



Early Competition Plan

About the Early Competition Plan

July 2020

nationalgridESO

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What is early competition?

The onshore electricity transmission networks in Great Britain are owned and operated by the three regional licenced Transmission Owners (TOs): Scottish Hydro Electric Transmission, Scottish Power Transmission and National Grid Electricity Transmission (see Figure 1).

The three TOs are regulated by Ofgem, who manages their licences and sets their regulated revenue streams through periodic price reviews.

Ofgem is now considering how competition can be introduced into the provision of the onshore transmission infrastructure by introducing Competitively Appointed Transmission Owners (CATOs).

Early competition relates to transmission competition before the initial solution design has been done and preliminary works, including surveys and consents, have been undertaken. Ofgem is separately considering the late competition model (see Figure 2).

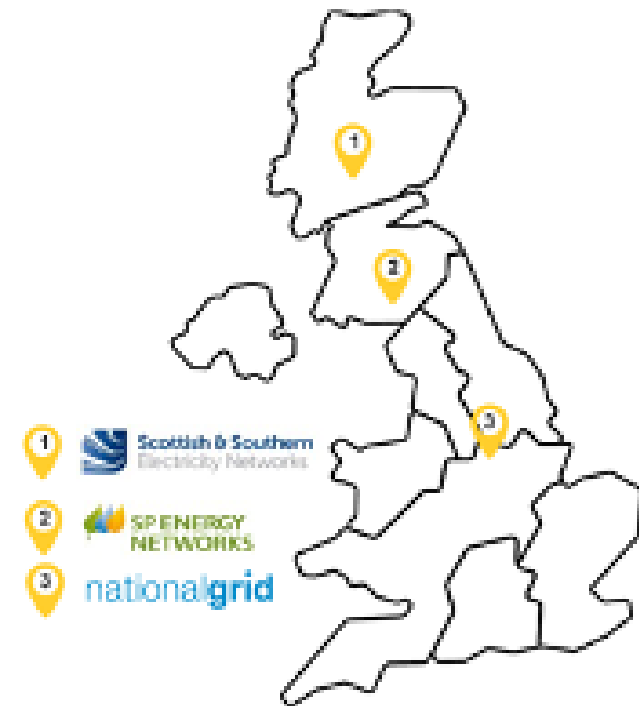


Figure 1: Transmission Operators in GB

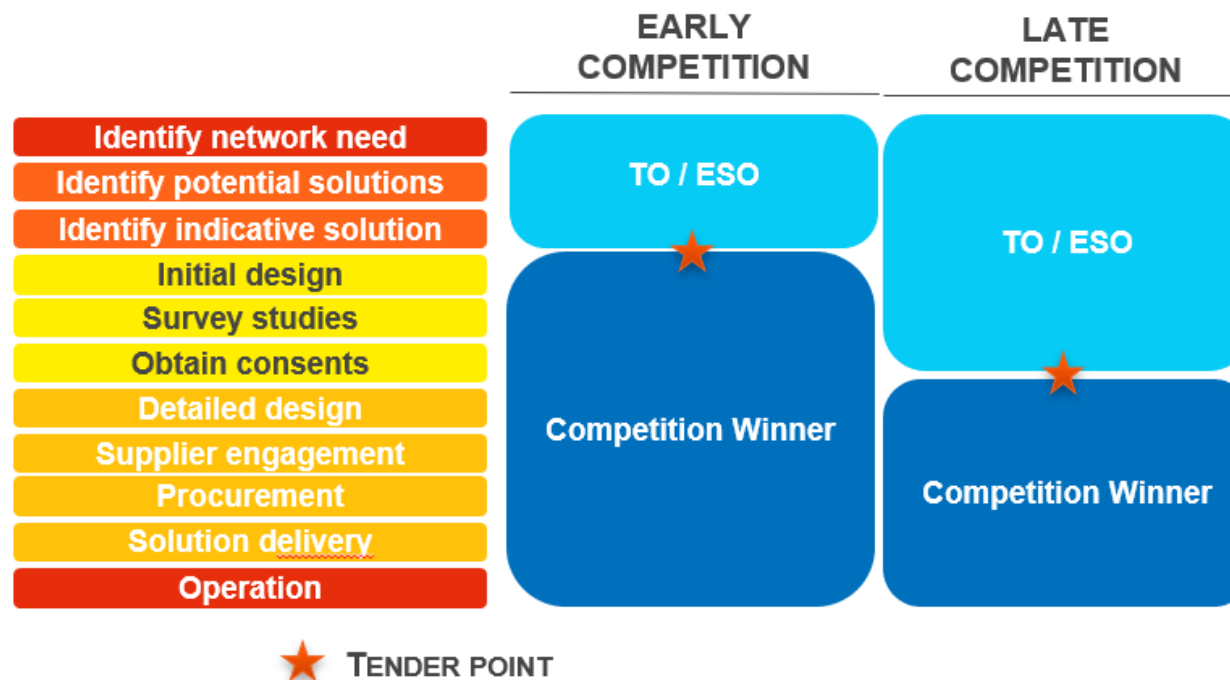


Figure 2: Early vs late competition

Note: 'Very early' competition is also considered as part of the ECP. Under very early the 'Identify potential solutions' and 'Identify Indicative solution' stages are within the scope of the CATO i.e. the TO/ESO only identify the network need

The ESO have begun introducing competition in onshore transmission through our NOA pathfinder projects¹. Our Mersey High Voltage pathfinder has shown that non-network solutions provided by third parties can be competitive compared to transmission asset solutions. Our RIIO-2 proposals set out our ambition to roll out this approach to become business as usual for network planning by 2026.

¹ NGESO (2018) Network Development Roadmap. Available at: <https://www.nationalgrideso.com/research-publications/network-options-assessment-noa/network-development-roadmap>

The pathfinders use competition to identify whether non-network solutions, or distribution network solutions, could provide more efficient alternatives to the solution proposed by the incumbent TO. A non-network solution is anything that is not a transmission or distribution asset (i.e. it doesn't require a transmission or distribution licence). This could include things such as energy storage, services provided by existing generators or new assets built to provide the particular services required. Early competition differs from this by facilitating competition to design, build and own transmission assets; whereas the pathfinders are limited to seeking alternatives to transmission assets. As the development of both processes continues, we will consider the circumstances in which each approach is appropriate.

What are the benefits of early competition?

