

Early Competition in Onshore Transmission Networks

Project Appraisal Method – Draft for
Stakeholder Feedback

Mar 2026

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Introduction

Background and legislative framework

Early competition refers to the competitive tender process which seeks to select a Competitively Appointed Transmission Owner (CATO) to design, finance, build and operate a new electricity transmission asset. It is 'early' because the tender is run before detailed design of the preferred solution has been carried out. The introduction of early competition into the delivery of onshore electricity transmission networks in Great Britain has an important role to play in improving efficiency in network investment, driving innovation in solving network needs, performance in the sector, and helping to meet Government's decarbonisation targets at the lowest cost to consumers.

The Energy Act 2023 enabled early competition in onshore electricity transmission projects and allows for the appointment and licensing of a CATO by Ofgem. The Electricity (Criteria for Relevant Electricity Projects) (Transmission) Regulations 2024 (the 'Criteria Regulations')¹ specify the criteria that a project must meet to be a 'relevant electricity project' suitable to be subject to an early competition tender process. Alongside the Criteria Regulations, the Electricity (Early-Model Competitive Tenders for Onshore Transmission Licences) Regulations 2025 (the 'Tender Regulations')² complete the legislative framework to allow and govern early competition in electricity transmission networks.

The Criteria Regulations and Tender Regulations

The Criteria Regulations specify four criteria which a project must satisfy in order to be a Qualifying Project:

- **Network need** – the project's electricity solution must be capable, with reasonable certainty, of addressing a network need
- **Novelty** – the project's electricity solution, in respect of the transmission system and network need to which it relates, must be 'wholly new'
- **Separability** – the project's electricity solution must be capable of being clearly distinguishable from any other part of the transmission system to which it relates and from any other electricity solution related to that transmission system

¹ <https://www.legislation.gov.uk/uksi/2024/168/made>.

² <https://www.legislation.gov.uk/uksi/2025/446/contents/made>

- **Consumer benefit** – a Cost Benefit Analysis (CBA) in respect of a project must demonstrate that the non-tendered consumer impact does not outweigh the tendered consumer impact (in other words, it must be demonstrated that there is benefit to the consumer of delivering the project through early competition, rather than the project being delivered by the incumbent TO(s))

The Electricity (Early-Model Competitive Tenders for Onshore Transmission Licences) Regulations 2025 further outlines that the NESO must provide to Ofgem:

- An assessment as to how the project has met each criterion
- An assessment that there will be sufficient competition
- Indicative dates for the tender exercise
- Any other such information Ofgem may determine is necessary

Given the NESO's emerging capability to run tenders it may not be possible for all eligible projects identified in the network design to be tendered. Therefore, the NESO needs to demonstrate to Ofgem how projects meet the criteria and why certain eligible projects will be selected for competition over any other to meet the final requirement under the Tender Regulations.

The role of NESO

The proposed amendments to Condition 18 of the Electricity System Operator (ESO) licence, held by the National Energy System Operator (NESO), governs NESO's conduct in fulfilling its role as the 'Delivery Body' during an onshore transmission network competition.

The purpose of Condition 18 is to:

- Ensure NESO's adherence to the Tender Regulations and any associated guidance published by Ofgem
- Make provisions regarding NESO's submission of tender documentation for approval by Ofgem
- Set requirements in respect of the circumstances in which NESO can request information from Transmission Owners (TOs) regarding a tender exercise
- Oblige NESO to provide information to bidders involved in an early competition tender exercise
- Oblige NESO to conduct network competition tenders in an effective and efficient manner

Condition 13.13(d) of the ESO licence requires that NESO identifies which, if any, of the reinforcement options recommended in the relevant network plan satisfy the Criteria Regulations, and which could thus be suitable for delivery by a CATO, appointed through an early competition tender process³. Should NESO determine that a project is compliant with the Criteria Regulations and considers that it would be suitable for early competition (based on the outcomes of detailed appraisal, the method for which is described in this document), it may propose that project to Ofgem and recommend that it be subject to early competition. Ofgem must then decide whether to approve any such recommendation. If Ofgem approves a project proposed by NESO for early competition, it becomes a 'Qualifying Project'.

