Early Competition Plan

Appendix 11 – Early Competition Precedents

April 2021

nationalgridESO

Early Competition Precedents

To support development of our Early Competition Plan and our Phase 2 and 3 consultations we considered a number of relevant case studies, as set out below.

OFTOs

nationalgridESO

Background to OFTOs

This section presents the high-level end-to-end delivery model for the offshore transmission owner (OFTO) regime.

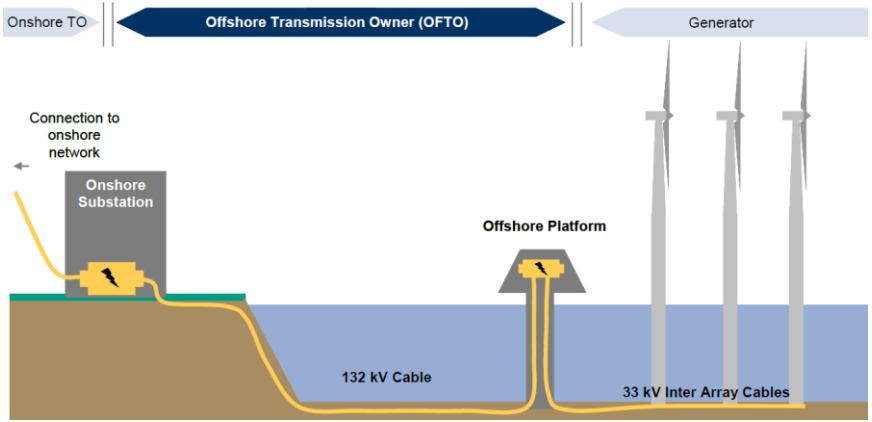
Ofgem runs competitive Tender Rounds to select and licence OFTOs to own and operate the assets that connect offshore wind farms to the onshore network for offshore transmission assets for a fixed contract of 20 to 25 years. OFTOs operate the assets once they have been commissioned and are operational.

The OFTO will own the transmission assets between the offshore point of connection with the generator and the point of connection with the onshore transmission operator. This will include the cables and associated connection equipment. The diagram below shows what the transmission assets to be transferred to the OFTO are likely to include.

Under the enduring OFTO regime arrangements, developers may choose either a “generator build” option or an “OFTO build” option and there are differences between the two build options (for example the cost assessment process for each). OFTOs to date have utilised only the generator build option.

Under the generator build option, the offshore wind farm developer builds the OFTO assets and tests and commissions the assets. The competitively procured OFTO takes over the OFTO assets once the assets are operational.

OFTOs are responsible for financing, operating and maintaining the assets during the licence period.



nationalgridESO

Key features of the OFTO assets

Below we summarise some of the key characteristics of the OFTO assets and the salient feature of the Tender Process based on Tender Round 5.

Tender Round 5 was amongst the largest Tender Rounds with 5 OFTO assets. Of these 3 OFTOs have reached Financial Close and 2 OFTOs are at the Preferred Bidder Stage. Ofgem has recently commenced Tender Round 6.

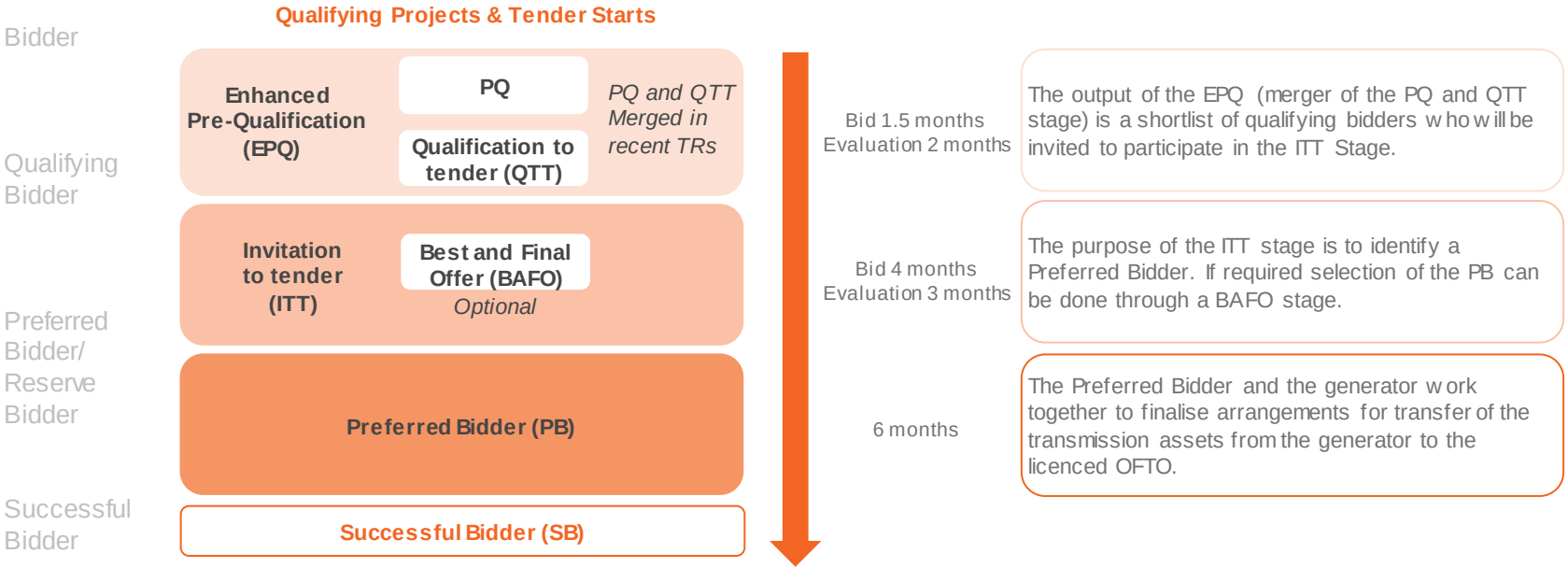
- OFTOs are considered to be a mature (well established) asset class with a wide range of investors, lenders, service providers
- The procurement process and contract documents (licence, transfer agreements, etc) were streamlined over the Tender Rounds
- The OFTO assets have become larger as the offshore windfarms became larger and went further offshore
- The OFTO assets are similar in nature with only a smaller number of project specific differences (compared to some other asset classes)
- OFTO bidders typically used a project finance structure, with non recourse or limited recourse Special Purpose Vehicle (SPV), and high gearing.
- OFTOs have been financed using a range of debt sources including bank debt, private placement bonds, public bonds and combination of these
- Under the current model, several OFTOs were procured together in a single Tender Round
- The Prequalification Stage was combined for all the OFTOs in the Tender Round albeit different bidders were prequalified for different OFTOs within that prequalification process. In some cases OFTOs in a Tender Round were grouped into more than one prequalification round
- The OFTO is paid a Tender Revenue Stream (TRS) based on the TRS bid by the successful bidder as part of the competitive process
- The TRS was fixed for the licence period except for specific adjustments such as indexation, availability incentive, etc.

Outline of the tender process

nationalgridESO

Outline of the tender process

The figure below provides an high-level overview of the OFTO tender process from Pre-Qualification (PQ) to the selection of the successful bidder. Provided below is an indicative structure as there are some differences between each Tender Round. All timelines are the expected period, while the actuals have typically been longer.



nationalgridESO

Outline of the tender process (TR5)

The tender process was developed to be robust, fair and transparent to developers and bidders. It has been demonstrated and established through five Tender Rounds. This process for the most recent Tender Round, TR5, is set out below.

1. EPQ

For TR5, Ofgem ran a EPQ process similar to those in TR3 and TR4. This combined the Pre-qualification (PQ) and the Qualification to tender (QTT) stages that were undertaken for TR1-2. Ofgem set out the EPQ questionnaire, process and evaluation criteria in the EPQ document published at EPQ launch. The outcome of this stage was a shortlist of qualifying bidders who were invited to participate in the ITT Stage for the qualifying project. As there were 5 projects in TR5 with varying first power dates, Ofgem decided to split the EPQ phase into two groups; EPQ Group One and EPQ Group Two. EPQ Group One consisted of Dudgeon, Rampion and Race Bank, EPQ Group Two consisted of Walney Extension and Galloper.

