

Early Competition Plan Phase 1 Update

13 February 2020



Executive Summary

Ofgem requested that the ESO develop an Early Competition Plan (ECP) by February 2021. The ECP will need to set out how competition could be introduced into the design, build and ownership of transmission assets during the early stages of project development – i.e. prior to the detailed design, surveying and consenting phases.

Ofgem requested that the ESO submit an update in December 2019 on progress of developing the ECP. This report provided that update to Ofgem and is now being published for stakeholders. We are grateful to all of the stakeholders who have contributed to help develop our thinking.

Competition in network development has the potential to unlock millions of pounds of consumer value through applying cost pressure and driving innovation.

The ESO welcomes this opportunity to develop proposals that maximise this opportunity.

We have worked closely with stakeholders to explore and co-create high-level conceptual models of early competition. From this we have concluded that a competition could be introduced either ‘Very Early’ (i.e. prior to the initial design of a possible solution) or ‘Early’ (i.e. after a possible initial design has been produced). We believe it is appropriate that the tender point should be determined case by case, based on the specifics of the particular project being tendered. We will therefore continue to develop an approach that enables both ‘Early’ and ‘Very Early’ options.

We have explored other elements of the tender process, such as shortlisting bidders and post-tender change mechanisms. Initial thinking on this is set out in this report, along with our high-level project plan for 2020/21 to develop this thinking further with stakeholders.

We also considered whether there may be value in running design-only competitions (‘competitions for ideas’). Following our high-level exploration of design-only models, Ofgem have concluded that, while there is merit in further exploration of this concept, it would sit better under existing innovation thinking. Therefore, the ECP will not develop specific proposals for a design-only model.

As part of developing Phase 1 of the ECP, we explored whether there is value in expanding out Network Development Roadmap pathfinder approach to cover large scale transmission investment projects. However, with Ofgem we concluded that the existing pathfinders provide sufficient learnings and the ECP is best focused on developing competitions to design, build and own transmission assets.

Ahead of CATO legislation, it may be possible to introduce competition for projects that meet the early competition criteria. This report sets out how we could progress as part of developing our thinking on running competitions for transmission assets by February 2021.

Ofgem also asked how our existing tendering roles and activity to introduce competition into network development interacts with Competitively Appointed Transmission Owner (CATO) type competitions (i.e. competitions to build and own transmission assets). In summary, the ESO only tenders for services. We do not tender for construction of assets. There are therefore significant differences between our current tendering activity and the processes and capabilities needed to run a CATO type competition that we would need to address.

We are fully supportive of the introduction of competition where it is in the interest of consumers and we welcome the opportunity to help shape this. This area of work has a strong correlation with our ambition of ‘Competition Everywhere’.

Contents

Executive Summary.....	1
Introduction	3
Introduction	4
Building on existing activity within the ESO.....	8
Building on existing activity within the ESO	9
Model Development	15
Model Development.....	16
Developing the Early Competition Plan.....	24
Developing the Early Competition Plan.....	25
Appendices	31
1. List of stakeholders engaged on Early Competition.....	32
2. Model Development.....	33
3. International Case Studies	34



1

Introduction

Introduction

Ofgem first introduced the concept of Competitively Appointed Transmission Owners (CATO) as part of the [Integrated Transmission Planning and Regulation \(ITPR\)](#)¹ project in 2013-2015. This policy area was developed further through the Extending Competition in Transmission project through 2016. Delays to implementation of the CATO regime arose from difficulties in legislative scheduling. In the intervening time Ofgem have continued to develop thinking on models of late competition and means to deliver this ahead of CATO legislation.

In the [RIIO-2 Sector Specific Methodology Decision Document](#)², published May 2019, Ofgem requested that the ESO develop an ECP. Further detailed in Ofgem's letter of 25 September 2019, this plan is requested to be delivered in February 2021 and it should set out how models for early competition could be implemented. The ECP is to focus solely on models of early competition (i.e. competition that occurs before a detailed solution design is produced), with Ofgem continuing the thinking and development of late competition models (i.e. competition that occurs after the solution is designed and consented).

In the May document, Ofgem also asked each Transmission Owner (TO) to identify all projects that meet an 'early competition' criteria – i.e. projects that are at least £50 million in value and which are contestable (i.e. there is potential for alternative solutions). These are the projects that the ECP focuses on. Ofgem also asked TOs to identify all projects that meet the 'late competition' criteria, which is projects greater than £100 million, new and separable. For clarity, the 'early competition' criteria also encompass the projects that meet the 'late competition' criteria. The outcome of the ECP, along with Ofgem's own thinking on late competition, will help inform whether early or late competition should be adopted and in what circumstances. The value threshold for 'early competition' is lower than for 'late competition' because the potential for innovation means there is greater potential value that can be unlocked to outweigh the costs of running a competition.

Separately to the ECP, the ESO is running pathfinding projects to establish how other types of network needs could be tendered to discover whether non-transmission build solutions, such as distribution level solutions or non-network services, could provide cheaper alternatives. Phase 1 of the ECP considered whether a similar approach could be applied to 'early competition' projects ahead of legislation being introduced that is required to enable competition to build and own transmission assets. The ECP also considers whether, ahead of legislation change, competition could be introduced through competition between existing network licensees.

Overview of the request from Ofgem

Ofgem asked that, by February 2021, we produce an 'ECP' looking at how early models of competition could be introduced to construct and own transmission assets.

The letter set out the following asks of the ESO:

- A. A clear description of at least two proposed early competition models, covering the whole project lifecycle. These models should cover:**

¹ <https://www.ofgem.gov.uk/electricity/transmission-networks/integrated-transmission-planning-and-regulation>

² https://www.ofgem.gov.uk/system/files/docs/2019/05/riio-2_sector_specific_methodology_decision_-_eso.pdf

- a. An early competition model for the **design and deliver** of a solution (sometimes referred to as **Design, Build and Own (DBO)**). This model should be able to operate:
 - i. once legislation is in place to allow Competitively Appointed Transmission Owners (CATO); and
 - ii. before CATO legislation is in place (such as existing network licencees competing with parties able to deliver non-network solutions).
- b. An early competition model where the outcome of the competition is **design only**, not the delivery of the solution i.e. a '**competition for ideas**'.

As part of this, Ofgem also asked the ESO to:

- a. outline views on criteria to determine which types of system needs are better suited to early competition for design and deliver and design only competitions.
- b. consider who should be the counterparty for non-network solutions.
- c. consider how all participants can be given equal access to all of the necessary information required to submit bids (such as land surveys).
- d. consider the role of data, including consulting with the Energy Data Taskforce.

B. Roles and responsibilities of parties under each of the early competition models.

Ofgem asked the ESO to:

- a. outline the proposed roles and responsibilities of all parties in each model.
- b. consider the scope of the ESO's own possible role, including practical implications, including costs, expertise and risk implications.
- c. consider what role the ESO could play in supporting competition at the distribution sector level from 2023 (e.g. auditing, running and/or assessing the tender process).

C. Interactions with ESO RIIO-2 Business Plan

- a. Ofgem ask that the ESO explicitly indicate which new roles or functions are not covered under existing revenue streams:
 - i. under RIIO-1; and
 - ii. prospectively under RIIO-2.
- b. Ofgem also ask the ESO to set out how it's performance in delivering the proposed early competition models could best be measured through the RIIO-2 performance and incentives framework.

Ofgem requested regular programme updates, with specific updates in October 2019, December 2019, Quarter 2 2020 and Quarter 3 2020. Our update from October 2019 included the ESO's internal governance arrangements and proposed stakeholder engagement and governance plans.