NESO, as Delivery Body, will then administer the early competition tender process for the Qualifying Project, in accordance with the Tender Regulations and Condition 18 of the ESO licence.

Purpose of this document

The latest iteration of the network planning process being progressed by NESO is the Transitional Centralised Strategic Network Plan 2 Refresh (tCSNP2 Refresh), which is due to be published in June 2026. NESO intends to carry out an appraisal of the transmission reinforcement projects recommended in tCSNP2 Refresh to determine whether any may be suitable for delivery via the early competition model. This document describes our proposed project appraisal methodology. It has been prepared with cognisance of HM Treasury's Green Book⁴ and the process is structured as follows:

- **Establishing the longlist** – this section explains how projects will be identified for appraisal of their suitability for early competition
- **Longlist appraisal** – having generated a longlist of options, each project on that list will be assessed in relation to several factors. This section describes how this is proposed to be done to allow a shortlist of options to be generated
- **Shortlist appraisal** – the shortlisted options will be reviewed in further detail with the aim of determining each project's 'favourability' for early competition. This section describes this assessment of shortlisted options
- **Project prioritisation** – if multiple projects are determined to be suitable and favourable for early competition, then it may be necessary to prioritise them if they

³ <https://assets.publishing.service.gov.uk/media/6604919b91a320001a82b136/annex-e-electricity-system-operator-licence-conditions.pdf>.

⁴ https://assets.publishing.service.gov.uk/media/698dbcd17da91680ad7f4308/The_Green_Book_2026.pdf.

cannot be competed simultaneously. This section describes how NESO would seek to prioritise projects for competition, where this is necessary

- **Recommendation** – this section explains how NESO will make our recommendations to Ofgem regarding projects we consider to be suitable and favourable for early competition

NESO will share the output of the appraisal at each stage with Ofgem for feedback and to enable any regulatory factors to be considered at each step.

The sequence of assessment is shown in Figure 1 below.



Figure 1 - Project ID stages

The ambition of this methodology is to identify the first project to be tendered under the Tender Regulations, as well as a suitable pipeline of projects up until the next phase of the network planning process, due under the Centralised Strategic Network Plan (CSNP) in 2028. It is assumed that NESO will have the capacity to request a project for competition every 6 months during the period between the tCSNP2 Refresh and the CSNP. As a result, NESO's aim is to identify the first project, as well as three or four suitable projects that can then be tendered between the tCSNP2 and CSNP, subject to publication timings.

For future rounds of network planning under the CSNP, this methodology will be reviewed and updated accordingly.

We are seeking feedback from stakeholders on our proposed project appraisal methodology and would welcome comments or suggestions. NESO may amend the early competition project appraisal methodology in response to any stakeholder feedback we receive and/or once the appraisal process is underway if we consider that this will result in the overall aim of identifying the most suitable projects for competition.

Generating options for appraisal

Step 1. Establishing the longlist



As stated in Ofgem’s ‘Decision on the development of early competition in onshore electricity transmission networks’⁵, early competition needs to consider the network planning process.

To generate options for appraisal, NESO will therefore review the outputs of the most recent network plan. This is the primary mechanism by which the majority of significant investment in the transmission network in Great Britain is identified and planned, and in this case will be tCSNP2 Refresh.

The network need criterion of the Criteria Regulations will be considered to be met by all projects recommended by tCSNP2 Refresh as these are the reinforcements that, in NESO’s opinion, need to be made to the national electricity transmission system to meet future energy demands.

Therefore, to allow a longlist of projects to be created, tCSNP2 Refresh projects which are not network builds will firstly be excluded. This is because non-network projects will be delivered either by the incumbent TO(s) or through the Network Services procurement framework, rather than early competition.