2. ITT

The purpose of the ITT Stage was to identify a preferred bidder for each project. The ITT round was separate for each OFTO asset. At the ITT Stage, shortlisted qualifying bidders were granted access to the data room for the relevant qualifying project(s), which were populated predominantly with information provided by the developer. The data room included sufficient information relating to the qualifying project(s) to enable bidders to make an informed investment decision. This included information relating to contracts, leases, warranties, assets and liabilities, investment and operating plans, sea-bed surveys and evidence of compliance with all applicable legislation and regulations.

During the ITT Stage, Ofgem evaluated the tenders submitted by each shortlisted qualifying bidder for each qualifying project. It evaluated tenders against a set of evaluation criteria, which were published at the start of the ITT Stage. This included an evaluation of the financial and non-financial deliverability of each qualifying bidder's submission, including the tender revenue stream submitted by each qualifying bidder to compensate it for the cost of acquisition, financing and operation of the transmission assets over the 20-year revenue stream. The outcome of this stage was either the selection of a preferred bidder (and possibly also a reserve bidder) for each qualifying project, or a decision to run a BAFO stage.

3. BAFO (optional)

The purpose of the optional BAFO Stage was to determine a preferred bidder for a qualifying project. Ofgem set out the criteria for running a BAFO Stage in the ITT document. The outcome of this stage was the selection of a preferred bidder (and possibly also a reserve bidder) for the qualifying project. None of the OFTOs in TR5 required a BAFO round.

4. Preferred Bidder and OFTO licence grant

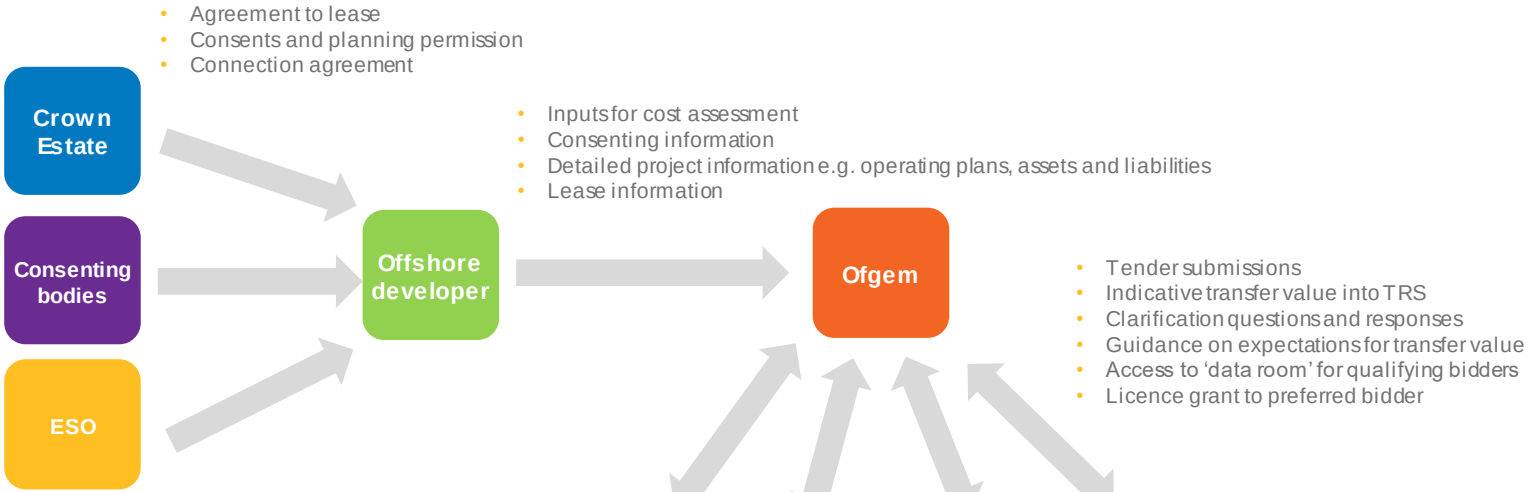
After the preferred bidder was selected, the preferred bidder and the relevant developer worked together to finalise arrangements for transfer of the transmission assets from the developer to the licenced OFTO. Ofgem expected that most of the issues arising during this stage would be resolved on a commercial basis between the preferred bidder, the developer and any other relevant parties. Once arrangements were finalised, there was a 28-day public consultation on the proposed modifications to the OFTO licence in order to incorporate the OFTO-specific provisions in the licence. Following the consultation (and a standstill period) the OFTO licence could be granted. Financial close usually occurred at the same time as the OFTO licence was granted and asset transfer took place on the same day or shortly after financial close. Licence grant and asset transfer does not occur until construction is completed.

Pre-licence roles and responsibilities

nationalgridESO

Pre-licence roles and responsibilities

The diagram below describes the relationship between the parties involved before the licence award.



The roles and responsibilities in the OFTO delivery model pre-licence award are characterised by a) the procurement process and b) the dependency of OFTOs on the developers e.g. detailed project information, transfer value and consents. Information from the latter is key to the development of bids and the award of preferred bidders. The three key entities in the pre-licence stage are the **developer, Ofgem** and the **bidders.**

nationalgridESO

Pre-licence roles and responsibilities

The table below outlines the roles and responsibilities of Ofgem, the developer and the bidders.

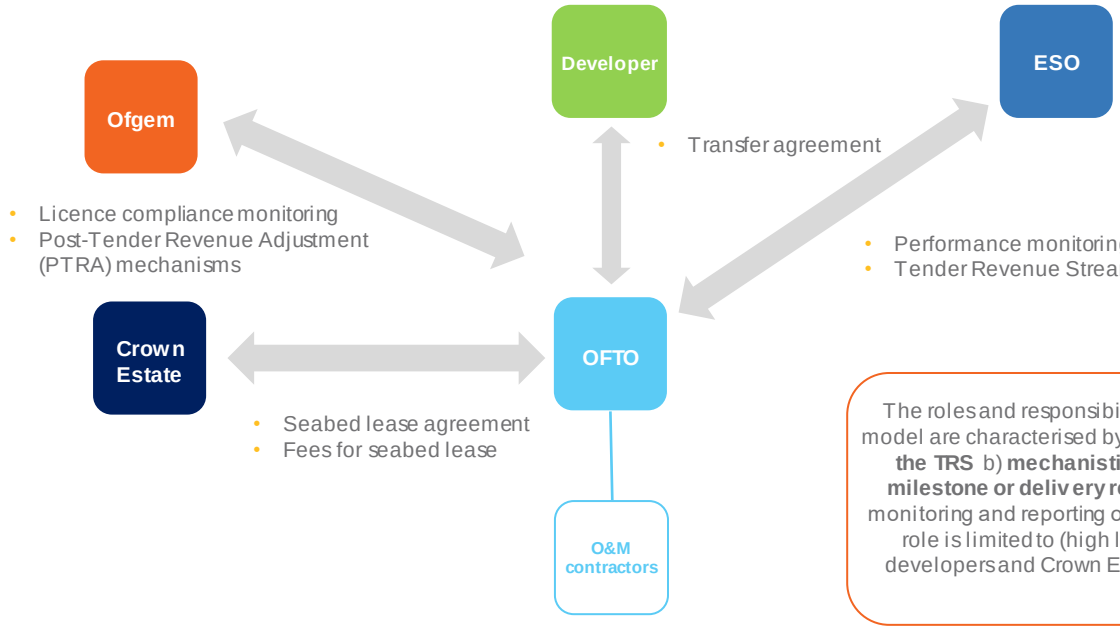
Areas of responsibilities	Ofgem	Developer	Bidders
Consent and construction	• Must make all consenting and detailed project information (e.g. detailed operating plans) available to bidders so that they can make informed investment decisions.	• Obtain all necessary consents and property rights for construction and operation and ensure that they are assignable to the OFTO • Complete construction of, or enter into all necessary contracts for the construction of the transmission assets and ensured that any such contracts are assignable to the OFTO.	• Review all relevant information in the 'data room' to make informed investment decisions. The due diligence is supported by specialist advisors.
Financing & transfer values	• Conduct a cost assessment exercise ahead of the ITT stage in order to provide an indicative transfer value, based on Ofgem's estimate of the economic and efficient costs incurred in developing and constructing the relevant transmission assets • Once construction is complete, conduct the final cost assessment of developing and constructing the TRs which form the basis of the determination of the final transfer value.	• Secure financing to construct the transmission assets and to fund all of the other relevant enabling works e.g. consenting, design etc • Provide sufficient cost estimates to Ofgem for the transfer value estimates.	• Incorporate the indicative transfer value into their ITT revenue stream bids as the transfer price for the transmission assets • For the preferred bidder make all the necessary arrangements for financial close the day following licence award.
Tender process	• Determine the projects that qualify for the tender round • Run competitive tender exercises in order to determine the entities to whom OFTO Licences will be granted for each qualifying project • Provide access for the appropriate bidders on the project information.	• Satisfy the qualifying project requirements • Ensure board approvals, meet deadlines set out by Ofgem and comply with the requirements of each stage of a tender exercise • Produce an individual transfer agreement for each project • Pay Ofgem for costs for running the tender exercise • Take all reasonable steps to facilitate the development and finalisation of the Transfer Agreement and effect asset transfer.	• Provide guidance on its expectations for the transfer agreement in the tender documentation published at EPQ and ITT stage. • Make submissions to Ofgem where and when required at each stage of a tender exercise • Responsible for its own costs of developing and submitting its Submission.

