significant reduction in procurement synergies leading to additional cost for consumers and lengthy procurement processes, leading to delays, that supply chain organisations need to interact with for single asset projects. We agree that this is a difficult area to quantify; however, we believe it should be assessed qualitatively within the assessment.

### Our response

This is included in the qualitative assessment. Under the counterfactual case, incumbents may have lower costs due to economies of scale and scope e.g. having local operations teams and in-house expertise, avoidance of interface costs. Conversely, similar economies of scale could appear in the factual case where established companies who are new entrants to this particular market rely on their specific context e.g. a large transmission company established elsewhere with expertise in a particular technology, geography, or skills which are new and not accessible by the incumbent TOs.

## Inefficient asset ownership and maintenance regimes

A TO responded: CATOs will have time bound licenses and commercial contracts which, as they approach the end of their life, contain a strong incentive to cut costs and undertake minimal amounts of activity to maintain assets for future consumers

A TO responded: We are also concerned that the incentives, in a broader sense, of third-party network owners may not be aligned to the economic and efficient operation of the network. Given that the revenue period under the factual case may be significantly shorter than the potential life of the asset, third parties may have very weak incentives to diligently maintain assets, particularly in the final years of a contract if they do not plan to extend their ownership and operation.

An investment company responded: the CBA approach ignores the value to the consumer of the stronger availability incentive on CATOs, where the revenue is directly impacted by reduced availability. This is a benefit that could be quantified, e.g., by assessing the reduced constraint costs for a boundary between the typical performance of the TO and the performance of a CATO under the availability incentive - OFTO performance being a useful proxy for CATOs given the same incentive structure.

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End of licence conditions are being developed to ensure this risk is mitigated, including appropriate incentives and penalties. These aspects will also be considered as part a technical assessment process prior to the termination of the license. This risk is therefore not included as part of the CBA.

We welcome feedback of our proposals for availability incentivisation and if it is likely to drive the right behaviour. In this instance we consider these proposals to be a risk mitigation measure rather than a benefit in their own right. Similarly, incumbent TOs have significant obligations on them within their regulatory deal. As such we consider these equitable and it is therefore not included in the CBA

## Commissioning

A TO responded: TOs have the knowledge, resources, and expertise to commission complex transmission projects within their geographic areas, with a strong track record of doing so over many years. There is a risk that delays to delivery of a project through the commissioning phase arise when projects are undertaken by less mature parties who have been awarded a CATO licence.

### Our response

Whilst we acknowledge that TOs have a track record of delivering transmission projects, this is in collaboration with a wider supply chain, and we consider third parties either have or can develop this capability. Bidders will need to evidence their capability as part of the technical assessment of bids, and consequently we do not consider that there is a particular risk to commissioning delays under EC beyond what a TO would ordinarily experience.

## Connection requirements and network reinforcement

A TO responded: It is fundamental that CATOs have the same obligations as TOs to develop their network as new network needs and requirements become known. The model developed by the ESO is built upon the OFTO model and we remain concerned that the OFTO model is not appropriate for use within the onshore transmission sector without significant amendments.

A TO responded: We also expect there to be ongoing demands on third party asset owners that they may not be well equipped to manage.

### Our response:

We have received broad feedback from interested parties on the commercial model and the key commercial mechanisms. While we value all feedback, the purpose of this consultation and paper is limited to the CBA methodology only. The commercial model and risk allocation is addressed in the broader EC implementation program and other market consultations.

## Interface costs

A TO responded: The proposals introduce significant additional complexity into the way the main transmission system will be developed, operated and maintained.

A TO responded: We note that Ofgem has considered there could be additional interface costs of between £1-3m, depending on the size of the project, as a result of introducing a CATO within its 2021 impact assessment.