The network build projects in tCSNP2 Refresh will then be filtered based on their meeting the novelty and separability criteria. Projects which can readily be determined as being non-compliant with these criteria (for example, those projects which are solely reconductoring of existing overhead lines, installing power flow control technologies, etc) will be excluded from further consideration and will not be added to the longlist.

The longlist of options generated for appraisal will thus be all onshore network build projects recommended by tCSNP2 Refresh which are clearly ‘new’ and ‘separable’ from other parts of the network.

⁵ <https://www.ofgem.gov.uk/decision/decision-early-competition-onshore-electricity-transmission-networks>.

Step 2. Longlist appraisal



Overview

As described above, the options to be generated for longlist appraisal will comprise all network build projects recommended by tCSNP2 Refresh for which the novelty and separability criteria can be determined to have been met.

The generated options will be entered into a Project Appraisal Toolkit and will be assessed against several factors. These are additional to the criteria required to be met by the Criteria Regulations and are factors which can be appraised to help determine how suitable a project would be for early competition. The factors to be considered in the longlist appraisal are intentionally high-level and will be used as a means of excluding projects from the shortlist on the basis that they can readily be determined as being unsuitable for early competition, even if they may otherwise satisfy the Criteria Regulations.

The following factors will be included in the longlist appraisal stage:

- Emerging option filter
- Certainty of meeting the need
- CATO Earliest In-Service Date (EISD) compared to the Optimal Delivery Date (ODD) and TO EISD
- Environmental and consenting risks/constraints
- Technical and construction risks/constraints

Details of the proposed assessment of each factor is given under the following sub-headings.

Appraisal factors

Emerging option filter

We will apply an emerging option filter to identify projects that are clearly too early-stage for progression. This filter will be designed to ensure that options requiring

significant further development do not enter the detailed appraisal process prematurely.

For this filter, we will consider the following:

- Technology details – does the project rely on technologies that are not yet in development or deployment in Great Britain?
- Design development – does the project require substantial further development before its feasibility can be meaningfully assessed? For example, if likely interfacing substation locations are subject to material change or the stability of the underlying high-level design cannot yet be established
- Longer-term options – is the project’s deterministic EISD as submitted by the TO 2040 or later?

Whilst no single attribute on its own would necessarily result in a project being excluded at the longlist appraisal stage, we will consider the significance of each factor and the combined effect of multiple factors when determining whether an option is too early-stage to progress. We may also exclude projects from further analysis based on this emerging option filter alone, without undertaking the assessments noted below.

Certainty of meeting the need

While each individual reinforcement recommended by tCSNP2 Refresh will be ‘needed’ to meet future demands, the ‘certainty’ of this need will be assessed as part of the longlist appraisal.

This will include assessing how consistently it appears across multiple Future Energy Scenario (FES)⁶ models.

Projects which appear in two or fewer FES will be excluded from consideration at this stage.

CATO EISD compared to ODD and TO EISD

To support the assessment of longlisted projects for early competition, we have developed a structured approach to estimating the likely delivery programme for a

⁶ <https://www.neso.energy/publications/future-energy-scenarios-fes>.

CATO through to Earliest In-Service Date. The approach is designed to ensure that programme assumptions are credible, evidence-based and consistent across projects.

We will begin by defining a set of representative project archetypes that reflect the diversity of transmission infrastructure that would be considered for early competition. For each archetype, we will create indicative end-to-end delivery programmes that capture the key stages of planning, consenting, procurement, manufacturing, construction, and commissioning.