Post-licence roles and responsibilities

nationalgridESO

Post-licence roles and responsibilities

The diagram below describes the relationship between the key parties involved in the OFTO delivery model post-licence award and commissioning.



The roles and responsibilities post-licence under the OFTO delivery model are characterised by a) the **fixed nature of the OFTO contract to the TRS** b) **mechanistic availability based payments** c) **lack of milestone or delivery requirements**. The ESO plays a key role in monitoring and reporting on the OFTO and providing the TRS. Ofgem's role is limited to (high level) licence compliance monitoring. The developers and Crown Estate roles are limited to lease and transfer agreements.

nationalgridESO

Post-licence roles and responsibilities

The table below outlines the roles and responsibilities of Ofgem, OFTO and other key parties.

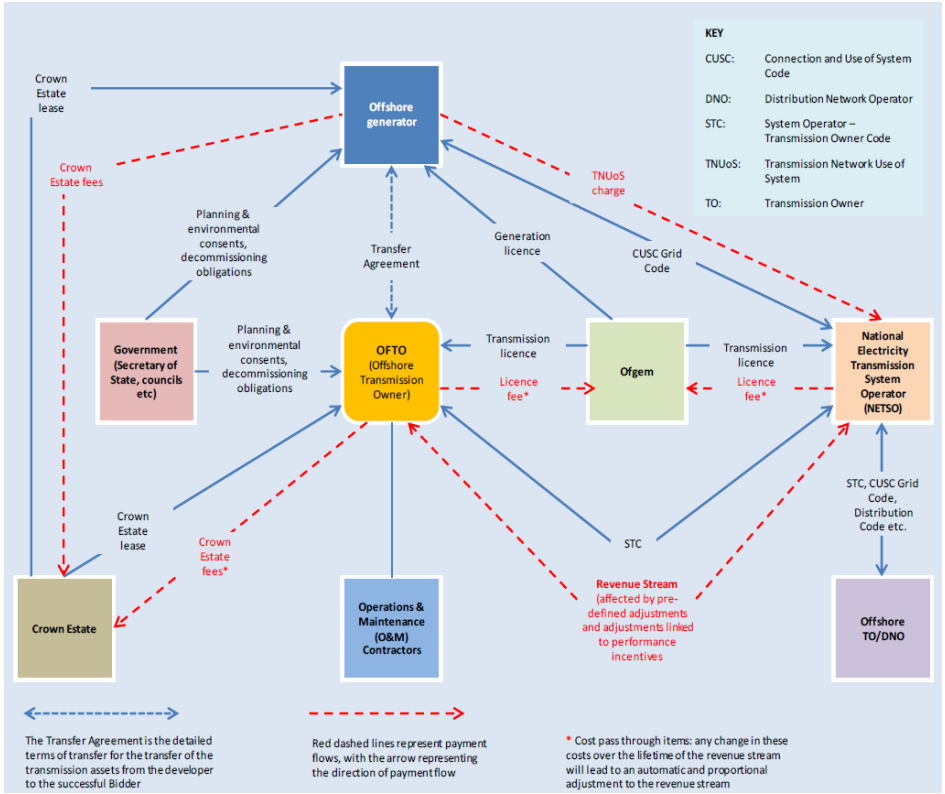
Areas of responsibility	Developer	Ofgem	OFTO	Crown Estate	ESO
Licenses and contracts	• Holds a transfer agreement with the OFTO • Licence to operate with Ofgem • Contract for Differences (CfD) managed by the Low Carbon Contracts Company.	• Monitor compliance of licensees with the provisions of the OFTO Licence • Counterparty to licence with OFTO, developer and ESO • Consult with stakeholders on material changes to approach • Revocation of licence.	• Own the transmission assets • Make the Successful Bidder payment to Ofgem • Pay Final Transfer Value to generator • Pay seabed lease fees to Crown Estate and transmission licence fees to NG ESO.	• Hold lease agreements with developers • Holds lease agreements with OFTOs.	• Holds a connection agreement with the OFTO • Holds licence through Ofgem.
Operation	• Operates the offshore windfarm during the contract period.	• Review claims for revenue adjustment e.g. Income Adjusting Event • Management of OFTO of last resort process.	• Ensure asset availability • Comply with STC (System Operator–Transmission Owner Code).	• Very limited responsibilities in terms of OFTO operations.	• Establish operational coordination arrangements for safety, availability and outage planning • Successful completion of dry run exercise.
Revenue	• 'Revenue stack' are made up of CfDs and merchant revenue • No revenue is paid directly from developer to OFTO (however Transmission Network Use of System charges (TNUoS) would cover most of TRS).	• Post-Tender Revenue Adjustment Mechanism if costs could not be assessed pre-tender • Market Rate Adjustment • Income Adjusting Event.	• TRS is paid from ESO • Adjustments to revenues are requested from Ofgem • Lease fees are paid directly to the Crown Estate.	• OFTOs pays lease fees to the Crown Estate.	• Payment of revenue stream to the OFTO • Availability monitoring and reporting.

Contractual structure

nationalgridESO

OFTO contractual structure

Overview of a typical OFTO commercial structure is set out below.



The OFTOs in this structure comprise the SPV along with its investors and funders.

While there is no requirement for the OFTO to be an SPV, traditionally the OFTO assets have been primarily delivered through project finance route with a separate SPV for each OFTO asset.

Source: Ofgem (2017), Preliminary Information Memorandum

nationalgridESO

OFTO contractual structure

The table below outlines the contractual structure of the OFTO regime.