### Our response

We are not proposing to change our methodology based on the responses received. We note that Ofgem's Impact Assessment consideration of the £1-3m additional interface costs is a sensitivity

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test which “represents a high-cost assumption”.<sup>9</sup> We also highlight that interface costs are to be borne by both interfacing parties and lead to an overall net zero effect on the CBA methodology. As the CBA compares the potential delivery routes of a single project rather than the overall policy of EC, we do not believe it to be appropriate to include these costs in the methodology and less so, to only burden the factual case. Additionally, industry codes, standards and processes are already in place to manage interfaces between multiple parties. Amended interface obligations will be captured in the relevant codes as part of the EC implementation.

### Outage planning

A TO responded: Other drivers of the timescales must also be considered. For example, some areas of the network are heavily constrained in terms of system access/outages and delaying a project through competition could have knock-on impacts to delivery of other projects in later years if it changes system access availability or constraints.

A technology provider responded: As an example, we could not understand why constraint costs associated with the timescale of delivery for the factual case relative to the counterfactual are treated as quantitative, whereas constraint costs associated with outages for implementation (and other additional system costs) are treated as qualitative.

A TO responded: We also have significant concerns regarding outages and system access. The portfolio of critical transmission network infrastructure required out to the late 2030s will require an extensive set of outages on an increasingly crowded electricity network. We are already experiencing challenges securing and delivering outages for current transmission projects. Introducing the challenges of multi-party outage coordination, potentially between ESO, the TO and multiple third-party asset owners, will further exacerbate network access issues, which is already one of the biggest risks we perceive to the timely delivery of Net Zero. This significant cost is not captured in the ESO’s ‘Additional system costs’ category, which considers that outage and access issues will ‘net off’ between the counterfactual and factual scenarios. However, the additional complexity and coordination challenges only emerge under the factual scenario and must be considered. Failing to recognise these risks at this stage may have harmful negative consequences for Net Zero delivery.

### Our response

Early Competition projects will be delivering new networks and therefore reduce the burden on the currently constrained network. We will consider the time required to move through EC to make sure we allow enough time to address constraints such as planning and consenting and outage planning. This will be considered as a part of EC implementation. In any case, while there will be requirements for coordination at commissioning and overall outage planning, we do not believe this is beyond the capability of a sufficiently capable CATO.

There is an extensive period expected from project identification to meeting the in-service date. Exact outage requirements for commissioning and system access details are unlikely to be known at the point of running a CBA. Both CATOs and incumbent TOs will be required to coordinate outages as per their obligations under the STC.

### System security

A TO responded: We remain concerned that competition could lead to additional, unacceptable risks that lead to consumer detriment in the form of asset failure or interruptions to supply.

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<sup>9</sup> Ofgem – [Impact Assessment on developing arrangements to allow for early competition to be applied to future projects on the onshore electricity transmission network](#), March 2022. page 26

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A TO responded: The draft CBA fails to recognise the naturally higher risk associated with third party delivery. We have observed competition in the energy retail sector result in mass failures of market entrants lacking the appropriate governance, financial backing or sustainable business practices.

A TO responded: We would expect that the CBA recognise the potential negative impact of third-party delivery on security of supply, safety, outages, and the continued provision of an efficient, co-ordinated and economical electricity network. Currently, these significant risks are not sufficiently recognised in the draft CBA

### Our response

Early Competition may not lead to system security risks as Early Competition holds multiple barriers to entry which include a robust bid evaluation criteria, multi-stage assessment process and requirements to adhere to licence agreements and associated codes. System security and capability of a bidder is considered as part of the technical evaluation. If we conclude there is a real risk a particular bidder cannot provide a safe and reliable system, then they will not proceed through the tender process nor be awarded a CATO licence or contract. We believe this process mitigates this risk.

Further, we note that the CBA methodology is used to determine on a project-by-project basis whether procurement of the need through early competition presents a benefit over procurement through the in-house delivery model. In contrast Ofgem will be expected to consider wider energy system impacts and consider whether the policy should be implemented.

### Holistic planning

A TO responded: The work on HND and ASTI has shown there is real benefit in thinking about network planning more holistically and in treating the scale of work required as a 'programme', managing the dependencies between projects more effectively to optimise delivery. The project-by-project approach to the CBA is too narrow and we would encourage the ESO to think about how a more holistic assessment, and consideration of project dependencies, would lead to a better assessment of potential consumer value.