These programme templates will draw upon three sources of evidence:

- Internal knowledge and experience – including delivery insights from technical, consenting, and engineering specialists across the NESO team, based on comparable historical projects and established transmission delivery practices
- Industry consultant data – drawing on detailed inputs provided by multiple consultants who have supplied benchmark information on planning and environmental consenting timescales, construction durations, manufacturing lead times, and other delivery-critical activities
- Stakeholder insights – although we will not undertake a dedicated early competition-specific exercise to gather manufacturing or supply-chain data, we will draw on insights obtained through wider, ongoing engagement with industry stakeholders, including manufacturers and suppliers who provide valuable qualitative intelligence on typical manufacturing durations, constraints, and the factors influencing lead times, such as global demand, logistics and shipping pressures, and long-term order visibility

The project archetypes will include, for example, overhead line projects of varying lengths, projects including substation build, and ‘wet onshore’ HVDC submarine cable projects. The archetypes will also consider the differential programme factors associated with assets located in different parts of Great Britain.

At this stage of the early competition project appraisal, we are not proposing to undertake project-specific Quantitative Schedule Risk Analysis (QSRA) or equivalent probabilistic modelling. Such detailed risk analysis is typically more appropriate once a project has reached a more advanced stage of development, when its specific design, environmental constraints, and delivery risks are better defined. These factors are considered separately in the project appraisal process. Instead, we will adopt a proportionate and consistent approach by relying on typical durations and benchmark ranges, however this will be non-risk adjusted and therefore represent a deterministic delivery date.

The Optimal Delivery Date for each project will be calculated as part of tCSNP2 Refresh, as described in the tCSNP2 Refresh methodology⁷. The relevant TO's EISD will have been set out as part of their submission of options into tCSNP2 Refresh. Where a TO has submitted both probabilistic (for example, P50) and deterministic EISD dates, NESO will use the deterministic date in our appraisal.

Environmental, community and consenting risks/constraints

A desk-based review will be conducted to identify planning, community, and environmental risks or constraints to each project, considering any related assessment work carried out during the options assessment for tCSNP2 Refresh. At the longlist appraisal stage, it is proposed that five planning and environmental topics will be considered as part of the review. These are the issues most likely to have significant bearing on the overall environmental and consenting risk/constraint that a project could face, and comprise:

- **Statutory designations** – such as Special Areas of Conservation (SAC), Special Protection Areas (SPA), Marine Conservation Zones (MCZ)/Marine Protected Areas (MPA), National Parks, National Landscapes/National Scenic Areas, and World Heritage Sites
- **Biodiversity** – areas of high importance for biodiversity will be searched for, including ancient woodland, blanket bog, and non-statutory designations such as Local Wildlife Sites
- **Landscape and visual** – designations such as Heritage Coasts or Wild Land Areas, and proximity to settlements, will be considered to mean that the project could have greater landscape and visual impacts
- **Cultural heritage and archaeology** – the presence of designated cultural heritage assets such as Scheduled Monuments or Scheduled Wrecks, archaeological features and the potential for the project to impact on setting
- **Hydrology** – projects which are likely to be constructed on land at risk of flooding, those which involve crossings of major watercourses, and those which would require construction works in the vicinity of abstraction points may be considered as being likely to have the greatest impacts on hydrology

⁷ <https://www.neso.energy/publications/transitional-centralised-strategic-network-plan-tcsnp/tcsnp-refresh-methodology>.

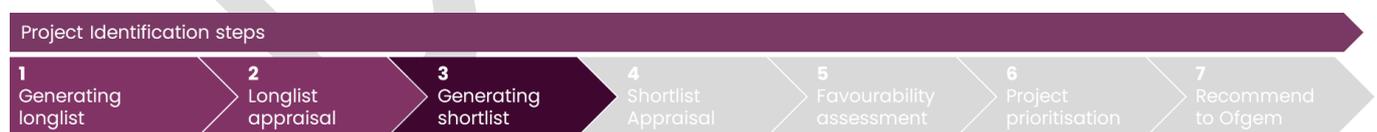
Consideration will be given to whether identified risks/constraints could be avoided and/or mitigated, how easily and, on this basis, each factor will be given a 'Black Red Amber Green (BRAG) rating'.