Competition plays an important role in creating value for consumers. Requiring firms to compete can lead to lower costs and increased levels of innovation. A study commissioned by Ofgem on the impact of the offshore regime showed that offshore transmission owners (OFTOs) achieved significantly lower costs when compared against various counterfactuals.²

As part of the Integrated Transmission Planning and Regulation (ITPR) project Ofgem also undertook an impact assessment of the use of competitive tendering in transmission.³ The case for extending the use of competitive tendering is informed by the expectation that applying competitive pressure will lead to better value for consumers through efficiency and innovation. Savings can be achieved through:

- **Capital and operational cost savings** – competitive tendering will place downward pressure on capital and operational expenditure. TOs currently submit costs to Ofgem who calculate the efficient costs using a range of analytical tools but there is information asymmetry
- **Innovation** – competitive pressure and involvement of new parties is likely to drive innovation, resulting in lower costs and better value for consumers. Depending on the tender model there could be innovation in areas such as technology, design, supply chain management, raising of finance and operations
- **Diversified sources of labour and capital** – investment opportunities to new parties allows different sources of labour and capital to enter the industry;
- **Financing** – bidders in a competitive process are likely to put forward financing solutions that deliver better value for consumers
- **Enabling investment in low carbon generation** – a significant benefit is that it will enable investment in low carbon electricity generation. Cost savings driven by innovation will drive lower transmission charges and make investment in

² Ofgem (2014) Evaluation of tender round 1 benefits. Available at: <https://www.ofgem.gov.uk/ofgem-publications/87716/140508coveringlettertocepareportfinalforpublication.pdf>

³ Ofgem (2016) Extending Competition in Electricity Transmission: Impact Assessment. Available at: https://www.ofgem.gov.uk/system/files/docs/2016/05/extending_competition_in_electricity_transmission_updated_impact_assessment_0.pdf

low carbon generation more economically viable. This benefit is particularly important considering the role of the ESO in supporting Great Britain achieving net zero.

There are several additional costs associated with competition which offset some of the benefits outlined above. These include set up costs, procurement costs, bidder costs, network planning costs, and contract management costs. The cost of these need to be considered before any decisions are made to run a competition.

What is the potential pipeline for early competition?

Generation and demand patterns in Great Britain are changing as part of the drive for a more sustainable energy system. The government targets **75GW** of Offshore Wind and an estimated **35 million** electric vehicles will be on the roads **by 2050** – driving further investment needs in Great Britain's electricity network.