Area	Contractual arrangements
Recovery of investment	• For each Tender Round, Ofgem not only provided access to the relevant regulatory materials such as the conditions of the OFTO Licence but has also published materials to support investors understanding of the overall package. See for example, the **Information Memorandum** that was issued at the start of each Tender Round, the illustrative OFTO revenue models for bidders, etc • In addition to framework materials, Ofgem published **guidance documents for each Tender Round** which summarise the manner in which potential investors access project specific information relevant to projects (such as the ITT document, access to a data room, etc.) • Both Ofgem and its consultants have also summarised the risk allocation package relevant to OFTOs as a part of several other publications. See Ofgem decision "Hinkley - Seabank: Decision on delivery model", CEPA report "Review of cost of capital ranges for new assets for Ofgem's Networks Division" and for a summary of this risk allocation package • The **OFTO regime is implemented through a mixture of legislative, regulatory (licence) and contractual provisions** • The Electricity Act 1989 required those engaged in the generation, transmission, distribution or supply of electricity to be licensed. The Energy Act 2004 granted the Secretary of State powers to put in place new regulatory arrangements for offshore electricity transmission. Under the Electricity Act, Ofgem granted a licence authorising a person to participate in the transmission of electricity, including offshore transmission and make regulations that enable it to determine on a competitive basis the entity to whom an OFTO Licence should be granted • Following consultation from October 2005, Ofgem concluded that the most **appropriate model was granting licences to build, own and operate point-to-point offshore transmission assets**. **Secondary legislation** was implemented and modifications were made to existing transmission licences and associated codes to implement the offshore transmission regime and **allow Ofgem to run the competitive TRs** for offshore transmission assets • Between 2009 and 2018 Ofgem has run six Tender Rounds, which have been governed by the Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations (the Tender Regulations). The Tender Regulations set out the TR process framework for the granting of an OFTO Licence, including how Ofgem ran a competitive TR process for generator build and OFTO build projects • The **Tender Regulations provided a transfer agreement by which transmission assets are to be transferred** from the developer to an OFTO (the Transfer Agreement). The Tender Regulations required a Transfer Agreement to be in the form of either an agreement for the transfer of property, rights and liabilities in respect of the transmission assets (**an asset sale**) or an agreement for the transfer of shares in an undertaking which holds the transmission assets (**a share sale**) • Once a successful bidder in a Tender Round has been awarded an OFTO Licence, the **conditions of the OFTO Licence govern the OFTO for the term of the OFTO Licence**.

OFTO contractual structure

Area	Contractual arrangements
Ascertain certainty of revenues	• The **TRS is paid to the OFTO** under its OFTO Licence and **the OFTO Licence sets out the calculation of the TRS amount** that is payable on an annual basis. However, the **TRS cost assessment is undertaken by Ofgem** during the relevant Tender Round (i.e. pre-OFTO Licence award) • The **OFTO revenue** model gives an illustrative example of how the special licence conditions, as set out in the Generic OFTO Special Licence Conditions document published by Ofgem, contribute in practice to determining OFTO revenue streams • The Tender Regulations require Ofgem to determine the **value of the transmission assets to be transferred to the OFTO**, by calculating the economic and efficient costs which ought to be incurred in connection with developing and constructing the transmission assets. In accordance with the Tender Regulations, Ofgem undertakes an assessment of the TRS and publishes this in a consultation, which is adjusted at licence grant to confirm a final TRS amount payable to the OFTO under its OFTO Licence • If it is not possible for Ofgem to finalise the assessment of costs in time for the licence award, **the PTRA** is used at the date of grant of the OFTO Licence to adjust the TRS (to date, Ofgem has finalised the assessment of costs for each OFTO prior to licence award).

Circumstances in which the regulator or another party can amend the revenues agreed upon or projected at financial close	• **The OFTO Licence includes a list of adjustment mechanisms that allow for amendment of the TRS** during the term of the OFTO Licence including:
	  ◦ Pass-through costs: the OFTO licence provides for revenue adjustments to reflect allowed costs that can be passed through to consumers as part of Allowed Transmission Owner Revenue
	  ◦ Market Rate Adjustment (MRA): the MRA in the OFTO licence accounts for the difference between the market rates assumed in the TRS and the market rates on the date that the licence comes into force (note that Ofgem determines this later date but it must be as soon as possible after the licence comes into force and no later than the relevant asset transfer date)
	  ◦ Income Adjusting Event (IAE): the IAE part of the allowed pass through items in the OFTO licence.
	• The OFTO Licence also has an indexation mechanic. The Base Transmission Revenue is comprised of the TRS, MRA and PTRA and each of the TRS, MRA and PTRA are adjusted for inflation wholly or partially in accordance with a biddable indexation constant that is determined during the Tender Round.

OFTO contractual structure

Area	Contractual arrangements
Appeal and enforcement rights	• Ofgem is required to act in accordance with its obligations set out in the Electricity Act and associated legislation, including the Tender Regulations. Any failure to act and/or act beyond the scope of its powers would be open to challenge, since Ofgem would not have the vires to perform such acts • If Ofgem wishes to make modifications to electricity licences it must follow the statutory requirements under the Electricity Act and associated legislation. **Any appeals are made to the Competition and Markets Authority (CMA)** • Ofgem is required by statute to act in accordance with legislative obligations, including those set out in the **Tender Regulations concerning calculation of the TRS and associated costs assessment** • If Ofgem sought to amend the OFTO Licence in respect of the TRS, it would be required to follow a statutory consultation in order to gather and then undertake a careful consideration of stakeholders' views. Any decision that did not follow the correct process would be open to challenge by stakeholders.
Gaps in the regime, in comparison	• While Ofgem is required to act in accordance with its statutory obligations, **the legislation does not include granular detail on every aspect of the OFTO regime**. As such, **Ofgem has a degree of discretion in exercising its powers under the Tender Regulations** • For example, the Tender Regulations set out the requirement for Ofgem to calculate, based on all relevant information available to it at that time, the economic and efficient costs which ought to be, or ought to have been, incurred in connection with developing and constructing the offshore transmission assets in respect of a qualifying project. The Tender Regulations do not stipulate how the Authority should calculate the economic and efficient costs of developing and constructing the offshore transmission assets • While Ofgem produces guidance documents and consults stakeholders on material changes to its approach (provided that Ofgem can demonstrate it has complied with legislative obligations and its own duties), Ofgem retains a degree of flexibility of control.

OFTO contractual structure

Area	Contractual arrangements

Force majeure	• **Force majeure protection under the OFTO Licence is afforded by way of the IAE mechanic**. Under the OFTO Licence, where the licensee considers (and can provide supporting evidence that) costs and/or expenses have been incurred or saved by an IAE, the licensee is required to give written notice of such IAE to Ofgem.
	• The scope of an Income Adjusting Event is limited to an event that is:
	  • Force majeure under the STC
	  • An amendment of the STC not allowed for when the Allowed Transmission Owner Revenue was determined for the Relevant Year; or
	  • Is considered and approved by the Authority to be an IAE.
	• The increase/decrease in costs and/or expenses is also limited by a "threshold amount" (determined on project basis for relevant Tender Rounds)
	• The OFTO licence sets out the procedure for an IAE claim, including how Ofgem determined if it considered that an IAE had occurred.

Abandonment of the project	• During a Tender Round, **the Tender Regulations provide an ability for withdrawal/exclusion**: A participant (being a bidder, qualifying bidder, preferred bidder, reserve bidder or successful bidder) may withdraw from a tender exercise by giving notice to Ofgem or is deemed to have withdrawn if it fails to comply with the TR processes • There is only limited scope under the Tender Regulations for a participant to be re-admitted to a Tender Round – a permitted change to the membership of a bidder group • The OFTO Licence sets out the specified circumstances when Ofgem may revoke an OFTO Licence, including when both parties agree, OFTO failure to comply with a final or provisional order, or to pay a financial penalty • Since if an OFTO were to fail there is a risk of the generator becoming stranded and being unable to export electricity to the onshore transmission network, Ofgem introduced the OFTO of Last Resort mechanism to mitigate this risk. The OFTO of Last Resort allows Ofgem to appoint an OFTO outside of the competitive tender process. However, the OFTO of Last Resort is the final step of a three step process (step one being proactive steps to prevent the need for further action; step two being Ofgem seeking to appoint an OFTO using various regulatory and statutory options).
Decommissioning	• **BEIS has set out guidance for decommissioning** of offshore renewable energy installations. Companies are expected to submit final draft decommissioning plans to BEIS no more than 6 months before the start of construction. The process includes a decommissioning notice by the Secretary of State, detailed discussions with BEIS, consultation with interested parties and formal submission of and approval of the decommissioning plan • OFTOs licence allows for a Decommissioning Cost Adjustment (DCA) for additional costs in respect of decommissioning and changes in legislative requirements.