Technical and construction risks/constraints

A desktop review will be undertaken to identify any key technical or construction risks associated with each project. The following considerations will be taken into account:

- **High-level option design** – whether the high-level option involves a complex, or first of a kind arrangement (for example, a three-ended HVDC circuit with complex switching or novel control requirements)
- **Regulatory asset type** – whether the solution interfaces significantly with other asset types, such as a wet onshore option interfacing with an offshore transmission link that would be tendered/delivered separately
- **Other technical or construction risks/constraints** – any other obvious significant technical challenges, such as traversing unavoidable challenging topographical features or any other high-risk construction or technical characteristics of the project
- **Interactivity** – whether the solution interfaces significantly with multiple other projects in the same construction period, resulting in a need for a coordinated approach to design, consenting, and delivery
- These factors will inform a desktop review to identify any key technical or construction risks. The outcomes will then be combined into an overall favourability assessment, providing a consolidated view of risk across all considerations. Projects that are considered highly unfavourable due to a combination of the factors above will be excluded from further analysis.

Step 3. Generating the shortlist



To create a shortlist of options, projects will be excluded from further appraisal on the following basis:

- The project is considered by NESO as an emerging option requiring significant further development
- The project appears in two or fewer FES scenarios

- If the Earliest In-Service Date which could be achieved by CATO-delivery is the later than both the Optimal Delivery Date and the TO EISD. However, if the CATO EISD is later than the ODD but still earlier than the TO EISD, the project will be taken forward to the shortlist
- Projects which are given a 'Black' rating for any of the reviewed environmental or consenting topics, or projects for which there are multiple 'Red' ratings, especially where these cover features which are located within a discreet geographic area. Both scenarios would indicate that there is one or more constraints to the project which may be challenging or impossible to avoid and there is consequently a risk that it may not receive primary consent(s)
- Projects which are given a 'Black' rating for the combined technical or construction factors, which would indicate that project delivery would be unfeasible for a CATO

The shortlist will therefore be composed of all projects on the longlist which pass these tests.

Step 4. Shortlist appraisal



Overview

Having selected a shortlist, those projects will be subject to further, more detailed appraisal. While the network need, novelty, and separability requirements of the Criteria Regulations will have been considered in earlier stages of the appraisal, it is proposed that the final requirement – consumer benefit – will only be tested once the shortlist appraisal stage has been reached.

Furthermore, where longlist appraisal will seek to use relatively high-level tests to exclude projects from further consideration, the appraisal of the shortlist will involve a more in-depth review to determine the 'favourability' of the project for early competition.

The aim of the shortlist appraisal will therefore be to establish which projects satisfy the consumer benefit requirement of the Criteria Regulations and to determine which are the most attractive for early competition because they are considered to face the lowest risks to successful delivery by a CATO and/or would deliver the greatest benefits.

The following factors will be assessed in the shortlist appraisal stage:

- Cost Benefit Analysis performance
- Certainty of the need
- High-level design certainty
- Environmental and consenting risks and constraints
- Technical and construction risks and constraints

Appraisal factors

Cost Benefit Analysis performance

In line with the Criteria Regulations and recommendations made in HM Treasury Green Book, consumer benefit will be assessed through Cost Benefit Analysis. According to the Green Book, CBA is an important tool for detailed comparison of shortlisted options that can facilitate decision making between similar options. Therefore, CBA will only be carried out on the shortlisted projects, rather than at an earlier stage in the appraisal process.

The CBA will be applied as per NESO's published and approved methodology⁸ and each project's performance against this analysis will be considered.

Certainty of the need

The 'certainty' of this need will be assessed in further detail as part of the shortlist appraisal.