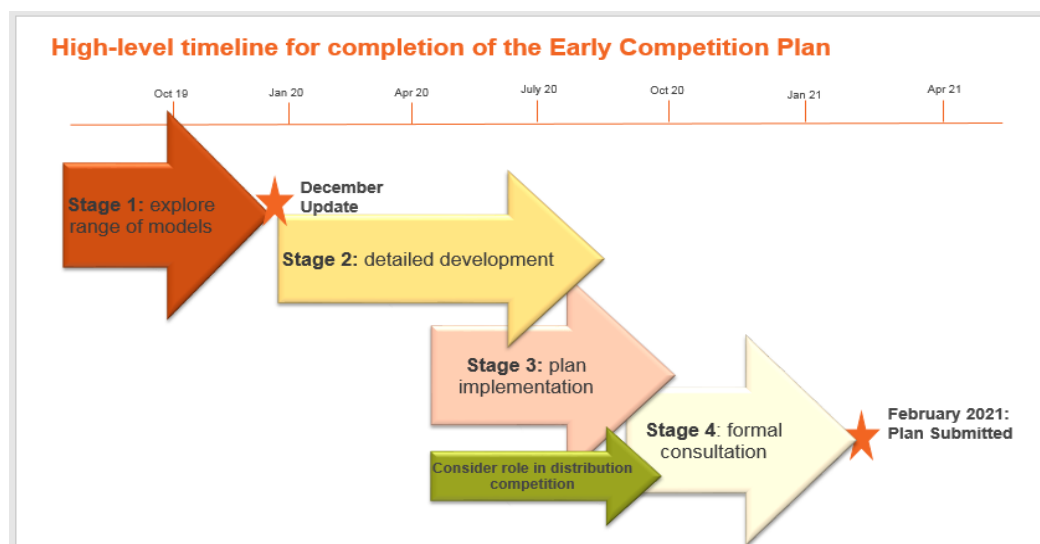
This document is our update for December 2019. Ofgem have asked that this update includes some specific elements:

- **What work is already being undertaken to support a prospective proposal** (e.g. expansion of the Network Options Assessment (NOA)) - this is covered in chapter 2.
- **What can be set out and costed by December 2019** (e.g. setting out what is being done in terms of competing for non-network solutions and any costs associated with expanding this further) - this is covered in chapter 2.
- **What remains to be scoped and costed beyond December 2019** (e.g. the detailed form and scope of potential models) - this is covered in chapter 4.
- **An update on the stakeholder governance proposals set out in the October update, and the broader project governance** – this is covered in chapter 4.

Developing the December 2019 Update

To manage the project, we have scoped out four key stages as set out in Figure 1 below.

Figure 1: Timeline and stages of ECP



During stage 1, through to December 2019, we undertook high-level model development and project planning, which forms the basis of this December Update. In particular, this December Update sets out:

- **Our views – informed by stakeholders and Ofgem - on models of early competition to be explored further in the next stage of this project** - this includes thinking on both design, build and own models and potential design only models. It also sets out the interaction with our ongoing work to introduce competition in network

development, including competition for non-network solutions, and initial thoughts on if and how this could be expanded further.

- **Our project plan for completion of the ECP** – this sets out the key activities from January 2020 to February 2021, including the key matters that need to be addressed and timing of any activity that can begin before RIIO-2. It also includes engagement with Ofgem and BEIS and the detail of our stakeholder engagement governance arrangements (see below).

Stakeholder engagement

We engaged closely with stakeholders through a series of workshops to help develop appropriate models. A list of who we've engaged with is included in Appendix 1. All material from the workshops is available on our website³. We also sent regular updates to a broader distribution list. We received a good level of input from a wider range of different organisations. However, we believe there are more stakeholders who may wish to input and so will seek broader views next year. We are also continuing to target certain groups, such as design companies and consenting experts, to ensure full representation.

We expect there to continue to be high levels of stakeholder engagement throughout next year. We will introduce additional oversight of how effectively we respond to feedback through establishing a sub-group of the ESO RIIO-2 Stakeholder Group (ERSG). In addition, we intend to undertake a more formal stakeholder consultation during and towards the end of the project.

Structure of Document

This document provides an update on the progress of the ECP, setting out the deliverables as outlines above.

Chapter 2 sets out the tender activities we carry out today to procure services and outlines the work that is already underway to support prospective proposals such as the NOA pathfinders. It also sets out how the work we are doing through our NOA pathfinder projects would need to be developed much further to be able to seek non-network solutions as part of any Early Competition model.

Chapter 3 summarises the models we have explored with stakeholders and our initial conclusions, including learning from international case studies. It also sets out the models we will be developing further over the coming months to a point of implementation.

Chapter 4 provides an overview of the project plan and work required to develop these models further to the point of implementation. It also sets out how we propose to structure the remainder of the project, including project governance and stakeholder engagement. This is supplemented by an accompanying funding request, which sets out the costs incurred for the work done to date and to deliver the final outputs of implementation plans for models for early competition.

Further supplementary information on our October update, model development and international cases studies, along with a list of consulted stakeholders can be found in the Appendices.

³ All material from stakeholder engagement on the ECP is available [here](#).



2

**Building on existing activity
within the ESO**

Building on existing activity within the ESO

The ESO is keen to play a strong role in competition in order to help unlock the significant consumer benefit that this could bring wherever we can add value. A key deliverable of the ECP will therefore be to identify what roles the ESO could play within the competitive processes for 'early competition'. As a starting point for this question, this section sets out the competitive processes currently within the ESO and the extent to which they are similar or different to competitive processes for early competition.

When referring to 'competitive processes for early competition', we mean any form of competition that seeks alternatives to the incumbent Transmission Owner (TO) solution for projects that meet the early competition criteria (as set out on page 4). There are two broad forms such competition could take:

- Firstly, competitions to **design, build and own** the actual transmission network assets (which would require the winner to have, or be awarded, a transmission licence).
- Secondly, competitions that seek alternative to the incumbent TO options through '**non-network solutions**' (i.e. solutions that do not require a transmission licence). This could be services provided by existing, or new build, assets connected to the network.

Ultimately, we aim to introduce a process that competes for both different build and own solutions and non-network solutions at the same time. Establishing such competitions will, however, require legislation change and new processes. We therefore considered whether there is value in exploring a competition only for non-network solutions, prior to the legislative changes. Having considered this, we and Ofgem do not feel this would provide sufficient value on top of the work the ESO is already doing to through the [Network Development Roadmap](#)⁴ pathfinders.

This section of the report sets out a) how running a design and build competition differs from our current tendering activity for services, and b) what would be required to expand our pathfinder approach to run a competition for non-network solutions only.

Design, build and own competitions

Current tendering activity within the ESO

We undertake a variety of roles that involve tendering in some form. We currently:

- procure balancing services;
- procure restoration provision;
- administer the Capacity Market and Contracts for Difference auction; and
- run pathfinder projects to explore whether there is value in tendering for alternatives to specific transmission build solutions and to establish how these processes would work.

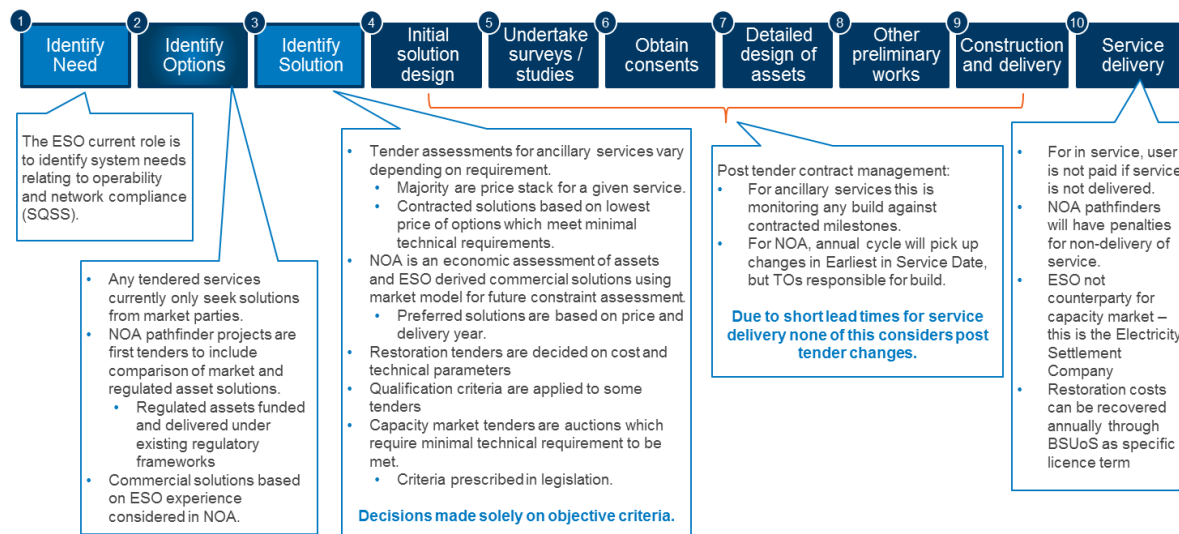
It is important to note that **our current tender activities all involve tendering for services**. We do not tender directly for the construction of assets. While we do not tender specifically for the construction of assets, some of our tender processes are designed to enable providers to construct assets in order to provide the services to us. For example, we provide some limited capital funding and we tender several years in advance of need.