### Our response

The wider holistic and strategic considerations will form part of the proposed CSNP regime. The CSNP would consider these elements when determining what investments are required in order to meet identified needs. The output of that would then feed into the Early Competition process where projects are screened for eligibility for early competition. Further detail on the CSNP process will become available as this process is developed.

## Counterfactual assessment

### ESO & Ofgem costs in TO delivery

An investment company responded: The management by ESO of incumbent TO delivery cannot be assumed to be costless and should therefore be included in the CBA. While these are not transparent today, in the way tender costs are, there will be avoided ESO and TO management costs for projects delivered competitively - allowing resources to be re-deployed or reduced RIIO allowances. Lifecycle costs for the TO solution should be on a transparent, fully allocated cost basis, avoiding advantage from inadvertent cross-subsidy within the RIIO funding.

An investment company responded: the cost and information asymmetry associated with assessing the TO delivery of large projects should not be ignored. Where competition is used it has the

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potential to avoid resourcing the LOTI processes (including external advisors etc), a noticeable cost saving to the regulator. In addition, the use of a competitive process nullifies the incumbent information advantage over the regulator in determining the efficient outcome.

## Our response

We have considered the costs incurred by Ofgem as a part of license management cost and are not proposing to change the methodology based on the responses received.

Incumbent TOs will still need to manage their existing network, in-house delivery, and undertake their obligations with respect to RIIO and future regulatory deals. If the regulatory deal changes in the future this will be reflected in the counterfactual model and allowed regulatory returns.

## Innovation

An energy technology company responded: The consultation presents a one-sided picture of innovation with little recognition of the innovation that has been introduced by the incumbent transmission owners, particularly under the RIIO arrangements which include innovation allowances and efficiency incentivisation around the outputs that are important to consumers.

A TO responded: There are multiple instances where benefits under the RIIO framework are either underestimated or omitted from the draft CBA. For example, we note the ESO's assumption that third party delivery will result in 'increased levels of innovation'. However, no robust evidence is provided that this is the case, nor that similar business-as-usual innovation could not be achieved under the TO regulatory regime.

A TO responded: We also note the ESO's assumption that third party delivery will result in 'increased levels of innovation', but it is ambiguous as to whether innovation in technology, processes and systems constitute a qualitative or quantitative factor.

A TO responded: The real benefit in early competition, and the basis on which it was developed, is in finding innovative technologies and approaches that have not, or could not, be delivered by the incumbent TO. The methodology as proposed does not focus enough on the 'need', and the scope for innovative solutions to address that need - and so could underestimate the potential benefits available.

A technology provider responded: Given the aims of early competition described above, we would expect the associated cost benefit analysis to be broad enough to allow for the range of transmission needs to be set out such that the widest possible range of solutions could be compared. The focus of any analysis should be to assess the overall value that can be delivered for consumers. And as an alternative approach, we would recommend much greater transparency regarding the future transmission needs, including information which allows the certainty and potential duration of the need to be assessed. This could be achieved by sharing ESO analysis against the Future Energy Scenarios. This would allow potential bidders to propose solutions which better reflect the overall transmission needs.

## Our response:

Innovation is a broad concept to capture in a comparative analysis and the outcome of innovation is considered where know, as opposed to innovation itself.

The network need will be communicated during the tender process and adequately captured in the specifications. Innovation is likely to be intrinsic to the proposed solution considered by the NOA rather than by the EC CBA. By introducing competition in transmission networks we cannot predict or specify where innovation will take place (construction, technology, delivery approach etc). Some innovation savings may be applied as Capex efficiencies and other forms of innovations may be

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considered in the qualitative assessment if known. Further, the innovation offered by TOs will already be reflected in the indicative solution as part of the NOA (or CSNP) process.