OFTO contractual structure

Area	Contractual arrangements

Change in law	• There **is no general change in law mechanic in the OFTO Licence**. The result is that, apart from specified adjustment mechanics and identified pass through items, **change in law risk is an OFTO licensee risk.**
	• Protections that are included in the OFTO Licence are limited to:
	  • IAE – see above
	  • Allowed pass through items under the OFTO Licence. Revenue adjustments to reflect allowed costs that can be passed through to consumers as part of Allowed Transmission Owner Revenue in the OFTO Licence is limited to:
	  • Licence fee cost adjustment
	  • Network rates cost adjustment
	  • Crown Estate Lease cost adjustment
	  • Decommissioning cost adjustment
	  • Income Adjusting Event adjustment
	  • Temporary physical disconnection payment
	  • Tender fee cost adjustment
	  • Marine and Coastal Access Act 2009 cost adjustment
	  • Refinancing Gain Share.

Failure to pay revenue	• **Payments are made to the OFTO by the System Operator** (SO) • Under the OFTO Licence the licensee prepares statements, approved by Ofgem, setting out charges to be made by the licensee to the SO (for Transmission Owner Services, connection to the Licensee's Transmission System and Outage Changes) • While the GB electricity transmission system is owned and maintained by regional transmission companies, the system as a whole is operated by a single SO, National Grid Electricity System Operator (NG ESO) who is responsible for ensuring the stable and secure operation of the whole transmission system. Given the importance of the SO to the entire GB electricity network, and the natural monopoly of the SO function, the SO is one of the most highly regulated roles in GB (through legislation, licence conditions, regulatory codes, etc. Thus, **a failure to pay or to transfer funds to an OFTO by NG ESO performing its role as SO is considered a low risk.**

PFI/PF2

nationalgridESO

Background to PFI/PF2 precedent

Below we summarise the high-level end-to-end delivery model for the PFI/PF2 models.

The Private Finance 2 (PF2) model was the Government's successor to the Project Finance Initiative (PFI) for the delivery of infrastructure projects such as hospitals and schools through Public Private Partnerships (PPPs).

In the PFI/PF2 model, a special purpose vehicle (SPV) is awarded a contract by a public sector authority through a competitive tender process to design, build and operate an asset for a period of time.

The SPV is responsible for financing, building and operating the asset, including undertaking maintenance and capital replacement during the life of the contract.

It finances the project and leases it to the Government for an agreed period (typically between 20 and 30 years) after which the asset reverts to government ownership.

The SPV is owned by a number of private sector equity investors, and usually include construction company and a service provider as part of the supply chain to the SPV.

PFI/PF2 projects were envisaged to give the public sector access to private sector skills and capabilities and funding and access to a wide variety of private sources of finance. As a single supplier is responsible for the delivery and operation of the project, it was meant to ensure better consideration of whole-life costs.

The PF2 model was introduced to replace the PFI model with greater levels of efficiency, flexibility and transparency. However, since 2018, the Government no longer use PF2 for its new projects.

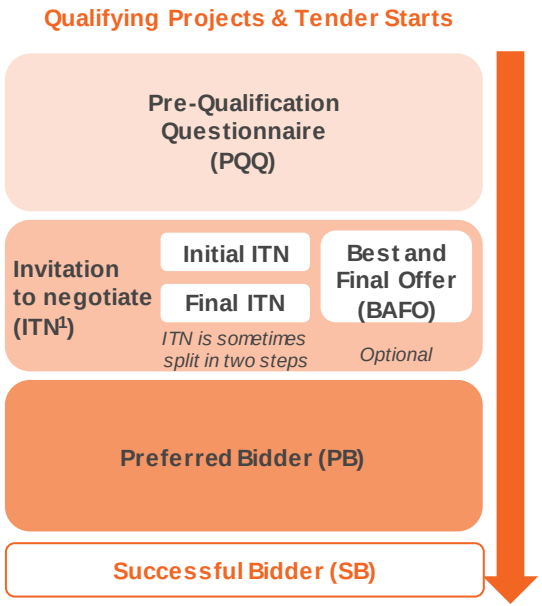
As of January 2018, there are over 700 operational PFI and PF2 deals, with a capital value of around £60 billion. Annual charges for these deals amounted to £10.3 billion in 2016-17.

Outline of the tender process

nationalgridESO

Outline of the tender process

The figure below provides an high-level overview of the PFI/PF2 tender process from PQQ to the selection of the successful bidder.



- For PFI, the average procurement time (tender to financial close) was 35 months[2]
- The competitive tendering timescale is capped at 18 months for PF2 to encourage efficiency.

- The output of the PQQ is a shortlist of qualifying bidders who will be invited to participate in the ITN stage
- The PQQ stage aims to assess bidders' capacity, technical or professional ability and financial and economic standing in order to establish whether any should be excluded from further consideration because they fail to meet the procurement authority's requirements.

- At the ITN stage, bidders produce detailed solutions based on full project specifications
- This stage is sometimes split into two tendering rounds: a preliminary ITN and a final ITN
- The purpose of the ITT stage is to identify a Preferred Bidder. If required, selection of the PB can be done through a BAFO stage.

- Ahead of financial close and signing of the contracts, negotiations take place between the Preferred Bidder and the procuring authority on many aspects of the deal, such as finalising the detailed design, obtaining planning approvals, land and property, employment, pensions and energy issues
- This stage include funders' due diligence, finalisation of contract documents and compliance with any planning conditions leading to the financial close.

[1] The ITN stage is similar to the ITT stage in other procurements models. The decision to use ITT or ITN depends on the type of procurement route selected by the authority.
[2] HMT (2012), A new approach to public private partnerships

nationalgridESO

Outline of the tender process

The tender process takes place after the scope of the project has been defined and the approval of the business case (both Strategic Outline Case (SOC) and Outline Business Case (OBC)) has been secured. From the early stages of the process, bidders must dedicate significant resources as a high level of detail is expected from bids.

1. Preparation for procurement

The procuring authority for example, a Local Authority, defines the scope of the project and builds the SOC which is approved by Her Majesty's Treasury (HMT) (through the sponsoring department). The procuring authority then builds the OBC which is approved by the relevant department and HMT.

2. PQQ

The PQQ will be used to shortlist bidders with respect to their technical capability and capacity, financial and economic strength in order to determine their ability to deliver the project. The main objectives of the PQQ evaluation process are to:

- Review and assess bidders' capacity, technical or professional ability, financial and economic standing;
- Establish whether any bidders should be excluded from further consideration because they fail to meet the procurement authority's requirements; and
- Identify a shortlist of bidders for the ITN stage. Analysis of PFI projects closing in April 2004 -May 2006 suggest that most projects received only two bids at ITN because of insufficient bidder interest[1].

The PQQ sets out the framework, process, criteria and weightings to be used in evaluating the responses for the project. Typically 3 to 5 bidders are taken to the ITN stage.

3. ITN

The shortlisted bidders are allowed to progress to the ITN, which includes the output specification, payment mechanism (including performance standards) and model contract. The purpose of the ITN stage is to identify a preferred bidder for the project. It is equivalent to the Invitation to tender (ITT) stage, which is an alternative procurement route. The ITN sets out requirements in more detail and the corresponding evaluation criteria, and bidders are invited to substantially develop their bids. The outcome of this stage will either be selection of a preferred bidder or a decision to run a BAFO stage.

4. BAFO (optional)

After the bids submitted in response to the ITN, two bidders may be invited to submit a Best and Final Offer when they normally have a tied score in the evaluation, or this stage may be omitted if the ITN bids allow the choice of a preferred bidder. The BAFO stage involves supplementary submissions and clarifications with refined key commercial and financial terms. The outcome of this stage will be selection of a preferred bidder from the shortlist to carry out exclusive negotiations with the Local Authority.