The Network Options Assessment (NOA) this year recommended that **42 projects** addressing network needs with a total cost of **£11.1bn** of investment in the transmission network should proceed (subject to annual reassessment⁴).

A breakdown of those projects by cost band is shown Figure 3.

The 42 projects include a wide range of projects which had been identified in previous versions of the NOA, and new projects identified for the first time.

In 2019/20, **17 projects** were newly identified. A full list of the newly identified projects is set out in Appendix 2. Some of these projects could be suitable for competition.

Based on information submitted to Ofgem, and which has been published by the network companies, a pipeline of potential projects that may be suitable to undergo competitive processes over the course of the RIIO-2 price control period has an estimated average value of over **£1bn annually**.^{5 6}

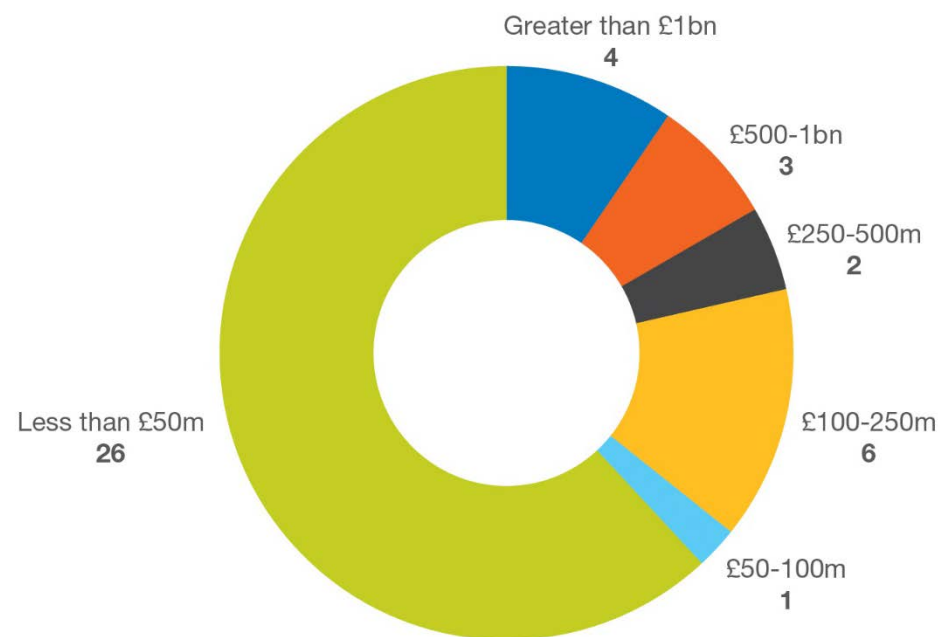


Figure 3: Total cost of projects in the NOA 2019/20 recommended to 'proceed'

⁴ NGESO (2019) Network Options Assessment. Available at: <https://www.nationalgrideso.com/research-publications/network-options-assessment-noa>

⁵ Ofgem (2019) Update on the Electricity System Operator's Early Competition Plan
https://www.ofgem.gov.uk/system/files/docs/2020/03/update_on_the_esos_early_competition_plan_060320_0.pdf

⁶ Ofgem notes that this is not a confirmation of which / how many projects will be subject to early competition during the RIIO-2 period

What is the process for developing the ECP?

A central theme of the ESO RIIO-2 business plan is unlocking consumer value through competition. In May 2019, Ofgem requested that the ESO develop an Early Competition Plan (ECP) to sit alongside our business plan, including:

- Proposed scope and form of early competition
- Identification of competition functions the ESO is already undertaking
- Pathways and timeframes for achieving the plan
- Roles and responsibilities to underpin the arrangements
- Required legislative provisions and/or conditions
- Potential regulatory or legislative barriers.

Further to this, in September 2019 Ofgem provided further clarification as to their expectations for the ECP. The clarification related to two main areas:

1. **A clear description of proposed early competition models** – the proposals should consider the whole lifecycle of the competition model, from project identification to tendering and post-tendering processes. In addition, it should cover:
 - How the same model can operate with and without Competitively Approved Transmission Owner (CATO) legislation
 - An outline of the criteria to determine which types of system needs are better suited to early competition
 - For non-network solutions, an outline of which party is the most appropriate contractual counterparty
 - A consideration of how the model will allow for fair and transparent competition, including equal access to all necessary information required to submit competitive bids
 - Consideration of the role of data in the design in terms of data management improving the performance and design of tender processes and how operations should treat and share data for the benefit of the whole system.