Finally, given the point at which Early Competition runs, i.e. following the output of the NOA or its replacement, there needs to be some context in the way that needs are defined for each project. What is being proposed by the responders would be a prime candidate for inclusion into the Interested Persons process where innovative solutions to the whole network need can be considered. This process is being refreshed and further consultation on this process will be available in due course. With regards to sharing of ESO analysis, it is our intention to include studies relevant to the need within the Tender Pack where they exist and where appropriate to share.

## Regulatory incentives

A TO responded: TOs are trusted to serve the communities they operate in, and to ensure the safe, reliable transmission of electricity to consumers throughout GB. We do not take this trust lightly and continuously strive to deliver positive outcomes to society, not just returns for our shareholders. These wider benefits should therefore be included within the CBA methodology to ensure they are fully considered when evaluating the competitive model.

### Our response:

Wider benefits of an option are considered in the NOA CBA and likely evolution of the CSNP. The EC CBA only considers the benefit of CATO vs. in-house delivery for TOs. Cost is also not the only criteria for selecting a preferred bidder. The consideration mentioned by the response will form part of the technical evaluation of each bid. In addition, CATOs will have the same license obligations as a TO. Further stretch targets may be developed and included in a technical specification as ESO develops and aligns its internal policies to drive certain behaviours based on consultation with Ofgem.

## Qualitative scoring

### Scoring mechanism

A TO responded: While we recognise there are possible benefits from competition through innovation, carbon, ecological and social factors, it is entirely plausible that a TO could provide even greater benefits in these areas relative to a competitive model. For example, a TO might deliver ecological benefits greater than those achieved by a CATO, and that this would depend on how much of an organisation priority it is for the winning bidder, and how much resources are dedicated to achieving ecological benefits to the consumer. All the points listed by the ESO as potential benefits of a competition model could equally apply to a TO delivery model. We ask the ESO to consider whether there could be plausible carbon, ecological and social costs with a competitive model and not only assume benefits in these areas.

A TO responded: Throughout the qualitative assessment the methodology is inherently set-up to understand the relative benefits of the 'factual' solution compared to the 'counterfactual'. This assumes that the 'factual' solution would likely be the same or more beneficial to consumers and seemingly ignores the potential disbenefits to consumers of the 'factual' case. The qualitative component of the currently proposed CBA only allows benefits for the factual solution to be scored and taken into account, and not benefits for the counterfactual approach. Creating a scale for qualitative factors that can apply either a positive or negative value depending upon the relative merits of the factual and counterfactual would be a better and more logical approach.

### Our response

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We are adapting the methodology based on the feedback received to include the possibility of both positive and negative scoring in the qualitative analysis. We will update the methodology to reflect net benefits and disbenefit appropriately. Further bidder requirements will be considered for future rounds of competition as ESO policies are developed to drive certain behaviours.

### Weighting

A technology provider responded: We are concerned by the proposal to calculate a total qualitative score as part of the assessment. This implies that the impact of each qualitative criterion is equal, but we cannot see any evidence to support this, and consider it very unlikely.

### Our response

The results of the qualitative assessment and the relative strength of answers to the qualitative factors between counterfactual and factual provide an additional perspective on the indicative solutions presented for each need. The outcome from this assessment when compared with the results of the CBA is an important part of the decision-making process and has been left open for interpretation based on the evidence available at the time. There is however an inference of an equal weighting between the qualitative factors. Any risk associated with the qualitative analysis is mitigated through the robust results interpretation which is underpinned by the combination of the qualitative and quantitative analysis.

### Treatment of costs as qualitative rather than quantitative

A TO responded: Not reflecting FOAK Premium, Consortium costs, and Economies of scale as quantitative factors distorts the 'factual' cost estimate relative to the 'counterfactual'.

A TO responded: Whilst we recognise the challenges in quantifying certain costs and benefits, it is not appropriate that critical inputs, including health and safety, system operability, and carbon emissions, are considered only as part of a qualitative assessment that may have limited bearing on the final outcome of the CBA. Given the apparent secondary status of the qualitative assessment, we believe the CBA needs to treat the qualitative evidence with far greater weight than was identified at the CBA Methodology workshop.