5. Preferred Bidder and contract grant

The preferred bidder is appointed, normally along with a reserve bidder. The negotiations with the preferred bidder are not supposed to result in major changes to the project, yet in a number of cases this may have happened. These issues include matters such as finalising the detailed design, obtaining planning approvals, land and property issues, employment, pensions and energy issues. For instance, the preferred bidder's design for the development of the Royal London Hospital in 2006 required modifications and subsequent negotiations with planning authorities caused a delay of ten months[1]. When the terms of the contract are clear, the Final Business Case (FBC) is prepared by the preferred bidder for approval by the relevant department and HMT, which is required ahead of the financial close.

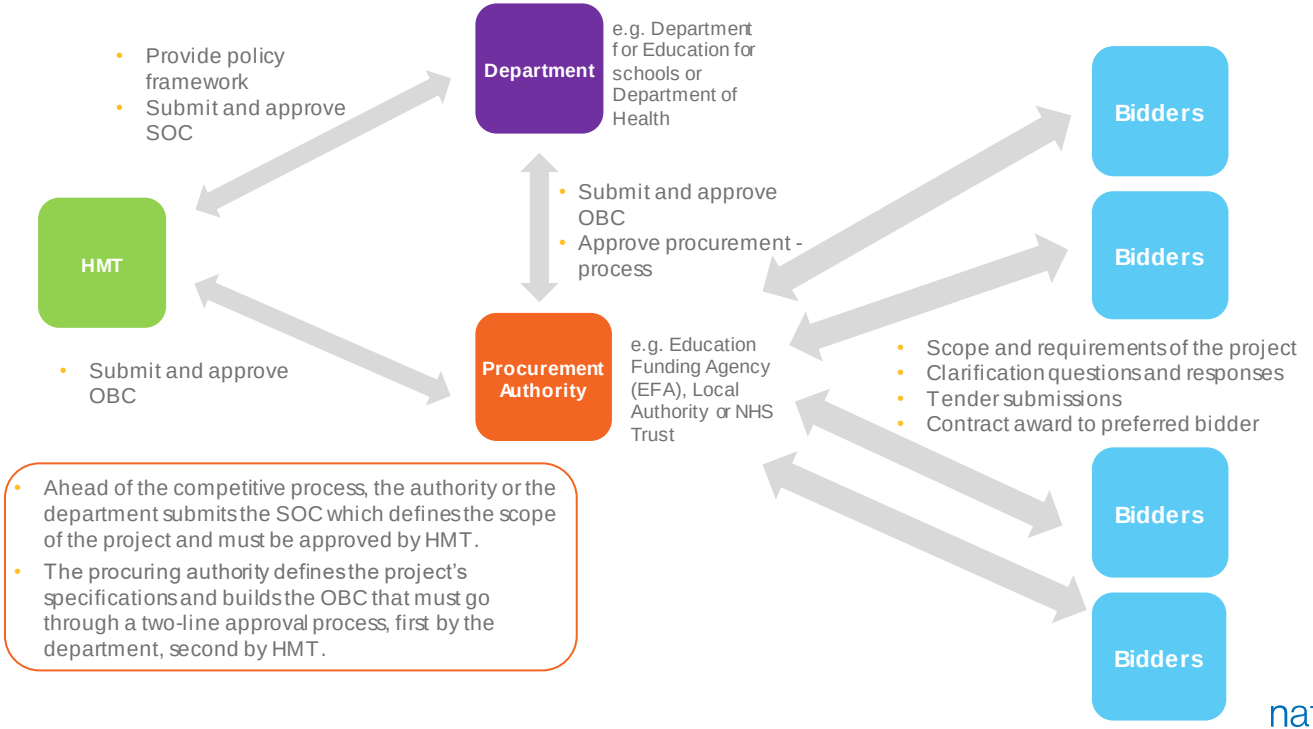
[1] NAO (2007), Improving the PFI tendering process,

Pre-contract roles and responsibilities

nationalgridESO

Pre-contract roles and responsibilities

The diagram below describes the relationship between the parties involved before the contract award signing. This structure applies to typical availability based project such as schools or hospitals.



nationalgridESO

Pre-licence roles and responsibilities

The table below outlines the roles and responsibilities of key stakeholders.

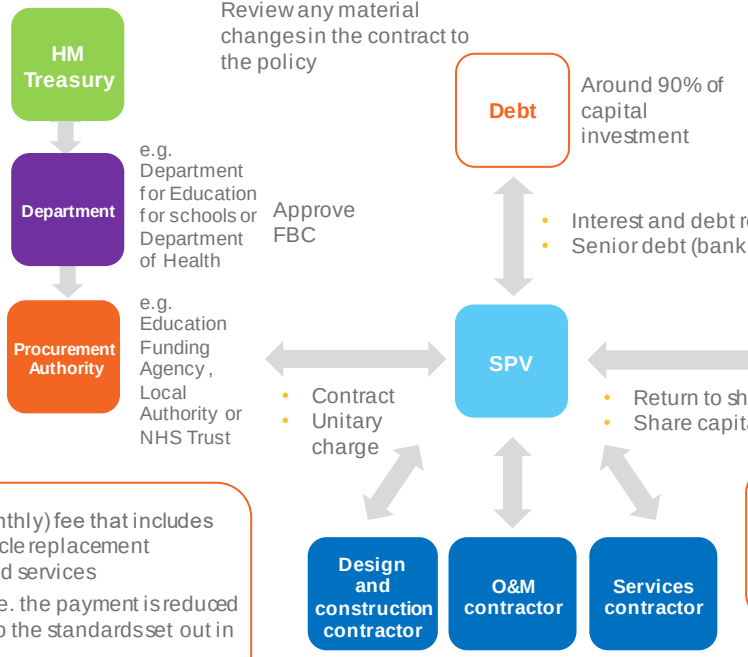
Areas of responsibilities	HMT	Department (e.g. Department for Education)	Procurement authority	Bidders
Project scope	• Provide policy framework as an initiative • Approval of SOC at the initiation state of the project and approval of OBC before Official Journal of the European Union (OJEU) notice.	• Develop and approve SOC that sets out the project's scope (along with the Local Authority if applicable) • First-step approval of OBC.	• Develop (SOC and) OBC that sets out the project's specifications • Clearly define the range of services which need to be provided through the contract • Define the output requirements and any constraints within which the output requirements must be achieved.	• Support in market engagement events by the procurement authority.
Contract	• Issue contractual principles for the contractual arrangements • Approve any significant changes to the contract terms which are not project specific.	• Support in adaptation of the contractual principles for the asset class • Evaluate material changes to the contract terms.	• Prepare contract documents, and risk allocation • Review the bidders' proposals for achieving the outputs in terms of approach, methods, resources, timetable, management and organisation (including design, maintenance and operational procedures and method statements) • Negotiate all contractual terms with the preferred bidder.	• Negotiate all contractual terms with the procurement authority • Work with the lenders to complete due diligence as required.
Tender process	• No role in the tender process.	• Provide any tender process guidelines. • Approve the procurement process.	• Run competitive tender exercise in order to determine the entity to whom the contract will be granted • Provide access for the appropriate bidders on the project information.	• Produce detailed solutions based on project specifications • Make submissions to the procurement authority where and when required at each stage of a Tender Exercise.

Post-contract roles and responsibilities

nationalgridESO

Post-contract roles and responsibilities

The diagram below describes the relationship between the key parties involved in the PFI/PF2 delivery model post-contract award and commissioning. This structure applies to typical availability based project such as schools or hospitals.



- The FBC has a two-tier approval process, first by the department, second by HMT.

- Once the asset is built and available for use, unitary charge payments are made to the SPV over the life of the contract, typically 20 to 30 years
- At the end of the contract period the asset transfers back to the procurement authority at nil value.

- The "unitary charge" is a (monthly) fee that includes construction, financing, lifecycle replacement expenditure, maintenance and services
- It is subject to performance i.e. the payment is reduced if services are not delivered to the standards set out in the contract.