2. **Roles and responsibilities** – the proposal should consider the roles and responsibilities of all parties involved in early competition at each stage of the process. For the ESO:
- The scope of its own role, including practical implications of its role including estimated cost, expertise and risk implications
 - The role It could play in supporting competition for solutions at the electricity distribution sector level from 2023 or RIIO-ED2, identifying aspects we may be able to provide.

As part of the plan Ofgem expects the ESO to engage with relevant stakeholders including through workshops, working groups and consultations.

ECP development Phases

We have developed our plan for the ECP structured around the aims of promoting transparency, development of proposals, and raising awareness of early competition. This will be achieved through bi-lateral and multi-lateral engagements and two formal consultations, across four phases:

- **Phase 1:** development of the ECP conceptual model (completed)
- **Phase 2:** initial consultation on emerging ECP (ongoing and covered in this document)
- **Phase 3:** final consultation on emerging ECP (November 2020)
- **Phase 4:** submission of the ECP to Ofgem (February 2021).



Figure 4: ECP Timeline

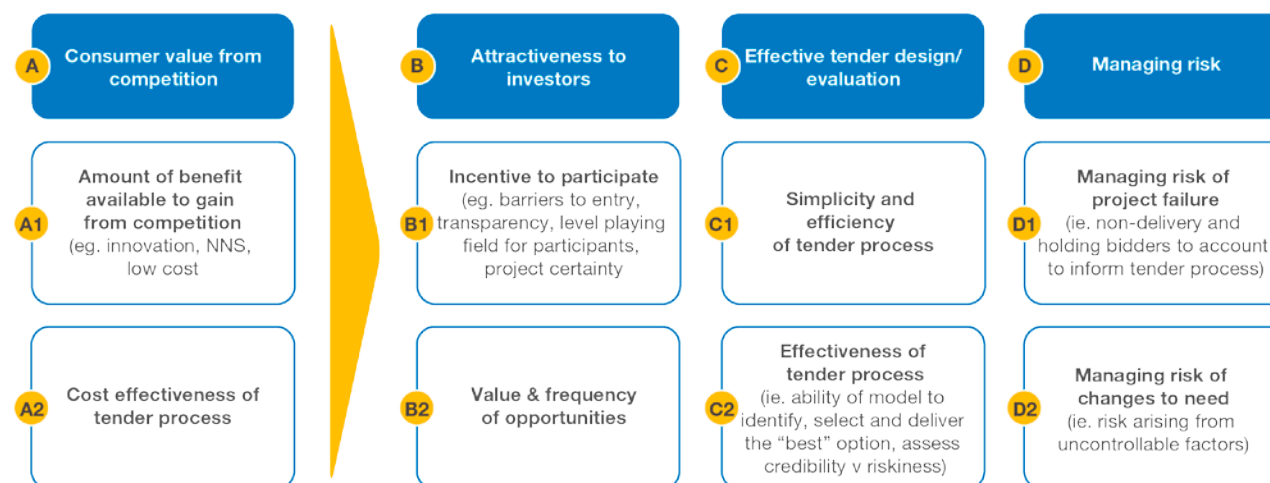
What has been done to date on the ECP?

Phase 1

In developing the conceptual model for the ECP we worked closely with stakeholders to explore high-level models of early and very early competition. In February 2020, we published an update on Phase 1, along with supporting appendices including model development slides and case studies.

In addition to the conceptual model, Phase 1 gave some initial consideration of other elements of the tender process, such as shortlisting bidders and post-tender change mechanisms. The work also included some consideration on how projects could be delivered by competition through the existing licence regime before the introduction of CATO legislation.

As a result of Phase 1 it was decided that a design only competition is best pursued through existing workstreams around innovation.⁷ It was also concluded that the current Network Development Roadmap pathfinder approach was not suitable for large transmission investment projects given the complexity. An output from Phase 1 were four categories of evaluation criteria to be used to assess the extent to which a model brings the best outcome for consumers.