### Our response

A robust process is followed to establish the treatment of costs and benefits. We have considered a consultation response which highlights evidence from the Department of Energy & Climate Change (DECC) on applying a novelty premium of 25bps in instances where there are 'uncertainties about how the mechanism and its institutions will work in practice'. In response to the evidence we are proposing to enhance the robustness of the CBA and further stress the high returns scenario by including 25bps first of a kind (FOAK) premium.

Whilst cost associated with setting up the consortium and economies of scale could be potentially relevant for the methodology, there are limited data sources available. Additionally, there may also be benefits associated with consortia cost, such as risk diversification. As a result, they remain in the qualitative assessment.

## Costs of delay

### Delays to delivery

An investment company responded: The overall methodology appears to have been built up based on sound research. We would like to highlight some concerns around implied assumptions or potential unconscious bias within the consultation document, for example, suggesting that a

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competed project would deliver more slowly and give rise to additional constraint costs. This conflicts with Ofgem's analysis, where it has concluded that there is no reason to expect a competed project to be delivered with any delay, as stated in its March 2022 decision document and we would argue that there are significantly stronger incentives on the CATO to deliver without delay. This is inherent within the Tender Revenue Stream (TRS) approach, which has a fixed start date and duration, therefore, if there is a delay, the CATO simply receives no income. It should be considered, therefore, more likely that CATO's delivery programmes are more rapid and have higher certainty to meet the in-service date than incumbents.

A TO Responded: While the ASTI projects are specific projects necessary to achieve government targets, we believe the points raised in the development of the ASTI framework will hold for future strategic investment projects that may be identified in future CSNPs as being critical to deliver government targets and net zero, as well as ensuring security of supply. Large strategic transmission projects that require the bulk transfer of power from generators to demand centres are likely to have significant constraint costs associated and will be linked to the achievement of government targets such as the 2035 decarbonisation of the electricity system, or the 2050 net zero target. Therefore, any delay to these types of projects would not be in the consumer's interest. We therefore question the need for these projects to be considered for competition, as clearly even without a CBA, there would be benefits of accelerating them with TOs as the delivery party.

A TO responded: It is also important that the methodology considers the broader landscape shift, recognised through the recent ASTI decisions published by Ofgem. Ofgem, through ASTI, recognises that there is a need for accelerated delivery to meet Government decarbonisation commitments and that this drives a very different approach to project regulation, incentivisation and supply chain engagement and contracting. This must be considered when thinking about the potential consumer impact of competition, both the benefits and costs.

### Our response

The processes being developed through Early Competition and CSNP will result in certain projects being identified early enough to ensure there are no delays to the required in-service dates of these projects even with a tender event included within the timescales.

Constraint costs would only be considered in the CBA where it is demonstratable that there would be a delay of the factual vs the counterfactual. We are developing the process to enable us to, as far as is reasonably practicable, identify projects for competition early enough in the process to ensure these constraint costs do not arise. However, where delay is inevitable, the model allows for constraint costs to be considered in all scenarios. Assuming constraint costs relative to EISD dates provided by a TO also comes with some uncertainty as in-house delivery against the EISD dates remain indicative at an early stage.

ASTI projects are a special case in that they have been accelerated to deliver a specific goal for 2030. It is anticipated that the projects that pass the CBA and therefore considered for EC will have EISDs post 2030. Should there be a requirement to significantly accelerate specific projects then the delivery model will need to be considered at that point.

### Constraint costs estimation

All TO responders asked for further detail of how constraint costs will be calculated.

### Our Response

A key tool in assessing constraint costs is our pan-European market model which is used for long-term network planning covering time horizons ranging from 20 years in the future to year-ahead.

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One of the inputs into the model is our Future Energy scenarios (FES) annual publication for GB capacity and demand forecasts.