- The SPV will contract with construction and facilities management firms and other suppliers. It will use the private finance raised to pay for construction. The main construction contractor may be part of initial equity investor's corporate group.

nationalgridESO

Post-control roles and responsibilities

The table below outlines the roles and responsibilities of the stakeholders.

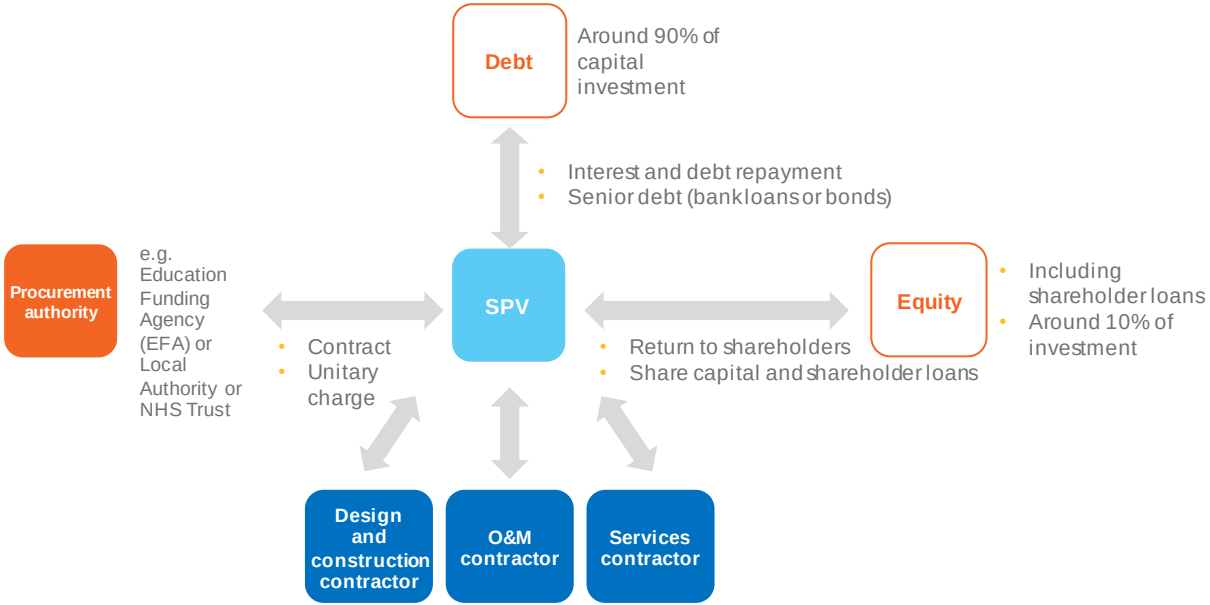
Areas of responsibility	HMT	Department	Procurement Authority	SPV	Contractors
Contract	• Provide a pro-forma Change Protocol as a framework for amendments to the contract.	• Review of the change requests forwarded by the Procurement Authority.	• Hold the contract with the SPV.	• Counterparty to contract with the Procurement Authority • Hold contract with contractors.	• Counterparties to contracts with SPV.
Design and construction	• Second step approval of the FBC. This technically happens just before financial close • Review contract progress and Value for Money (VfM) (along with National Audit Office).	• First step approval of the FBC (just before financial close) • Review contract progress and VfM.	• Submit FBC on contract negotiation. • Review design quality and feedback to the SPV • Responsible for monitoring the delivery of the asset and services.	• Responsible for the design development • Carry out its construction or development obligations and puts in place the operational procedures which it believes will meet the Service requirement.	• Design and construction contractor to build the asset to specifications.
Operation	• No role in operation other than monitoring VfM.	• Ongoing monitor of the programme and VfM.	• Provide 'soft' services e.g. catering, cleaning and security (if not part of contract) • Review of the quality management system of the SPV with certain planned and random spot checks (with an ability to increase monitoring on repeated failure or poor performance) in line with the contract.	• Responsible for the asset operation during the contract period • Ensure asset availability • Systematic monitoring through a quality management system measuring availability and performance.	• O&M contractor of facility management contractor to operate the asset to performance requirements.
Payment	• Set out the budget to the department which provides funds to the procurement authority to pay the SPV.	• Allocate funds to the procurement authority to pay the SPV.	• Payment of the 'unitary charge' to the SPV on a monthly basis • Approve any refinancing (including any gain share).	• Receive the unitary charge payment from the procurement authority • Responsible for the payment of the contractors • Recommend any refinancing (which may also be initiated by the Authority).	• Receive payment by the SPV from the unitary charge payment • Contractors' exposure to deductions in limited to receiving zero payment from the SPV.

Contractual structure

nationalgridESO

PFI/PF2 contractual structure

Overview of a typical PFI/PF2 commercial structure is set out below.



The PFI/PF2 contract is structured around the relationships between:

- **the SPV and the procurement authority**
- **the SPV and its contractors; and**
- **The SPV and its lenders.**

nationalgridESO

PFI/PF2 contractual structure

The table below outlines the contractual structure of the PFI/PF2 models.

Area	Contractual arrangements
Duration	• The contract must specify its duration, with a service commencement date and a service period. The service period terminates on the earlier of the expiry date and the termination date.
Land, equipment and property interests	• In most PF2 projects involving buildings, the authority owns the land and grants a licence or lease to the SPV • The authority must ensure that it conducts due diligence over its property rights early in the procurement process to ensurethat the Project will not be jeopardised during the procurement due to a late discovery of a problem relating to the nature of the Authority's interest in the property.
Financing of projects	• Private Finance projects are typically highly leveraged (debt is normally around 90% of the total capital) • Larger projects likely to need to find (newer) alternative sources of finance, including having recourse to the capital markets • To secure finance from institutional investors, a project requires a credit enhancement in order to achieve an investment grade rating and injecting higher levels of equity into a project will help achieve this • Private capital comes at a higher cost. This can be mitigated however by the public sector injecting equity alongside the private sector. Public sector capital contributions has restrictions however including concerns on risk allocations • Some institutional investors are only interested in investing in projects post construction, for example pension funds.
Change in ownership	The procuring authority may seek to impose restrictions on the ability of shareholders to transfer their shareholdings in the SPV. Shareholders usually object to such restrictions other than restrictions on transfers of equity prior to the end of the defects liability period (at the end of the construction phase). As a general rule, the only restrictions to the transferability of equity should be: • on particular classes of shareholder being involved in the project for particular reasons • on the level of transparency required by the procuring authority over the ownership of the SPV and the transfers of ownership interests and price of shares sold.

PFI/PF2 contractual structure

Area	Contractual arrangements
Services	The procuring authority must consider carefully, at an early stage in their procurement planning, the range of services which need to be provided through the contract. There are three categories of services: • "Services" are provided by the SPV. • "Authority services" are retained by the procuring authority and performed by itself or its own sub-contractors. These may include soft services (such as cleaning, catering, security) together with the ongoing replacement of furniture and loose equipment and are excluded from the Contract, except in exceptional circumstances (such as in the prisons sector) where these services are integral to the delivery of the project and better value for money can be demonstrated by transferring them. • "Elective Services" are individually priced by the bidder and the procuring authority may choose to transfer them (at the pre-agreed price).
Flexibility and change	• The service requirements set out in the contract take into account the procurement authority's long-term (and not just its current) requirements, anticipating any changes in service that can reasonably be foreseen. • An appropriate amount of flexibility should be designed into the initial bid solution to cope with anticipated changes, and a well-developed change mechanism put in place in the contract to cope with the residual unanticipated changes to the service over the length of the contract period.