⁷ Ofgem (2020) Ofgem update on early model competition. Available at: <https://www.ofgem.gov.uk/publications-and-updates/update-electricity-system-operator-s-early-competition-plan>

Phase 2 stakeholder engagement

So far in the Phase 2 process we have engaged with the stakeholders through various forums including a series of bi-lateral discussions with stakeholders and a series of public workshops on key areas of the model development.

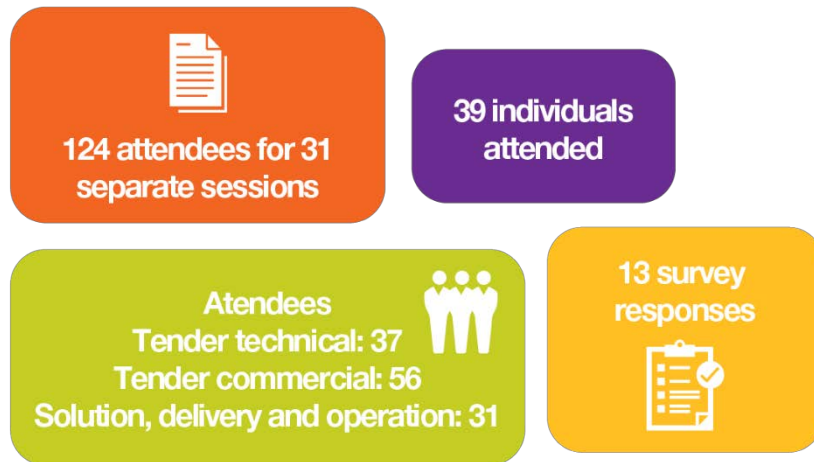


Figure 5: Stakeholder workshops in May 2020



Figure 6: Companies who attended the May 2020 workshops

The workshops targeted three subject areas, each divided into three sub-topics:

Tender Technical

- Early competition criteria, what could be competed? – criteria for selecting network needs, the process and the alignment to the current NOA process.
- Evaluation of technical element of proposals – how to encourage innovative solutions, evaluation of the solution and the roles and responsibilities during this stage.
- Provision of information to allow proposal development – what information is required by bidders to develop a technical proposal.

Tender Commercial

- Procurement process steps and timelines – the scope, structure and governance of the procurement process covering, Pre-Qualification stage (PQ), Invitation to Tender (ITT) and the Preferred Bidder (PB) stages.
- Evaluation of commercial elements of proposals – consideration of the evaluation criteria for PQ and ITT stages.
- What do winners win and how is risk allocated? – the revenue model, a licence and/or contract, the duration of the contract/licence, high-level consideration of risk allocation and incentives.

Solution Delivery and Operations

- Preliminary works – the scope of preliminary works, payment options for preliminary works, what behaviours and outputs should be incentivised and how and the allocation of risk.
- Construction works and commissioning – the scope of the construction and commissioning process, the allocation of risk during this phase, payment terms during construction and commissioning, incentives and the commissioning process.
- Operations, maintenance and decommissioning – allocation of risk, what outputs should be incentivised and how, focusing on availability incentives, potential for new investment and consideration of decommissioning.

The feedback from the workshops and through bi-lateral conversations is reflected in the details of the end-to-end model presented in the consultation.

What is the scope of the Phase 2 ECP consultation?

The purpose of the Phase 2 consultation is to give stakeholders an opportunity to comment on the current end-to-end early competition model and provide their thoughts on how to develop the model further to maximise value for consumers.

The consultation covers the entire early competition process – from the identification of projects up to the decommissioning of the solution at the end of the licence/contract period. Our initial views presented in this consultation are based on feedback gathered from stakeholders, past work undertaken by Ofgem (in both CATOs and OFTOs), precedent transactions in the infrastructure sector, experience in the US, and the output of Phase 1.

At this stage in the process, some of our initial views are relatively well developed, whilst others are still at a conceptual stage or require further analysis and engagement with stakeholders. The scope of this consultation is different to the Phase 3 consultation planned in November 2020. We expect that following this consultation core aspects of the end-to-end model will be well defined, enabling the process to focus on specific areas in more detail.

Table 1 below sets out the scope of Phases 2 and 3 consultation.