⁴ <https://www.nationalgrideso.com/publications/network-options-assessment-noa/network-development-roadmap>

However, this is a notably different process to that which would be required for competitions to build and own transmission assets.

Our current roles involving tendering across a project lifecycle are summarised in Figure 2 below.

Figure 2: ESO current tender roles



How does tendering for services differ from tendering for build projects?

The nature of tenders for CATO type competitions is significantly different to the ESO's current and developing tender roles. As set out above, we currently tender for services, not explicitly for asset build. We have set out below what we consider to be the main differences between what we do now and what early competition may require of us. Within next year's plan, we will explore these matters in more detail to develop an informed view.

Tender assessments:

Design and build tenders will need to assess significantly more and different information than we do in our current tenders. We will need to assess and score the relative merits of each bidder's proposals around, for example:

- Procurement management, including engagement with the supply chain.
- The plausibility of bidders' proposed construction plans.
- The suitability of operational and maintenance proposals.
- Risk and issue management proposals for design, technical, construction and operations.
- Financial deliverability, including sources of debt/equity and financial structures.

We do not currently perform such assessments. Doing so would require specialist expertise that does not currently sit within the ESO.

TO licence assessments:

A post-legislative CATO tender would also include assessing a company's suitability to be awarded a TO licence. We assume that this would include assessment of elements such as the financial standing of the company and the company's ethical and environmental policies. We also assume that Ofgem would ultimately have responsibility for the assessment and award of TO licences. However, the role of who does this process and the interaction with the rest of the tender assessment process is not yet established.

Post-tender change management:

Our current tenders all require the winning bidders to provide the service they bid for against a clear set of performance criteria. Contracts are typically managed through financial penalties for non-delivery leading ultimately to termination in the extreme case of poor performance. However, for early competition design and build project, post-tender change will be inevitable. Processes will need to be put in place to manage this over several years.

Managing post-tender change will be one of the most challenging elements of early competition. It will be important to ensure that, in managing this change, consumer value is maximised, winning bidders are appropriately rewarded and losing bidders are not deemed to be unfairly treated. This carries significant risk - e.g. from bidders who feel that the extent of change means their solution could have won and hence the whole tender process is opened up again with the potential for it to be re-run.

General post-tender processes:

It is currently unclear how the general post-tender process would work and what implications this might have for roles of the ESO and others. For example, when and how would funding be released to the winning bidder – would assessment be needed to confirm a particular stage of a project has been completed to release funding? Again, we do not currently undertake such activity and it will require expertise beyond our current capabilities. Our current post-tender processes only involve seeking reassurance that the service will be delivered on time (such as confirmation that planning consent has been gained).

Other differences from the ESO's current tenders

Value:

Another important difference from our current activities is the value of each competition to participants is likely to be much higher than our existing activity. Early competition could for example seek solutions with values of £1.5 billion awarded to a single party. This is very different to our other activities where much smaller values are awarded across a number of winning parties, and on a more frequent basis. In the Capacity Market for example, £400 million to £1.2 billion might be awarded across 150 to 200 companies, across two auctions each year. A tender for a single, high value, project therefore has different implications, such as the likelihood of challenge from several unsuccessful participants.

Complexity:

Our current tenders seek solutions to well-defined specific needs. For early competition – particularly for very early – the need we are seeking to address will potentially be much more complex. Also, the aim of early competition is specifically to seek innovative bids. Therefore, the technical and economic assessment of bids is also likely to be very different and more complex than any of our current activities. While this activity does build

on our current expertise, developing robust and transparent processes to assess the technical and economic merits of bids for large, innovative, projects will be a new activity beyond the current activity within the ESO.

Accountabilities and liabilities:

There are important questions to be considered around where accountabilities and liabilities may sit under early competition, particularly given the relative size of the ESO. It is not yet clear how the interaction would work between ESO, a potential tenderer and Ofgem, who would award and regulate the licence. Given the potential risk of challenge to decisions made during the tender processes it is important to understand where these accountabilities and liabilities would sit.

Non-network solution competitions

We are already driving forward the introduction of competition in network development through the introduction of our NOA Pathfinders, which compete for services that could provide alternatives to transmission assets. These services could be provided by an asset on the distribution network, an existing connected party or a new build connected party. We refer to this as tendering for ‘non-network solutions’.

The competition being introduced through our current pathfinders is a significant transformation for the industry. The size of the potential market needs to be understood and developed, regulatory frameworks and funding arrangements will need amending and we need to ensure that there is a level playing field, in particular around access to data. The current pathfinder projects are therefore being conducted on a “trial by doing” basis. This means that we and third parties are learning and developing capability at the same time as running new processes. Therefore, this tendering role within the ESO is not yet fully matured and is still developing today.

Each pathfinder targets an identified need on the network (such as voltage needs in the Mersey area). It may be possible to adopt the same pathfinder approach to close the gap between current tender experiences and early competition, but there would still be further work to do. This would seek non-network solutions to a system need and allow some, but not all, elements of an early competition model to be tested.

A bespoke pathfinder would be required for early competition projects because the network need being tendered is different in nature to the existing pathfinders. The NOA pathfinder projects seek solutions to tightly bound network needs, where the range and type of solution is more limited, both from the physical solution and also the capability and delivery timescales. The projects that meet the early competition criteria could result in a much broader set of solutions with wider ranging network benefit and delivery dates.

Background to the NOA Pathfinder projects

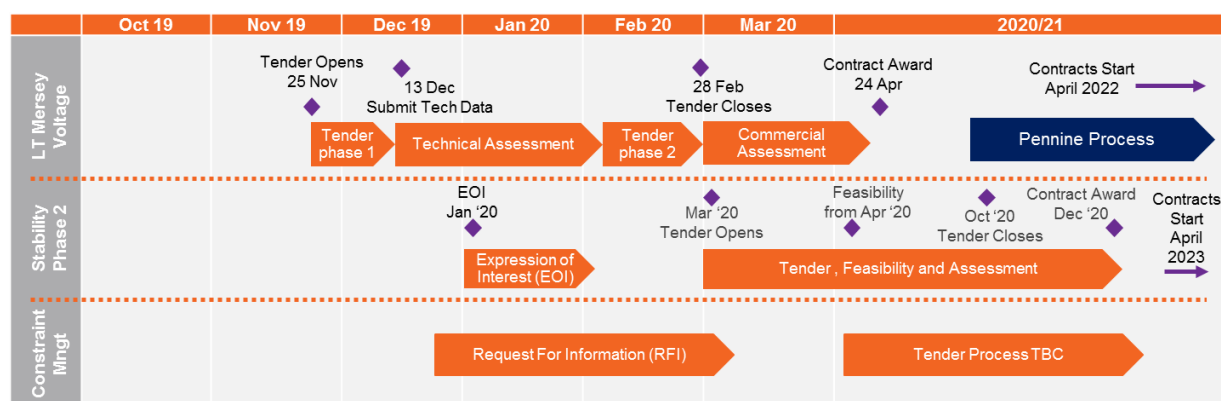
The NOA pathfinder projects were introduced as a means to deliver the enhancements to our network planning processes for the remainder of the RIIO-1 period as outlined in our July 2018 Network Development Roadmap. This proposed expanding the NOA to cover an increased number of network requirements, opening the process up to a wider number of participants, and taking a more holistic approach across the transmission and distribution systems. This transformation of our approach to network planning will allow network and non-network solutions across transmission and distribution to compete to

meet transmission needs at least cost. The projects we have running focus on high voltage, stability and residual (remaining constraints after proposed network reinforcements are delivered) thermal constraints.

Current status and plans for RIIO-2

The pathfinder projects are progressing well, with a first tender launched to seek long term solutions to high voltage issues in the Mersey area. We have also conducted Requests for Information (RFIs) for stability requirements and have a live RFI for constraints. These RFIs help us shape the service to meet the system requirements and have provided valuable feedback on how we communicate the system needs. A summary of our current pathfinder activity is shown in Figure 3 below and on our website⁵.