This will include reviewing the specific system challenges the project aims to address, including considering which transmission system boundary constraint the asset solves and assessing how consistently it appears across multiple Future Energy Scenario (FES)⁹ models. We will also consider the generation drivers for the project and whether there are any sensitivities associated future Strategic Spatial Energy Plans (SSEPs). Where data is available pending Connections Reform¹⁰, we will also consider the number of connection offers that are dependent on the transmission asset being delivered, whether as part of enabling works or wider reinforcement, to understand the user connection drivers for the project. Where reform data is unavailable due to the ongoing process, we may consider data obtained before the connection reform to ascertain the

⁸ <https://www.neso.energy/document/301781/download>.

⁹ <https://www.neso.energy/publications/future-energy-scenarios-fes>.

¹⁰ <https://www.neso.energy/industry-information/connections-reform>.

pre-reform general demand for user connections within the geographic vicinity of the proposed project, as well as any other user connection forecasts available at the time.

High-level design certainty

This factor relates to the extent to which the project's high-level design is likely to change and the confidence that it represents the most appropriate solution to meet the identified network need. As part of this assessment, we will consider:

- **Track record in previous network plans** – how many times the option has appeared in earlier NOAs. Consideration will also be given as to whether its design has evolved over time and whether those design changes have brought more clarity to the optimal solution or less.
- **Consideration of alternatives** – the number and type of alternative solutions assessed. Where no alternatives exist, we will consider whether the proposed option is the only credible solution
- **Stability of interfacing substations** – whether the location of the substation(s) the option connects to is subject to material change

Environmental, community and consenting risks/constraints

Environmental, community and consenting risks and constraints will be considered initially during the longlist appraisal. However, during the shortlist appraisal, those topics reviewed at the prior stage will be considered in more detail, alongside a total of seven further topics. In addition to statutory designations, biodiversity, landscape and visual, cultural heritage and archaeology, and hydrology, the following topics will be subject to desk-based review:

- **Jurisdiction** – the location of the project will be considered in terms of the consents it would require and the authorities that would be responsible for granting such consents. For example, a project which requires a single primary consent from one consenting authority may be considered less complex than one which requires multiple primary consents, potentially from different consenting authorities
- **Planning applications** – infrastructure developments in the planning system (including at the pre-application stage) in the vicinity of a project could introduce complexities to the consenting process (for example, by contributing to greater cumulative environmental impacts)
- **Traffic and transport** – this will consider the potential impacts on the road network local to the project from construction traffic. Projects in remote locations with a minor

road network and projects where roads which are likely to be required for construction traffic unavoidably pass through settlements may be considered as being likely to have greater impacts

- **Forestry** – in particular the potential for construction of the project (including creation of wayleaves) to result in losses of productive commercial woodland (the purpose will not be to consider the biodiversity value of the woodland, only its value in providing timber)
- **Land use** – specifically, the potential for construction of the project to result in losses of the highest quality agricultural land
- **Recreation and tourism** – whether the project is likely to have adverse impacts on public rights of way (including National Trails) or important tourist sites
- **Local community** – the proximity of the project to settlements and the characteristics of any such settlement

Technical and construction risks/constraints

- Technical and construction risks and constraints will be considered initially during the longlist appraisal. However, during the shortlist appraisal, those topics reviewed at the prior stage will be considered in more detail to understand the combination and severity of each of the factors.

Step 5. Favourability assessment



As stated above, one of the aims of the shortlist appraisal stage will be to determine the favourability of each project on the shortlist for early competition. A project's favourability will be representative of a combination of the following:

- The benefits that could be achieved by delivering the project via early competition
- The risks associated with successful delivery of the project within a given time period
- The market's appetite to be involved in the project, considering its nature and scale

The favourability of each project relative to several of the appraisal factors will therefore be ascertained. This will be done broadly in accordance with the method shown in Table 1 in Appendix A, allowing for a degree of flexibility to be applied where it is considered that this will improve the reliability of the assessment.