July 2020 (Phase 2) consultation

- Initial views on the end-to-end model
- Criteria and process for selecting needs to be tendered
- Integration with the NOA process
- Commercial model
- High-level risk allocation
- Tender process
- Contractual principles
- High-level procurement evaluation criteria
- Approach to cost evaluation and assessment
- High-level roles and responsibilities

November 2020 (Phase 3) consultation

- Detailed end-to-end competition model
- High-level heads of terms for contracts and licences
- Detailed risk allocation
- Detailed evaluation criteria
- Role of data
- Parties to undertake roles and responsibilities
- Code, licence and legislative changes that are required
- Flexibility in the procurement process
- Approach to competition in distribution
- Interaction with pathfinders
- Timescales and cost for implementation

Table 1: Summary of the focuses of the July 2020 and November 2020 consultations

Appendices

Appendix 1: Key transmission competition documents

Integrated Transmission Planning and Regulation (ITPR) (2015)⁸

Ofgem first introduced the concept of CATO as part of the ITPR project in 2013-2015. The introduction of competition has been explored further by Ofgem, the ENA and the ESO in the intervening years.

Ofgem undertook a wide review of existing arrangements for planning and delivering onshore, offshore and cross-border electricity transmission networks in GB.

Ofgem made two key decisions as a part of this project which were to:

- Expand the role of the ESO in network planning – this gave the ESO additional responsibilities in planning the GB electricity transmission network in terms of analysing the costs and benefits through the NOA
- Extend the use of competitive tendering – to onshore transmission assets that are new, separable and high value.

Ofgem - Extending competition (2015)⁹

Further to the ITPR project the policy area was developed further through the Extending Competition in Transmission consultation in 2015.

Ofgem set out its thinking in four key areas:

- Types of investments and how projects will be identified – projects worth £100m or more as savings will likely outweigh the costs
- How the tender process will work - development of the early and late CATO model. In the short to medium term Ofgem's preference was the late competition model

⁸ Ofgem (2012) Integrated Transmission Planning and Regulation. Available at: <https://www.ofgem.gov.uk/electricity/transmission-networks/integrated-transmission-planning-and-regulation>

⁹ Ofgem (2015) Integrated Transmission Planning and Regulation (ITPR) project: final conclusions.
https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/itpr_final_conclusions_decision_statement_publication_final.pdf

- How CATOs will be regulated – fixed revenue stream for 25 years to enable CATOs to take a long-term view of asset construction and management
- Management of conflicts of interest – Incumbent TOs or associated business should be able to compete if conflict of interest or risks are appropriately addressed.

Ofgem – Extending competition (2016) ¹⁰

Following on from the initial proposals in the 2015 consultation Ofgem issued a further consultation in 2016. Ofgem developed its thinking on the detailed arrangements to implement competitive tendering for new, separable and high value onshore electricity transmission assets. setting out further details on two key areas

- **How they will appoint CATOs** – this included further work on how tendering under the late CATO build tender model, including transfer of asset from the party responsible for preliminary works to the CATO
- **CATO regulated revenue, incentives and obligations** – an overview of Ofgem’s approach to regulating CATOs including revenue structure, risk allocation, obligations and incentives.

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.

ENA (2017) ¹¹

In 2017 the ENA held a series of Industry Working Group (IWG) workshops with interested parties of developers, investors and network providers. The remit was to develop the details of a workable model for early competitive onshore transmission, to complement the Late Model. The ENA considered three key areas in relation to early competition:

¹⁰ Ofgem (2016) Extending competition in electricity transmission: tender models and market offering. Available at: <https://www.ofgem.gov.uk/publications-and-updates/extending-competition-electricity-transmission-tender-models-and-market-offering>

¹¹ ENA (2017) Developing Early Models for introducing competition in onshore electricity transmission networks. Available at: https://www.ofgem.gov.uk/system/files/docs/2017/04/ena_working_group_report_16_feb_2017.pdf

- **Roles and activities of different parties** – SO would identify the need, the TO/SO would identify options, the SO would identify the preferred solution, early competition tender point would be between the identification of the preferred solution and the initial solution design and the CATO would be responsible for all activities following initial solution design
- **The tender design parameters** – Key challenge to early model is that the needs for transmission projects and the cost of transmission are highly uncertain. The tender process needs to have an appropriate balance of cost flexibility, and quantitative and qualitative elements with incentive mechanisms e.g. pain and gain sharing mechanisms
- **The commercial incentives for CATOs** – to manage cost uncertainties retendering would need to happen in response to a material increase in costs and for need uncertainties the CATO would be compensated for costs incurred or committed up to the point at which a cancellation notice was issued.