Our pan-European market model is an economic dispatch optimisation model. It can simulate all European power markets simultaneously from the bottom up, i.e. it can model individual power stations, for example. It includes demand, supply and infrastructure, and balances supply and demand on an hourly basis. It models the hourly generation of all power stations on the system, taking into account fuel prices, historical weather patterns and operational constraints. Balancing of supply and demand is via a linear (or mixed integer, if chosen) optimisation which minimises total system short-run costs while respecting a variety of system and plant specific constraints. An hourly market dispatch schedule of electricity generators, interconnector flows, storage technologies, and flexible demand is produced. It accurately models renewable sources of generation, such as hydro and intermittent sources of generation, such as wind and solar.

To calculate constraint costs, we use a two-step approach. First, we model the dispatch (unconstrained). The market first schedules generation so that supply meets demand at each point in time, assuming the transmission network is capable of sending power wherever it is needed i.e. unconstrained. We approximate this through our dispatch where we schedule generation to meet demand, whilst minimising cost (which is equivalent under a competitive market where generators charge their marginal cost). This can also be thought of as merit order dispatch. This provides us with an approximation of the market solution at gate closure.

Then we model the Re-dispatch (constrained). If the transmission network were unconstrained then the market would be allowed to dispatch as it saw fit. However, constraints on the transmission network mean that generation sometimes must be restricted in some areas of the country/network to satisfy boundary constraints, and increased elsewhere to balance supply and demand. This duty is performed by the ESO at minimum cost, and it is this activity that we seek to approximate through our redispatch. Our pan-European market model therefore takes the unconstrained dispatch as a starting point and redispatches generation such that demand is met in all zones on the network, and all boundary constraints are respected. The solver adjusts the positions such that the cost of doing so is minimised. All of the usual constraints present in a dispatch run are also present in the redispatch, such as start-up and no-load times on generators.

The total constraint cost used to solve a transmission congestion issue is associated with the bid and offer components within the balancing mechanism. The 'bid' is a volume of energy at a £/MWh to reduce generation in an area; and the 'offer' is the associated £/MWh to replace the energy in another area of the system. The pan-European market model calculates total GB constraint costs due to re-dispatching both GB plant and interconnectors.

By performing modelling with and without a particular reinforcement included within the model, it is possible to calculate the impact on constraint costs of that reinforcement including timing of when that reinforcement is in place.

## Delays to customer connections

A TO responded: While the CBA recognises that constraints costs could be incurred if the competition results in a delay to project delivery, it does not recognise that there may be other impacts to that delay, which are also ultimately a cost or risk to the consumer. For example, often projects are meeting multiple drivers e.g., a project could be identified in NOA but also be enabling works for a customer connection, or the timing could be driven by system access constraints or asset health requirements. There needs to be consideration of these interactions to understand the broader impacts of delays driven by introducing competition.

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A TO responded: The consultation recognises that competition may create delays to project delivery. It is therefore a significant omission that the CBA does not include the impact on Net Zero delivery and on connecting parties, including the cost of carbon associated with delaying the connection of renewable generation.

### Our response

We are developing the process to enable us to, as far is reasonably practicable, identify projects for competition early enough in the process to ensure these issues do not arise. However, where delay is inevitable through Early Competition, the model allows for constraint costs to be considered and this would consider the cost of predicted demand and generation balancing.

### Carbon costs associated with delay

All three TOs commented on the lack inclusion of carbon cost associated with delay costs.

### Our response

The delivery model compares the factual to the counterfactual. Carbon costs of delays would be assessed in the CSNP and is captured in the constraint cost. The constraint cost is used as an input within the CBA where delays are envisaged.

The baseline assumption is that both the TOs and CATOs will deliver the solution at the earliest in-service date as stipulated by the NOA. Additional carbon costs would only be associated with delivery dates that deviate from the specified EISD.

### Other delay costs

One TO responded: We note there are other costs of delay not been considered in the CBA methodology. This includes the cost to local authorities of increased volumes of planning applications from increasing numbers of CATOs, at a time when planning reform is being investigated by the UK and Scottish Governments

### Our response

This is being considered as part of the tender process through market engagement with relevant statutory bodies.