Figure 3: Overview of current pathfinder timelines



Our capabilities and expertise within this space are still in development. Our pathfinders have identified areas of the process that need development, and we would anticipate further learning on the back of our first tenders.

It is our intention that the pathfinder projects become business as usual for long term voltage, stability and residual thermal constraint requirements in the RIIO-2 period. The speed at which that happens is dependent on the learnings from the pathfinder projects and the extent of any changes to the trialled processes that may be required. In the first two years of RIIO-2 we expect to run a further four to six tenders for long term voltage, stability and/or residual thermal constraint needs building on the learning from the currently identified pathfinder projects.

It is however worth noting, that the integration of the pathfinders into business as usual processes for the ESO and other parties does depend on the outcome of the existing pathfinders. These projects are testing the hypothesis that there is consumer value to be driven from considering a wider range of solutions.

⁵ Updates on our NOA pathfinder projects are available on our Network Development Roadmap webpage accessible [here](#)

Expanding the pathfinder approach to Early Competition

We considered whether there is value in extending this approach and establishing a new pathfinding project focused specifically on a project that meets the early competition criteria. This could allow some form of competition to begin prior to the legislation change required to run design, build and own competitions.

To do this, we would utilise processes and learning from our existing pathfinders. However, for each pathfinder there are details that are specific to the nature of the particular network challenge it focuses on. Therefore, we need to develop bespoke arrangements for each pathfinder we run. For example, the market for non-network solutions may be different in each case, as will be the contractual terms required (such as contract length or lead in times). The value of solutions across each pathfinder also differs significantly (from tens of millions to hundreds of millions). The implications of failure to deliver will also be different in each case.

Therefore, while some processes and conditions can be taken from the existing pathfinders, bespoke arrangements would also need to be considered to reflect the nature of early competition projects. With Ofgem we concluded that there would be limited value in pursuing this form of competition as an interim step before legislation change. Instead, efforts would be better focused on developing the processes for design, build and own competitions in preparation for legislation change. Non-network solutions will be able to compete within the design, build and own competitions.



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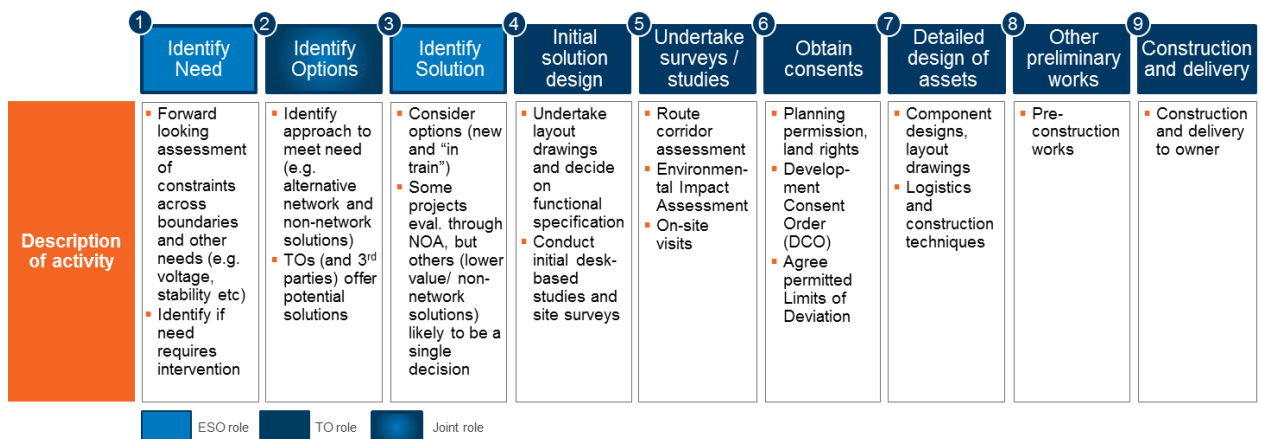
Model Development

Model Development

For the ECP we have been requested to consider development of early competition models that include design, build, own and operation of solutions (DBO) and competitions for ideas, “design only” (DO) models. It is important that at this early stage the widest scope for competition is considered. We have explored the high-level development of these types of models with stakeholders around five key dimensions to narrow the options to take forward for further development through 2020.

This exploration was done against the backdrop of the existing planning process. A typical investment lifecycle of a transmission project can broadly be described in nine steps, as shown in Figure 4 below. Currently this process is run between the ESO and Transmission Owners (TOs). The Network Options Assessment (NOA) is the network planning process run by the ESO to make recommendations to the TOs on which projects should be developed. Projects at all stages of lifecycle development, which provide an increase in boundary capability, are evaluated by the NOA.

Figure 4: Typical project investment lifecycle



Summary of models to progress

The development of high-level models for early competition was facilitated through three stakeholder workshops – one each in September, October and November⁶ 2019. These stakeholder workshops built on the previous work done on early models as part of the Extending Competition In Transmission (ECIT) project in 2016 and 2017⁷. Discussions iterated around key model dimensions resulting in a narrowing of the models to be considered for further development. The process we ran with stakeholders through these workshops is outlined in Figure 5 below.

Workshop discussions and the development of models for early competition were structured around five key model dimensions across a typical project lifecycle described in nine steps (noting that some of these steps overlap rather than are all sequential). The dimensions considered are:

1. **Tender Point** – where to introduce the tender. This is a trade-off between innovation and uncertainty and difficulty in assessing very varied bids.

⁶ Material from these stakeholder workshops can be found on our website [here](#)

⁷ Previous work done on ECIT through the ENA is available [here](#)

2. **Scope of Competition** – single tender or short listing of bidders ahead of a final round.
3. **Tender design and evaluation** – evaluation criteria to assess bids. Understanding how to ensure credible bids and the extent to which the NOA could be adapted to facilitate and evaluate bids.
4. **Ex-post accountability** – post tender change mechanisms. Ensuring bidder accountability, trade-off between penalties and incentive to participate.
5. **Backstop solution** – development of a solution in parallel which acts as default solution.

Figure 5: Model development process with stakeholders

	Workshop 1	Workshop 2	Workshop 3
Developing and testing “Strawman Models”	<ul style="list-style-type: none"> Set out key model dimensions (i.e. main issues that need to be decided) Considered a comprehensive range of potential model variants based on the model dimensions 	<ul style="list-style-type: none"> Refined model dimensions Developed 4 Strawman Models to test against stakeholders 	<ul style="list-style-type: none"> Refined model dimensions reflecting stakeholder views and tested tentative conclusions Refined and validated Strawman Models
Key lessons from case studies	<ul style="list-style-type: none"> Considered existing case studies from past CATO work and support from FTI 	<ul style="list-style-type: none"> High level learnings from desktop research and previous work 	<ul style="list-style-type: none"> Support from FTI's international energy colleagues More detailed & targeted desktop research Applied key learnings to models
Criteria for evaluating models	<ul style="list-style-type: none"> Shared initial thoughts on criteria with stakeholders 	<ul style="list-style-type: none"> Refined potential criteria and test them with stakeholders First view on evaluation of models 	<ul style="list-style-type: none"> Revised evaluation of models
Plan for 2020			<ul style="list-style-type: none"> Sought stakeholder input on high level plan for 2020 and their desired level of involvement

Using these model dimensions, we have narrowed a large range of potential early competition models into three “strawman” for more detailed development in the next stage of the project. These models are:

1. A “stand alone” design, build and own model (DBO-S)
2. A design, build and own model with “enhanced competition” (DBO-E)
3. A competition for ideas (DO)

These models are summarised in more detail in the following sections along with the initial conclusions on model dimensions. Further detail on the model development can be found in Appendix 3.

Design Build and Own (DBO)

In a design, own and build competition, bidders are competing for the right to design, build, own and operate the winning solution to meet the identified system need. Potential bidders include existing incumbent TOs, new TOs (Competitively Appointed TOs

(CATOs)⁸) or non-network solutions. Bidders could be single parties or a consortium to cover the skills required to deliver projects across the whole investment lifecycle. Any DBO model needs to be able to assess options from all interested bidders and potential solution providers.