We do not propose to assign quantitative scores or formal weighting to any assessment factor. Instead, professional judgement will be used to reach an overall project favourability category, taking into account the outcomes of the assessment in Table 1, the findings of the wider project appraisal, and drawing on experience gained from previously delivered transmission network infrastructure projects across Great Britain.

Step 6. Project prioritisation



It is possible that the appraisal process described in this document may identify that more than one project exists which satisfy the Criteria Regulations and are favourable for early competition. In the initial stages of early competition implementation, NESO does not expect to compete multiple projects simultaneously, and it is our assumption that it will be possible to compete one project every six months (this may change in future, and it is possible that multiple projects may be competed simultaneously, or that competitions may be run more frequently than every six months). In the case of there being multiple suitable and favourable options it will be necessary to prioritise projects for competition.

We propose to review a range of factors to facilitate prioritisation:

- **The delta between the CATO EISD and ODD** – projects with the smallest difference between these dates may need to be competed soonest to allow their ODDs to be met
- **Market appetite and project value** – based on feedback received by NESO through market engagement, it may be clear that there is greater market appetite for a particular type of project, or projects which lie within a certain capital expenditure (CAPEX) range. Projects for which there is strong market appetite may be prioritised for early competition
- **Environmental, community and consenting risks/constraints** – multiple projects may be favourable for early competition when considering their environmental, community and consenting risks/constraints, but it may be the case that there is still a difference in risk associated with one project relative to another

Project prioritisation will thus be determined by review of these factors, though it is possible that priority may be given to one project over another based on just one distinguishing factor.

Step 7. Recommendation to Ofgem



Upon the conclusion of the project appraisal, NESO may submit a recommendation to Ofgem that one or more network build projects contained in tCSNP2 Refresh be competed via the early competition model.

Schedule 1 of the Tender Regulations specifies the information that must be submitted to Ofgem's satisfaction:

- An assessment of how a project has met each criterion of the Criteria Regulations
- An assessment that there is likely to be sufficient competition in the tender process
- Indicative dates and timeframes for key milestones in the tender process
- Any other information that may assist Ofgem in making their decision

For each project that we recommend, we will therefore provide a detailed description of the appraisal process and outcomes, including the rationale for why we believe the project satisfies the Criteria Regulations, and is favourable for early competition. Alongside this, we will provide indicative dates and a timeline for the tender process.

If the appraisal process identifies multiple projects that could be recommended, we will follow the prioritisation process described in the preceding section of this document and make our recommendation to Ofgem based on that exercise, however we will provide Ofgem with the detail of all projects that reach this stage. If NESO considers that all of the projects suitable and favourable for early competition can be competed on a rolling six-monthly basis while still meeting the ODDs, we may recommend them all and suggest the order in which they should be competed.

However, if it is not feasible to compete all projects, we will make clear to Ofgem what project(s) have been discounted in favour of the one we are recommending, along with our rationale for the selection.

Appendix A – Favourability assessment

Table 1 – Favourability assessment rubric

Factor	Highly Unfavourable	Unfavourable	Neutral	Favourable	Highly Unfavourable
Cost Benefit Analysis performance	Base case and majority of scenarios fail Mixed or negative qualitative assessment	Base case fails, mixed scenarios Mixed qualitative assessment	Base case passes, mixed scenarios Mixed qualitative assessment	Base case passes and majority of scenarios pass Neutral or positive qualitative assessment	Base case passes and all of scenarios pass Neutral or positive qualitative assessment
Certainty of the need	Appears in only one FES scenarios Few or no connection offers depend on asset, or unlikely to in the future. Boundary constraint marginal	Appears in only two FES scenarios Some connection offers depend on asset, or there is potential for there to be to in the future. Boundary constraint marginal	Appears in three FES scenarios Some connection offers depend on asset, or there is potential for there to be to in the future. Clear boundary constraint	Appears in all four FES Scenarios Some connection offers depend on asset, or there is potential for there to be to in the future. Clear boundary constraint	Appears in all four FES Scenarios Multiple connection offers depend on asset, or there is potential for there to be to in the future. Severely constrained boundary which presents a persistent, recurring, system-critical constraint
High level design certainty	Credible alternatives exist and no strong justification is provided for selecting this option. Assessment of alternatives is superficial or incomplete. Substation locations are highly uncertain, subject to major change, or not yet identified. Alternative connection points are still under study and would pose a material	Not used	Not used	Not used	Assessment clearly demonstrates credible alternatives that do exist were considered in the tCSNP2 refresh and discounted or that this solution is overwhelmingly optimal. Strong evidence of robust option comparison and justification. Interfacing substations are identified and where there may be optionality, the impact on