## Result interpretation

An investment company responded: We fundamentally disagree with using ‘the balance of probability’ approach (as currently described) to rule out competition so early in the CATO process. The proposal appears to be contra to Ofgem’s policy, where it seeks to retain competition until as late as possible for LOTI projects, i.e. until it is unequivocal that consumers would not benefit. The balance of probability principle implies that there will be projects with potential competition benefits (perhaps in a large minority of situations) for which the option for competition would be closed at the CBA point, as the approach assumes all sensitivities are equally likely.

### Our response

The results interpretation ensures a robust approach providing a directional view based on underlying assumptions. The robust approach ensures that the CBA does not depend on the exact accuracy of a single point estimates for a cost or a benefit. This in turn ensures that the methodology remains flexible to various solutions and changes in underlying information which may be updated with future rounds of competition.

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We are proposing to implement early competition where we believe it is more likely than not to deliver consumer value, a position which is not contradictory to Ofgem. As we transition into the delivery phase of early competition the ESO is building up its capability to run these competitive events. Opening this up to any project which may have a remote chance of delivering value would result in the process becoming unwieldy and costly if we have to ultimately undertake pre-tender activities for all new, separable and certain projects. As the process matures, ESO's capability increases, and more data from past CBAs becomes available, we can consider options for ensuring more projects are considered for competition, where value can be demonstrated.

### Consultation following result

A TO responded: We understand that Ofgem, as approver, will have a role in this process including the final say on the delivery model applied to a particular network requirement. But it is still unclear how Ofgem will make its decision and the steps it will take to satisfy itself that the outcome is the right one for consumers. Furthermore, it is not clear if Ofgem will ever take a different view to the ESO's recommendation, and if it does, how it will be justified. We ask that the ESO publishes the results of any CBAs that are run on its website and allow opportunities for stakeholders to engage and suggest improvements to the results before any decisions are made.

A TO responded: It is not clear if and how the output of the CBA process will be shared with other potential bidders and a wider audience. The assessment proposes to include several sensitive elements including costs provided by the TO, an assessment of future TO WACC, and potentially information provided by third parties as part of pre-tender engagement. The ESO would need to provide assurance that no commercially sensitive information would be shared given the potential impact on both the competitive process, and our BAU activities.

A TO responded: It will be critical for the legitimacy of the process that all CBA outcomes must be published in full, with any commercially sensitive information redacted, as all parties need visibility of both the full CBA outcome and the process by which it was reached if they are to have confidence in the ESO's process. There will also need to be a clear and defined process for third parties or TOs to challenge the outcomes of the CBA. This is critical to developing trust in the CBA process and methodology.

### Our response

We agree the outcome of the CBA will need to be shared with stakeholders and we will work with Ofgem to consider the extent to which such information can be shared and the most appropriate timing. The exact format of this and the information contained within, bearing in mind the points raised around commercially sensitive information, will need to be considered.

### Updates to the model

A TO responded: We note that at the time of the ESO's consultation, the commercial and regulatory framework around early competition has not yet been finalised. There are significant amounts of unanswered questions yet to be resolved and further work is required by the ESO and Ofgem to finalise the arrangements. We note some of these decisions may impact the outcome of the CBA and ultimately whether there will be costs or benefits to consumers. We therefore ask that the ESO considers revising its CBA methodology once these decisions have been made. It may be appropriate to have a second public consultation once these decisions have been made, and before the methodology is finalised and the process is implemented. Furthermore, we encourage the ESO to ensure there are appropriate lessons learnt procedures in place, as competitions conclude, and licences are awarded to CATOs. It is important that lessons from the process are incorporated into future competitions that are run so that issues can be resolved, and risks mitigated.

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A TO responded: The CBA input will also need to be continually updated to ensure they are reflective of market conditions and observations.