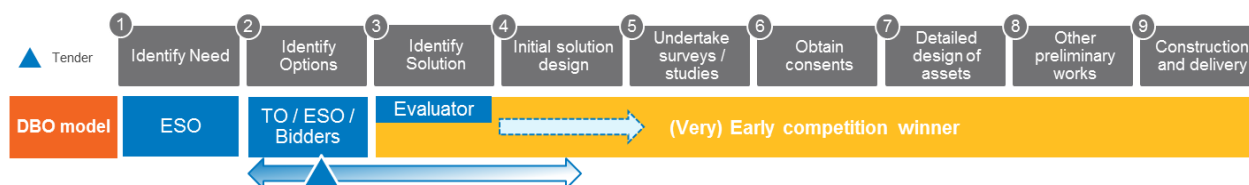
From the stakeholder workshops discussions around the five different model dimensions and evaluation of early strawman designs has resulted in the ability to draw some initial conclusions around model development. These are summarised below.

Dimension	Initial conclusions
1 Tender Point	<ul style="list-style-type: none"> Very Early model can work and may elicit broadest range of solutions. Starting tender point could differ on a case-by-case basis (depends on amount, timings and uncertainty of information).
2 Scope of Competition	<ul style="list-style-type: none"> Decision to shortlist could be made on a case-by-case basis (depends on time-criticality, uncertainty, duplicated cost etc), but in principle seems to be sensible. Shortlisted bidders should be prepared to operate on a no funding basis.
3 Tender design and evaluation	<ul style="list-style-type: none"> Quantitative and qualitative tender evaluation metrics will be adopted... ...and incorporate some <i>ex-post</i> tender change mechanisms and arrangements for “developer of last resort” in case no bidder participates, or no bidder meets criteria Details to be developed in the next stage
4 Ex-post accountability	<ul style="list-style-type: none"> Designing post tender change mechanisms are key model challenges... ...with potential reassessments possible through the NOA to ensure solution is in the interest of consumers (and if not, may trigger some ex-post changes)
5 Backstop solution	<ul style="list-style-type: none"> Refers to counterfactual default solution that would be built in the absence of competition Backstop solution unlikely to add sufficient value

These initial conclusions have resulted in two design, build and own options to be progressed for further development. These are summarised as follows:

1. A “stand alone” design, build and own model (DBO-S)

Figure 6: “Stand-alone” design, build and own model (DBO-S)

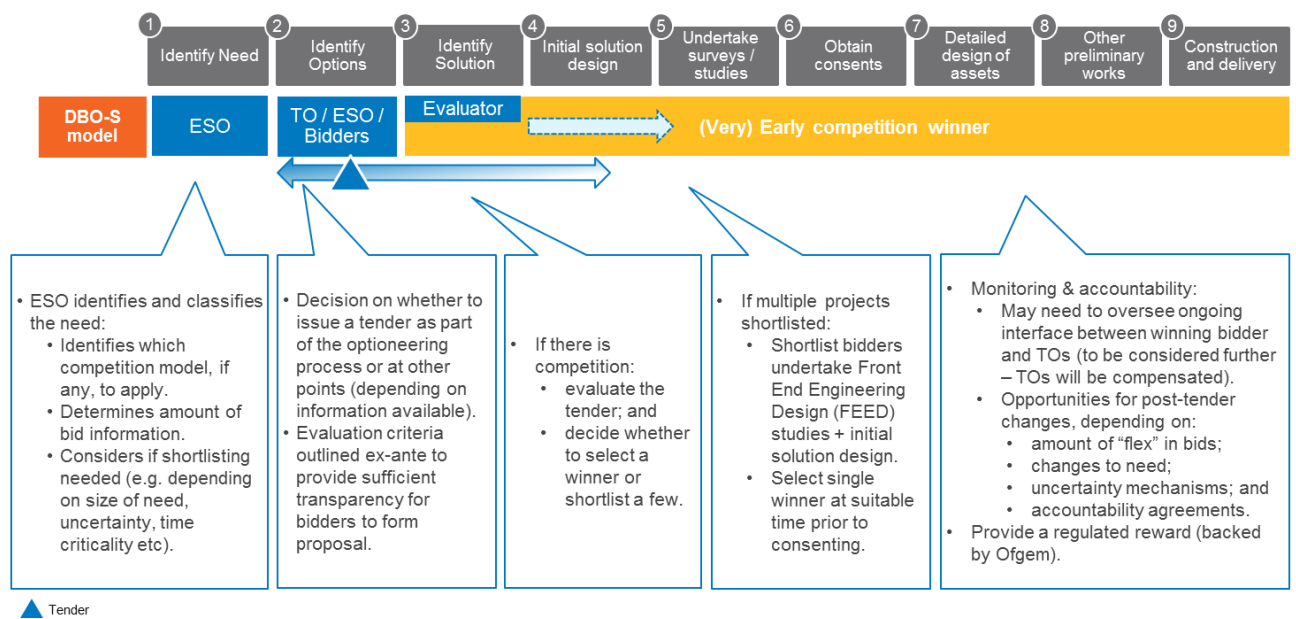


⁸ For the award of a Competitively Appointed Transmission Owner licence primary legislation needs to be passed, which is yet to be timetabled.

As illustrated in Figure 6, this model is competed anywhere between very early (post stage 1) and stage 4. The start point would be determined case by case, based on the nature of the specific project. The point at which the tender occurs can be driven by the type of system need, innovation sought and the information available. The scope of competition can also vary between single tender and short listing based on the certainty of need and delivery timescales. Tender design and evaluation would vary accordingly based on the tender point and scope. A key challenge for this model is managing post tender change and keeping competitive pressure on costs.

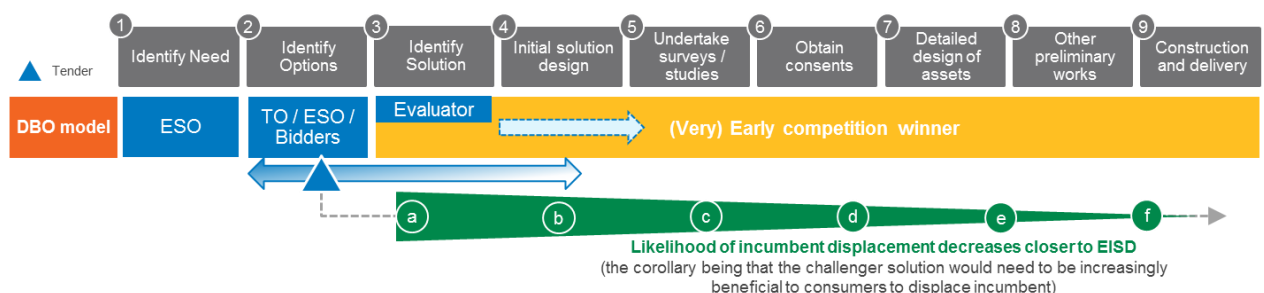
Running a typical project through this type of model is illustrated in Figure 7 below.

Figure 7: Illustration how a project would run through a DBO-S model



2. A design, build and own model with “enhanced competition” (DBO-E)

Figure 8: “Enhanced competition” DBO model (DBO-E)



As illustrated in Figure 8, this model is similar to the first model but has added complexity post initial tender. This is because this model aims to continue to exert competitive pressure post tender via an ongoing assessment and opportunity to seek solutions to the need. After the first competition for a given need, at set points/periods this model would seek alternatives to the winner. Trade off with this model are the increased cost of running this process against the benefit it delivers.

Next Steps

Going forward as well as developing each model dimension we also need to explore how these models will interact with the NOA process. If projects subject to early competition also feature as part of the NOA process, this may allow a simpler model such as the DBO-S as the interaction with the NOA delivers some of the benefits of the DBO-E.

Design Only

In a design only model potential bidders are competing for the design of a solution, but not to build, own or operate it. Essentially it is a competition for ideas (DO), as illustrated in Figure 9 below.

Figure 9: DO model



This model aims to maximise innovation, allowing parties not interested in owning solutions to get involved. The extent to which the winning bidder is involved through the process and where and what is the handover has been much of the discussion during stakeholder workshops which significantly influences what this type of model will look like. The initial conclusions around these two dimensions are summarised below.

Dimension	Initial conclusions
1 Tender Point	<ul style="list-style-type: none"> As in DBO, Very Early can work. Critical issue is when role of DO winner should end. DO winner should be involved through consenting but they may not be willing / have the capabilities to do so.
4 Ex-post accountability	<ul style="list-style-type: none"> Difficult to keep DO winners accountable for the workability of their solution unless they are incentivised through the project. A DO model is only likely to be workable if there is a project-long relationship between Designer and Builder

The key purpose of the design only model over any design, build and own model is the ability to drive greater innovation. Therefore, following discussions with Ofgem we will not be progressing further with the development of the design only models. These models sit better under innovation and as such will be picked up as part of the development of the Network Innovation Competitions.