Public

Factor	Highly Unfavourable	Unfavourable	Neutral	Favourable	Highly Unfavourable
	change in the overall design of the option were the alternatives selected.				the wider design of the project is not material and can be resolved in the period leading up to tender launch.
Environmental and consenting risks and constraints	<p>There are expected to be numerous major environmental constraints to the project or at least one environmental constraint which may be insurmountable. Mitigation to avoid or minimise environmental impacts is likely to be complex – including major design constraints – and there may be certain impacts which cannot be mitigated. It is very likely that there will be several significant residual adverse effects. It is possible that the consenting authority, even in the context of strong planning policy support, may consider that the benefits of the project are outweighed by the adverse effects. There is consequently a risk of primary consent(s) not being granted</p>	<p>There are expected to be major environmental constraints to the project. Mitigation to avoid or minimise environmental impacts is likely to be complex – including major design constraints – and it is possible that some significant residual adverse effects may remain. However, it is likely that the adverse effects of the project would not outweigh its benefits. Therefore, despite challenging environmental constraints and mitigation requirements, and the possibility of significant residual adverse effects, it remains likely that primary consent(s) will be granted</p>	<p>There are expected to be numerous environmental constraints to the project, and, prior to mitigation, there may be several significant adverse effects on environmental features. However, mitigation measures – including some that may have a major influence on project design – are likely to be available to avoid or minimise these such that there will be no significant residual adverse effects. It is likely that primary consent(s) will be granted</p>	<p>There are expected to be some environmental constraints to the project, and, prior to mitigation, there may be a small number of significant adverse effects on environmental features. However, a range of mitigation measures – that do not have a major influence on project design – are likely to be available to avoid or minimise these such that there will be no significant residual adverse effects. There is a high likelihood that primary consent(s) will be granted</p>	<p>There are expected to be only minor environmental constraints to the project and basic mitigation and/or industry-standard good practice measures are likely to be sufficient to avoid or minimise residual adverse effects. None of these effects will be significant, and there is a very high likelihood that primary consent(s) will be granted</p>

Public

Factor	Highly Unfavourable	Unfavourable	Neutral	Favourable	Highly Unfavourable
Technical and construction risks and constraints	<p>Design includes first-of-a-kind, highly complex, or novel arrangements (e.g., multi-terminal HVDC with complex switching).</p> <p>Solution requires major interfaces between regulated asset types, such as onshore reinforcement interacting with multiple offshore tendered assets, creating complex delivery and/or operational issues.</p>	<p>Project traverses unavoidable and severe topographical constraints which require high-risk construction methods. Solution interfaces significantly with multiple other projects in the same construction period, resulting in a need for a coordinated approach to design, consenting, and delivery</p>	Not used	<p>Route contains some topographical or engineering challenges which adds complexity to the project, however mitigation measures typical in the industry can be employed. Other projects are planned in the area however the interfacing options are clearly staged with clear deliverables and separability.</p>	<p>Limited or straightforward interaction with other assets; coordinated interfaces well understood.</p> <p>Route is low-risk, with standard topography or engineering challenges or requiring mitigation typical for large transmission projects</p> <p>Minimal interfacing projects.</p>