Ofgem - RIIO-2 Sector Specific Methodology (SSM) (2019) ¹²

Ofgem set out its expectation for the ESO to develop the ECP as part of the SSM and its expectations for the ESO to take a greater role in facilitating early competition.

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.

¹² Ofwat (2019) RIIO-2 Sector Specific Methodology. Available at: <https://www.ofgem.gov.uk/publications-and-updates/riio-2-sector-specific-methodology-decision>

Appendix 2: 2019/20 transmission projects

The table below sets out the transmission projects, identified through the NOA for the first time in 2019/20. Each project has an identifying code and Earliest In-Service Date (EISD). Some may be suitable for early competition.

Code	EISD	Project description
FLR3	2020	Reconductor Fleet to Lovedean circuit Replace the conductors in the Fleet to Lovedean circuits with higher-rated conductors to increase their thermal ratings.
HSP1	2020	Power control device along Fourstones to Harker to Stella West Installation of a power control device along the 275 kV overhead line route. This would improve the capability to control the power flows from north to south of the transmission network.
LNPC	2020	Power control device along Lackenby to Norton Installation of a power control device along the 400 kV circuit overhead line route. This would improve the capability to control the power flows across the east and west of the transmission network.
MRPC	2020	Power control device along Penwortham to Kirkby Installation of a power control device along the 275 kV circuit overhead line route. This would improve the capability to control the power flows across the east and west of the transmission network.
CS35	2023	Commercial solution for Scotland and the north of England This ESO-led commercial solution provides benefit across the Anglo-Scottish boundary and further south.
CS53	2023	Commercial solution for East Anglia This ESO-led commercial solution provides boundary benefit across the East Anglia Region.
MBHW	2023	Bramley to Melksham circuits thermal uprating Thermal upgrade of 400 kV circuits to allow them to operate at higher temperature and rating.
NTP1	2023	Power control device along North Tilbury Installation of a power control device along the 400 kV overhead line route. This would improve the capability to control the power flows east of the transmission network.
CS51	2024	Commercial solution for East Anglia This commercial solution provides boundary benefit across the East Anglia region.
CTP2	2024	Alternative power control device along Creyke Beck to Thornton Installation of an alternative power control device along the 400 kV overhead line route. This would improve the capability to control the power flows from north to south of the transmission network.

Code	EISD	Project description
NEP1	2024	Power control device along Blyth to Tynemouth to Blyth to South Shields Installation of an additional power control device along the 275 kV overhead line route. This would improve the capability to control the power flows from north to south of the transmission network.
OPN2	2027	A new 400 kV double circuit between Osbaldwick and Poppleton and relevant 275 kV upgrades Construction of a new 400 kV double circuit to facilitate power transfer requirements across the relevant boundaries. 275 kV circuit upgrades are required and substation works might be required to accommodate the new circuits.
SCD1	2028	New offshore HVDC link between Suffolk and Kent Option 1 Construction of a new offshore 2 GW HVDC circuit.
CGNC	2031	A new 400 kV double circuit between Creyke Beck and the South Humber Construction of a new 400 kV double circuit to facilitate power transfer requirements across the relevant boundaries. Substation works is required to accommodate the new circuits.
E4L5	2031	Eastern Scotland to England 3rd link: Peterhead to the South Humber offshore HVDC Additional offshore 2 GW bipole HVDC link. The link will involve substation works, circuit upgrades and HVDC converter stations. The link will include a metallic earth return conductor to permit operation at reduced capacity with one pole disabled.
GWNC	2031	A new 400 kV double circuit between South Humber and South Lincolnshire Construction a new 400 kV double circuit to facilitate power transfer requirements across the relevant boundaries. Substation works are required to accommodate the new circuits.
SHNS	2031	Upgrade substation in the South Humber area Substation upgrade of the 400 kV South Humber substation equipment.

Appendix 3: Glossary

- CATO Competitively Appointed Transmission Operators
- ECP Early Competition Plan
- ESO National Grid Electricity System Operator
- GB Great Britain
- ITPR Integrated Transmission Planning and Regulation (ITPR)
- Needs System Requirements which require investment that may be suitable for competition
- NOA Network Options Assessment
- OFTO Offshore Transmission Owners
- Ofgem Office of Gas and Electricity Markets
- RIIO (Revenue = Incentives + Innovation + Outputs) is Ofgem's performance-based framework to set price controls
- TO Transmission Owners



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