Learnings from international case studies

Model development was supplemented by learnings from international case studies. We commissioned FTI to undertake research into competitions in electricity transmission internationally to identify uses of early models of competition. This analysis outlines the processes for competition in these jurisdictions, along with highlighting case studies of different projects and how they progressed through the process, highlighting any

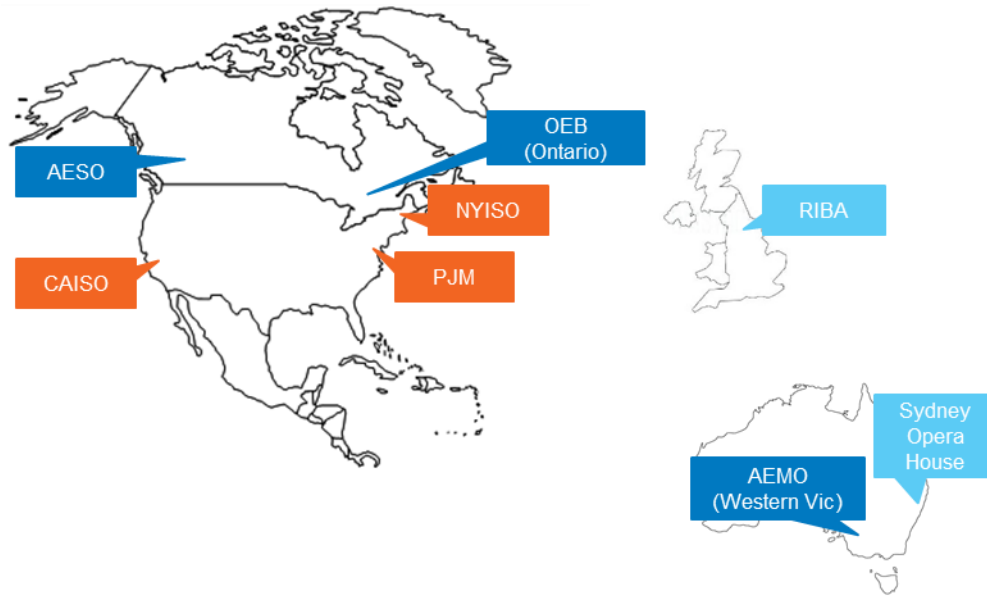
challenges encountered and how these were resolved. Examples of design only competition were also researched. None exist in electricity transmission so examples of this type of competition in other industries has been considered. The case studies presented draw out some of the key challenges associated with this type of competition and how this is managed.

The key findings from this analysis are summarised in Figures 10a and 10b below and further detail is included in Appendix 4 to this document. Given the infancy of early competitions and the long lead times of transmission projects, there are very few projects which have been fully completed under a competitive framework. Additionally, there is no common approach to introducing competition with variability in how it has been applied across every jurisdiction. This leads to no “perfect” example of model structure to follow. What can be informed through these case studies however is where some of the pitfalls of the competitive process are, such that these can potentially be avoided.

Figure 10a: Jurisdictions of international case studies

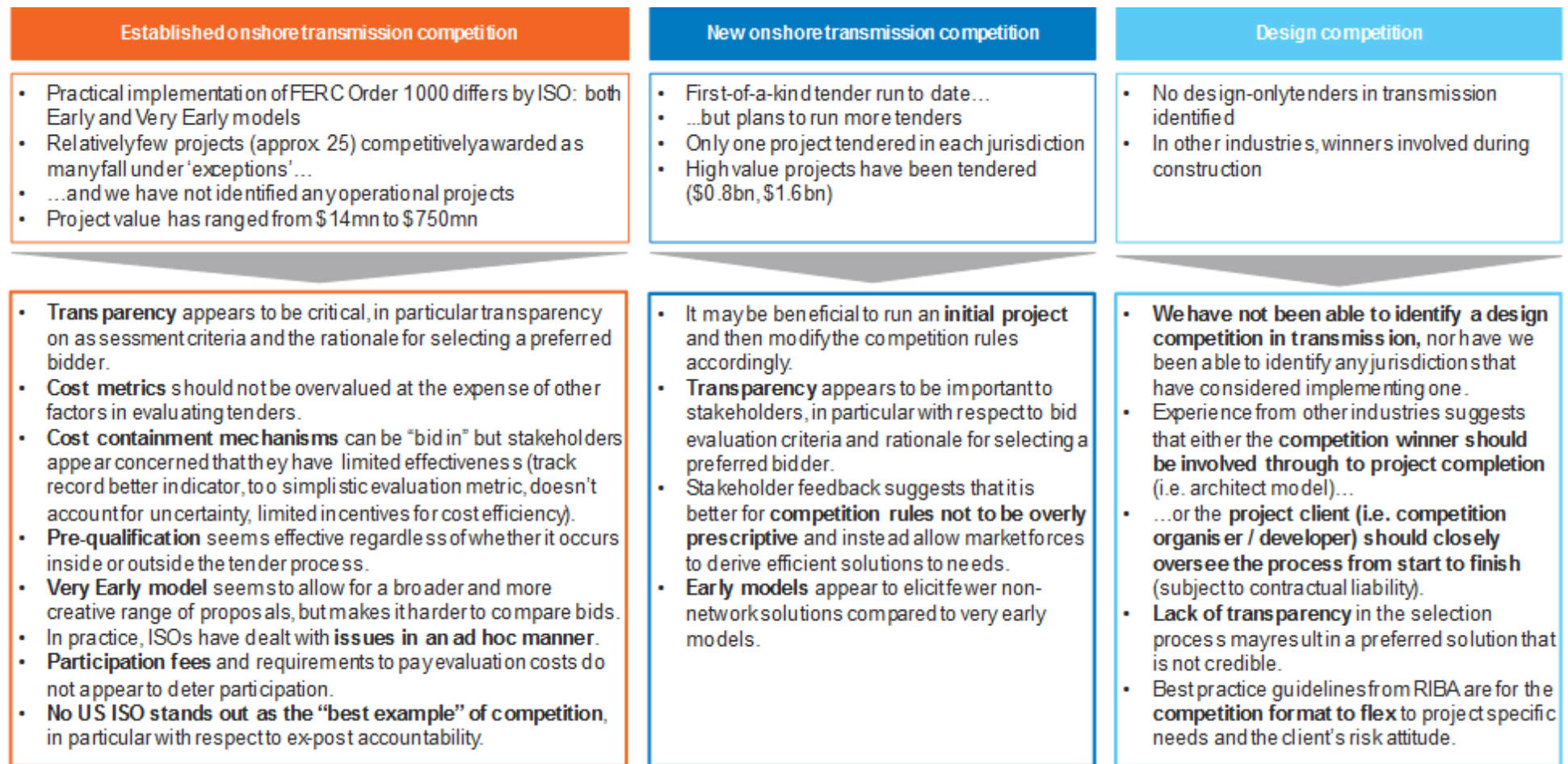
Other jurisdictions and industries currently use competition to procure large assets. We have looked at precedents from three categories of competition to help inform the development of our strawman models. Where relevant, we refer to case study experience throughout this report.

Case studies included in this report



- 1 Established onshore transmission competition**
 - The US has established onshore transmission competition mandated by FERC Order 1000.
 - The practical implementation of FERC Order 1000 differs by ISO: both Early and Very Early models are used.
 - Relatively few projects (approx. 25) have been competitively awarded as many fall under 'exceptions'...
 - ...and we have not identified any operational projects
 - Project value has ranged from \$14mn to \$750mn.
- 2 New onshore transmission competition**
 - First-of-a-kind tender run to date...
 - ...but plans to run more tenders.
 - Only one project has been tendered in each jurisdiction.
 - High value projects have been tendered (\$0.8bn, \$1.6bn).
- 3 Design competition**
 - No design-only tenders in transmission identified.
 - In other industries, either the winner is involved during construction...
 - ...or the project developer runs the competitive process for the components of the construction value chain (and owns the IP).