### Our response

We agree that the macroeconomic environment at the time of performing the CBA will influence the results and our interpretation thereof. Consequently, the CBA will require updating at regular intervals to continue to accurately reflect the prevailing market conditions and the evolution of the RIIO framework (as counterfactual). We believe that the threshold for updating the methodology should be relatively high and at least partially based on the amount of information that will come through successful bidding rounds. Key milestones such as Ofgem regulatory settlements, or specific triggers in the procurement lifecycle, may provide a natural opportunity to update the CBA model but the details of this will need to be defined through engagement with key stakeholders and Ofgem. Further model updates can be considered based on the outcomes from DPC, OFTO, late CATO and other relevant competitive tendering regimes when available.

## Tender Costs

A TO responded: The consultation states that bidder costs have been included in the CBA's cost estimates as bidders will seek to recover these through project funding. However, it is not clear whether the ESO intends to include the impact of other unsuccessful bids in the CBA.

A TO responded: The incumbent TOs will be expected to provide significant support to enable the competitive process to run effectively. This will include assessing the impact of third-party solutions on the network, facilitating site visits and data sharing. In addition, where TOs will be part of the competitive tendering, there are expected to be requirements to establish internal 'ring fences' to manage real and/or perceived conflicts of interest. Depending on the extent and duration of these the costs that are incurred could be significant and are costs that only the TO will incur. These are not currently considered in the methodology.

### Our response

The ESO will not cover bid costs and the CBA methodology does not consider the costs of unsuccessful bids. For clarity, successful bidder will seek to recover their bid costs through the TRS, and this is reflected in the CBA. However, the CBA methodology does not consider the reimbursement of some or all costs of unsuccessful bidders.

## General points

A TO Responded: We note that throughout the consultation the language used by the ESO favours the use of the competitive model. While we recognise that introducing competition in onshore transmission is one of the ESO's strategic objectives, and that it wishes to ensure interest in the new framework from potential CATOs, we question whether it should use language that may lead to inaccurate conclusions on how beneficial early competition will be. For example, figure 3 and the illustrative example contained within the CBA methodology consultation document clearly show the ESO expects significant benefits from early competition and that the default delivery model going forward will be competition rather than RIIO.

### Our Response

We do not have any preferred delivery route other than our ambition to introduce competition where it can be demonstrable it provides value to consumers. In that context using a worked example that

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does not meet the criteria for a process we are developing would not provide much benefit. The ESO will recommend to Ofgem the model we consider will deliver value for money to consumers. We do not state competition will be the default model and it would be inappropriate to do so.

A TO responded: We question the benefit of potentially reducing the average bill by a marginal amount through the introduction of an untested competitive model when the additional risks and uncertainties highlighted in this response could more than erase any CAPEX or innovation benefits achieved through competition.

### Our response

The risks are mitigated as described elsewhere in this document. In that it will introduce primary legislation to enable onshore competition, the Department for Energy (BEIS/DESNZ) expect to see savings of up to £1bn for consumers on projects tendered over the next 10 years<sup>10</sup>.

A technology provider responded: As a provider of innovative technology, [provider] have greatly benefited from working in partnership with [TO] in developing and deploying advanced [technology] equipment on the GB transmission network. This partnership has involved a significant contribution from [TO] to ensure that innovative technology meets operational standards and follows best asset management practices for the benefit of consumers. It would be good to better understand how National Grid ESO intend to ensure that this is also the case for solutions delivered under the early competition model.

### Our response

By opening up the market we are encourage exactly what is described here. By introducing competition we expect potential bidders will want to develop new and innovative methods to either delivering a solution or meeting a need. Whilst ensuring that CATOs will be subject to the same code requirements, as well as incentives and penalties around performance, we believe the model will enable this whilst ensuring a resilient and secure network.

An investment company responded: While the focus of the CBA is relating to the Early Competition process, we would argue any recommendation from the ESO should consider both Early Competition and Late Competition options, ahead of incumbent delivery. Late Competition is within the scope of the Energy Bill and is the obvious fall-back option where the time for an Early Competition process is short.

### Our response

Whilst we understand the market appetite for Late Competition, the CBA model is focused on the Early Competition model. Should the ESO be asked to deliver Late Competition this will be considered separately.

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<sup>10</sup> BEIS, [Energy Security Bill Policy Statement](#), December 2022.