Figure 10b: Summary of key learnings from international case studies





4

Developing the Early Competition Plan

Developing the Early Competition Plan

Deliverables

The ECP will produce four deliverables by February 2021, which are:

- 1) A robust, cohesive and deliverable **plan for the implementation of Early Competition, developed through a fair and transparent process** with engagement from interested parties.
- 2) Proposals for **an end to end (E2E) Early Competition process** (from identification of need to decommissioning of solution) that allows Non-Network Solutions to compete with Design, Build and Operate solutions, including both pre-and post-legislative options.
- 3) A paper on the **ESO's role in distribution level competition**.
- 4) Proposals for appropriate **ESO funding and performance** incentivisation arrangements for any new roles.

Following the initial thinking on what value design-only models could provide, undertaken in stage 1, Ofgem have now concluded that thinking on design-only models would best be pursued as part of the development of Network Innovation Competition thinking. **The ECP will therefore not directly focus on developing design-only tender models.** Separate to the ECP, we look forward to working with Ofgem to consider how design-only competitions could feature within innovation processes.

Further detail on each deliverable is set out below, followed by a milestone chart in Figure 11.

1) ECP delivered through a fair and transparent process: This strand will deliver the **overarching activities required to produce the ECP** through a strong project management methodology and cross sector stakeholder engagement, supported by a robust communications strategy. Key elements of this strand will be:

- Strategic direction of the ECP.
- An auditable approach to stakeholder engagement.
- An independent review and oversight of stakeholder engagement.
- A Quality Assurance review of the delivery approach conducted by our procured consultancy support.

2) End to End Early Competition process: This strand will deliver a proposal for **how early competition could work in practise**. Key elements of this strand will be:

- Setting out a clear understanding, shared with stakeholders, of how the Early Competition process (from identification of network need to solution decommissioning) could work, including roles and responsibilities.
- Setting out pre-and post-legislation options and timescales for implementation.
- Identify solutions to manage the complex elements of the process that will drive consumer value, such as: competition criteria (incl. value threshold); data access to create a level playing field; evaluation of competing Non-Network and asset build solutions; post award solution changes.
- Preparing the framework of tender documentation.

- Providing a clear description of the potential costs and implications of implementing the Early Competition process, for Ofgem to make an informed decision of overall consumer value.

3) ESO role in distribution level competition: this strand will produce a ‘thought piece’ to inform subsequent considerations of the role the ESO could play in supporting competition for solutions at distribution level from ED2 onwards. This will include:

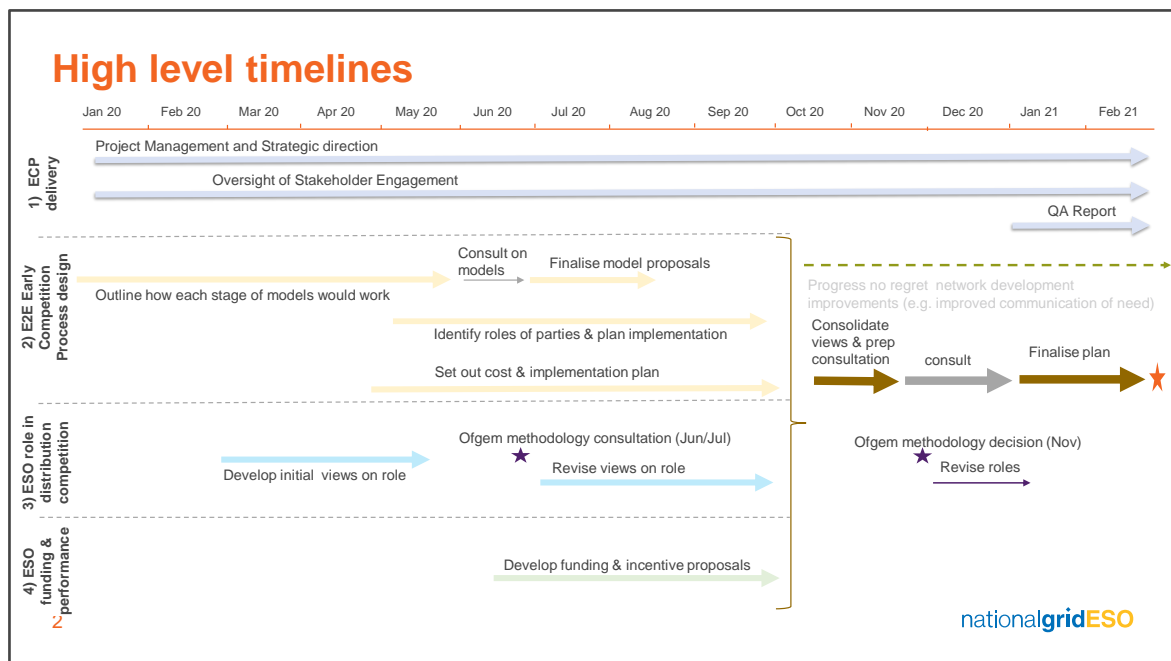
- Input into working groups on distribution competition.
- A high-level view of whether the Early Competition process designed for transmission solutions could work at the appropriate distribution level.
- A high-level view of potential roles required for distribution competition, including thoughts on potential ESO roles.

4) ESO funding and performance: this strand will identify how performance in delivering early competition would best be measured through the RIIO-2 framework. This will include:

- Analysis of how potential roles align to RIIO-2 Business Plan and revenue streams.
- A description of the new risk landscape created by potential new ESO roles.
- Options for funding potential ESO roles.

High-level Milestones

Figure 11: ECP milestones



Following submission of the ECP in February 2021 we would still expect a number of activities still to be required to be developed in order to run a first competition. These would be activities such as:

Identification and articulation of a specific project to tender, i.e. defining what we are asking people to bid for.

- Drafting of full tender documentation and standard contract terms and conditions
- Delivering any regulatory framework changes that may be required.
- Decisions on roles and responsibilities by Ofgem and any consequential changes to licences, funding, etc.
- Preparation by relevant organisations (including the ESO) for any new role they need to take on. This could include, but is not limited to, establishing skills and capabilities, establishing processes, information system management tools, etc.
- The development of relevant IT systems (e.g. portals to allow bidders to develop bids, facilitate data provisions, etc.).

Timescales and approximate costing for these activities will be provided as part of the ECP.

Delivery approach

In order to deliver these activities, we have established a dedicated project team to be in place from January 2020 to February 2021. The core resource will be primarily ESO employees, including experts in network development, policy development, stakeholder engagement and legal support.

We also intend to contract in specialist expertise in the procurement and delivery of large capital build projects in order to support development of the areas where the ESO does not have internal expertise.

In addition, because of the broad scope of the ask and the complexity of the question, we will require consultancy support in order to provide enough capacity to deliver within the required timeframes.

The project team will also be supported by Subject Matter Experts (SMEs) within the ESO, particularly around specialist areas of network development, regulatory matters, codes and frameworks, finance, Information Technology (IT).

A key part of our delivery approach will be to engage closely with stakeholders. This will help ensure that a broader range of expertise around project financing and capital delivery are fed into our thinking.

We will adopt robust project management approaches to ensure we produce all of the deliverables, keep Ofgem and stakeholders updated and maximise stakeholder input.

Stakeholder engagement

There are three key aims to our stakeholder engagement:

1. Co-creating proposals – understanding who might bid in, what barriers might they face, ensuring bidders needs are balanced with consumer needs.
2. Transparency – ensuring potential participants or affected parties feel the proposals are fair, transparent and appropriate.
3. General awareness – ensuring the wider industry is aware of the progress of competition in network development.

Co-creating proposals: Similar to stage 1, we will engage closely with stakeholders to understand what they need from the process. We will explore what potential participants

need to be able to participate in competitions and ways these needs could be met whilst also ensuring that maximum consumer value is unlocked.

Across all of this activity we need to ensure that stakeholder time is utilised effectively. In stage 1, we ran three one-day workshops over six weeks. We asked for views on ongoing engagement and many stakeholders indicated that maintaining that level of engagement may be too time consuming for them.

We therefore expect to run targeted workshops and/or webinars, focusing on specific elements of the process or particular challenges. This will enable the most appropriate organisations, and experts within those organisations, to participate. We also intend to broaden our pool of stakeholders so that input can be spread across different organisations.

Early next year, we will set out our stakeholder engagement proposals (timings, level of involvement required etc) and discuss this with stakeholders to agree an appropriate plan.

Transparency: The engagement already outlined above will help to demonstrate that the ESO's proposals are fair, transparent and appropriate. However, in addition to this we will undertake a formal consultation on our final proposals prior to submission.

Furthermore, as requested, we are also introducing a formal stakeholder governance route, building on the approach used for the RIIO-2 business planning process. This is set out in the next section.

General awareness: We will continue to manage this through making information available on our website, regular email updates to our early competition distribution list and updates in wider network development newsletters. We will also undertake periodic wider comms, such as via twitter and industry press, to reach out all potentially interested parties.

Governance

We propose the governance arrangements set out in Figure 12 below.

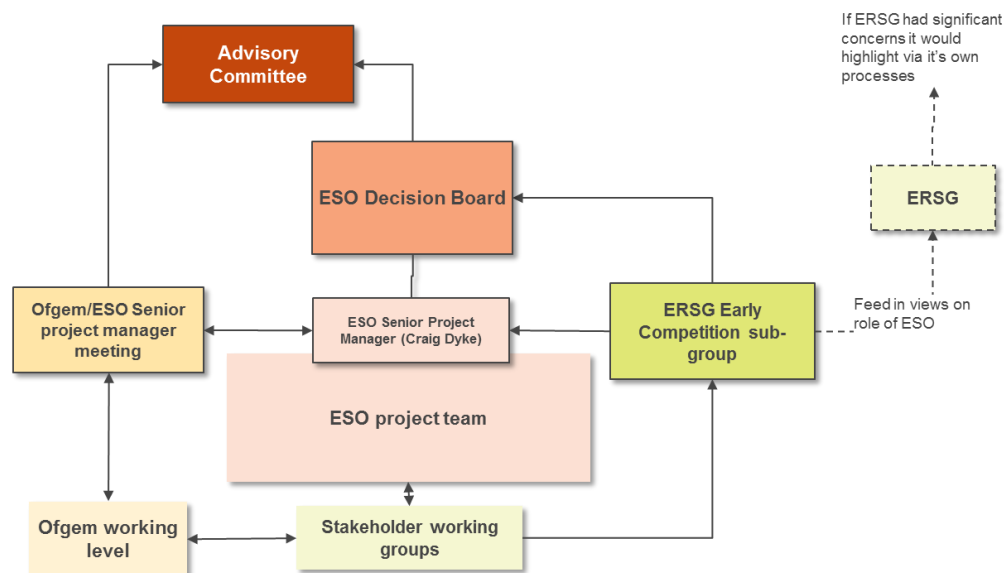
ESO Decision Board

In order to ensure rapid delivery of the project, we are establishing a project decision board within the ESO that will have authority for the majority of internal aspects of the project. The Decision Board will align to existing ESO governance arrangements as required. The intention of the decision board is to make sure decisions can be made quickly and given the right focus against other business decisions. Its membership will be department heads from the ESO.

Advisory Committee

We also propose to establish an advisory committee consisting of project sponsors from the ESO, Ofgem, a BEIS representative and a stakeholder representative (the chair of the ERSG sub-group – see below). Its remit would be to oversee the progress and direction of the project, such as agreeing any changes in deliverables. It would also ensure the ESO develops its proposals in a fair and transparent way, engaging appropriately with stakeholders and seeking to maximise consumer value. We propose that this group will meet at least three times during the project to be determined by key milestones and decision points.

Figure 12: Proposed Early Competition governance structures



Stakeholder governance

As requested, we are building on the stakeholder governance approach used for the RIIO-2 business planning process. The ESO is establishing an ongoing ESO RIIO-2 Stakeholder Group (ERSG) to help provide constructive challenge on the development of our role going forward. As part of this, we propose to have an ERSG sub-group focused specifically on the ECP.

The sub-group's remit will be to challenge how we have engaged with stakeholders and how we've reflected any feedback received. We proposed that the sub-group would be formed of representatives from our stakeholder working groups, specifically, representatives from the following areas:

- Consumer representative
- Construction companies
- Design companies
- Financing companies
- Network Owners

We propose that the chair of the sub-group would be the consumer representative. We also propose that the group will meet a minimum of three times during the project.

Written updates to Ofgem

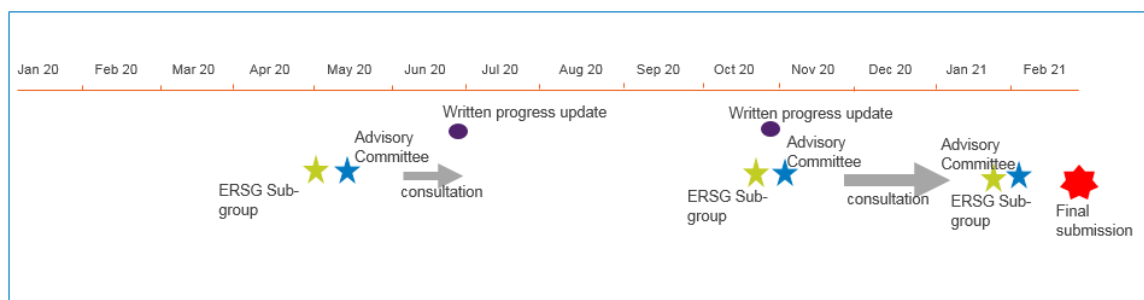
As requested by Ofgem, we will provide written updates on the project in both Summer and Autumn 2020 respectively. Maintaining transparency on the project, we would expect to publish the majority of content from these updates to keep stakeholders informed of progress.

Governance timetable

We propose to time external governance (ERSG sub-group and the Advisory Committee) ahead of our consultations and final submission. This will mean the groups can input at

key points of consolidating our thinking. Approximate timings are set out in Figure 13 below.

Figure 13: Indicative governance timelines



Role of Ofgem in establishing early competition

There are a number of areas that Ofgem will need to progress in order to enable the introduction of early competition. These will impact on the ultimate approach we recommend, timings and potentially costs. We will therefore liaise with Ofgem on progress of these elements during development of the competition plan.

Ofgem will need to ensure that legislative frameworks support competition. In particular, legislative changes to allow CATO will be required to implement that approach. We will also need input from Ofgem to help establish when and how CATO licences would be awarded within the process. Alternatively, in the absence of CATO legislation, Ofgem may need to progress a process to enable the geographic restrictions within existing licencees licenses to be amended.

Ofgem will also need to ensure industry funding arrangements support competition. Firstly, TO and DNO RIIO-2 funding deals will need to reflect competition. In addition to that, if the ESO needs to award long-term contacts (e.g. 25 years) to enable non-network solutions to compete fairly with regulated assets, an appropriate funding stream will be needed for the ESO. Finally, Ofgem will need to give their view on the implications for industry funding streams given that different funding streams may be used to address the same solution. Any new funding streams for the ESO would need to be in place prior to the ESO awarding a long-term contract to any non-network solution that may win the competitions. We will work closely with Ofgem to understand their timeframes for enabling this.

Ofgem will also need to set the direction on particular elements of competition, such as their aspirations for competition at a distribution level. We assume Ofgem’s ED RIIO-2 methodology consultation, scheduled for next summer, will help provide direction. This will then inform the ESO’s consideration of its role in that area.



A

Appendices

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1. List of stakeholders engaged on Early Competition

The stakeholder who attended our workshops are listed below. Additional stakeholders joined our initial webinar. We also send regular updates to a distribution list of around 90 people.

We have also begun engagements with additional stakeholders who were not able to attend our workshops. These stakeholders will be involved in the project during next year.

Workshop attendees:

4C OFFSHORE

ABB

AMBERSIDE

AMEY

ARENKO

BALFOUR BEATTY

CMY CONSULTANTS

CORNWALL INSIGHT

DIAMOND TRANSMISSION

EPNC

FORESIGHT GROUP

FRONTIER POWER

HIGHVIEW POWER

KPMG

NATIONAL GRID ELECTRICITY TRANSMISSION

NATIONAL GRID VENTURES

OFGEM

SCOTTISH POWER

SIEMENS

SSE

TEPCO

TRANSMISSION INVESTMENT

2. Model Development

Further detail on the development of models for early competition can be found on our website, [click here](#)

<https://www.nationalgrideso.com/document/164016/download>

3. International Case Studies



An overview of international case studies conducted by FTI is available on our website. [Click here](#)

<https://www.nationalgrideso.com/document/164011/download>

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