Supervening events	• There may be circumstances in which the SPV should fairly be relieved from liability for failure to commence or provide the service. A balance must be struck between encouraging the Contractor to manage the risk and protecting the Authority from non–performance.
	• Supervening events for which some relief is appropriate are divided into three categories:
	  • Compensation Events which are clearly at the procurement authority's risk and in respect of which the SPV should be compensated
	  • Relief Events which are best managed by the SPV (although not necessarily in its control) and for which the SPV bears the financial risk, but in respect of which no rights of termination should arise
	  • Force Majeure Events which include a limited set of events which arise through no fault of either party, which are best managed by the SPV (although not in its control) and in respect of which rights of termination can arise.
	• Certain events may be dealt with differently in specific projects, depending on the nature of the project, the likelihood of the event occurring and the value for money obtainable if the SPV prices the risk of such event occurring into its price. Given the effect on the procuring authority of adding risks to compensation events, this should only be done after careful consideration in specific cases.

PFI/PF2 contractual structure

Area	Contractual arrangements

Dispute	• The Contract must specify a procedure for handling disputes under the terms of the Contract.
	• As going through the courts may not be appropriate for the disputes that can arise under the contract, an alternative formal dispute resolution procedure may offer a more efficient and cost–effective method of resolving disputes
	• A common form of dispute resolution involves a three stage process as follows:
	  • The procuring authority and SPV consult with each other for a fixed time period (possibly involving different levels of internal consultation) in an attempt to come to a mutually satisfactory agreement
	  • If consultation fails, the parties may then (except in the case of certain types of dispute) put their case before an expert to decide. The expert is appointed from a panel (e.g. of construction or operation experts) whose appointment is regulated by the Contract. It may be appropriate in certain circumstances to substitute other forms of alternative dispute resolution for this type of expert determination. Disputes relating to the mechanics of price variations may go to a financial expert agreed between the parties at the time and if either party is dissatisfied with the expert's decision, it may refer the matter either to arbitration or to the courts for a final and binding decision. The method of appointing the arbitrator should be set out in the contract.
	• It is often proposed that a fast–track dispute resolution process is included in the contract to deal with certain pressing issues.

TTT

nationalgridESO

Background to TTT precedent

Below we summarise the high-level end-to-end delivery model for Thames Tideway Tunnel (TTT).

The TTT project is to upgrade the London sewer network to reduce the incidence of the overflow of untreated sewage mixed with rainwater into the tidal river Thames and to comply with legal requirements.

TTT was vital to London's future and a priority for the Her Majesty's Government (HMG) and Ofwat. The sewers which were built by Sir Joseph Bazalgette in the 1860s still form the backbone of London's sewerage system today. They were simply running out of capacity. A solution was urgently needed to help address an unacceptable and growing problem: tens of millions of tonnes a year of sewage spills into the river, harming wildlife, making it unhealthy for river users, tarnishing London's reputation and ultimately constraining its growth.

TTT was a major UK infrastructure project with an estimated cost of £4.2bn (in 2011 prices). It will modernise London's sewer age system, delivering environmental and economic benefits to the UK's capital for generations. The project being built from three main construction shaft sites in Fulham, Battersea and Southwark is expected to take seven years to build and involve the use of 24 construction sites. The main construction work will start in 2016 and complete in 2023, with system testing and acceptance expected to run until 2027.

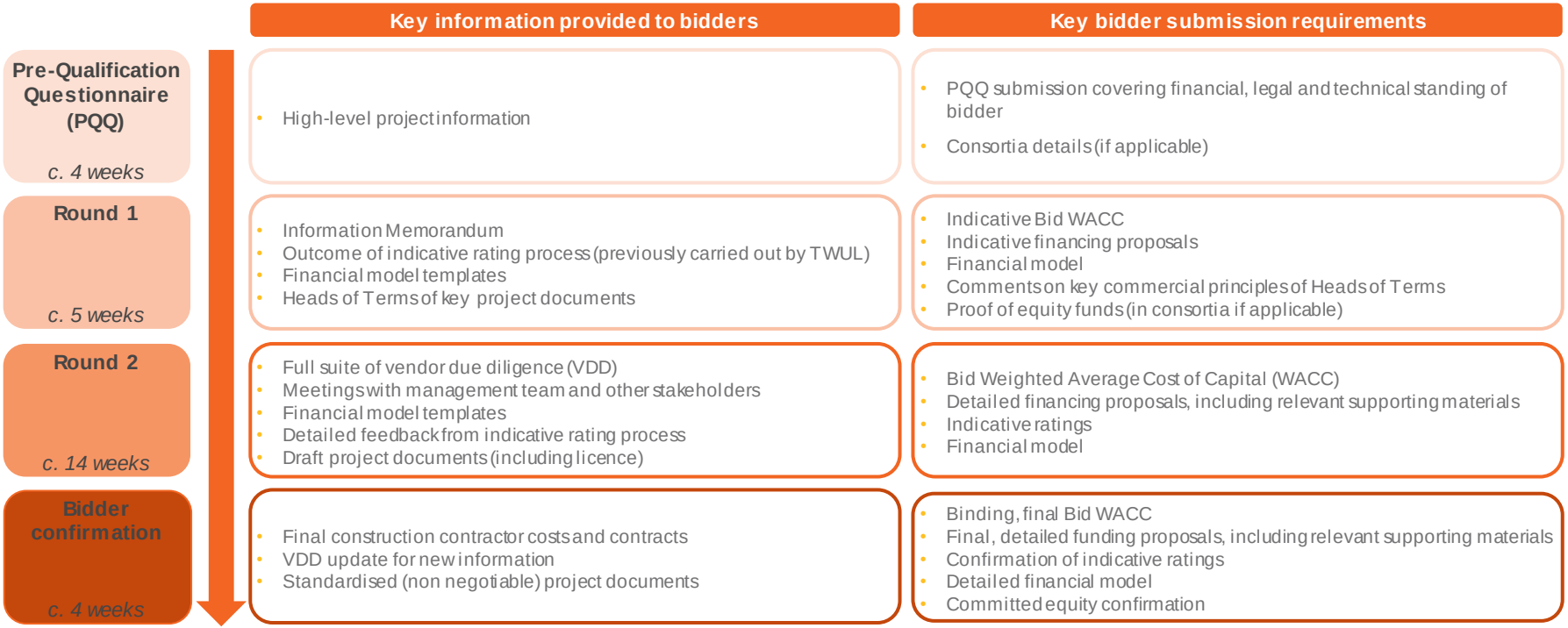
The project is financed by private sector investors and benefits from an enhanced regulatory framework and HMG support. In 2011, Thames Water (TWUL), the HMG and Ofwat began work on their preferred option to deliver the project through a new regulated business, dedicated to the implementation of the project. A specially created infrastructure provider (IP) received its own project licence from Ofwat. To enable the IP to raise the finance it needs and to successfully implement the project, Ofwat agreed in principle a number of specific adaptations to the standard regulatory regime. Furthermore, in respect of the exceptional risks inherent in executing a project of this nature, the HMG agreed in principle to provide contingent financial support to the IP under a Government Support Package (GSP).

Outline of the tender process

nationalgridESO

Outline of the tender process

The figure below provides an high-level overview of TTT tender process and the indicative procurement timetable.



nationalgridESO

Outline of the tender process

TWUL will have sole legal responsibility for the procurement of the IP. HMG and Ofwat will have visibility over the procurement process and have agreed the evaluation criteria on which the IP will be selected. Throughout the process bids will be evaluated in 4 key areas, as set out below. The specifics of the evaluation criteria will be clear, objective and published in advance.

Cost

- A key objective of the process is to deliver the lowest cost to customers
- Cost will therefore be the primary component of evaluation and will be measured through the Bid WACC in the construction / acceptance period (which will be bid by potential investors).

Financial deliverability

- Bidders will be required to demonstrate that their financing plan is robust and deliverable
- Financial deliverability is considered to be an absolute requirement and will not be used to rank bids but will be assessed on a pass / fail basis
- Certain elements of deliverability will be mandatory, such as a minimum level of equity investment up front, a minimum credit rating as per the project licence from Ofwat and a cap on net debt / regulatory capital value (RCV)
- Given these requirements, bidders may not require fully committed debt funding.

Legal/Commercial

- Bidders will be given the opportunity to review and comment on key transaction documents early in the process
- Extent of comments will be subject to evaluation at bid submission.

Technical

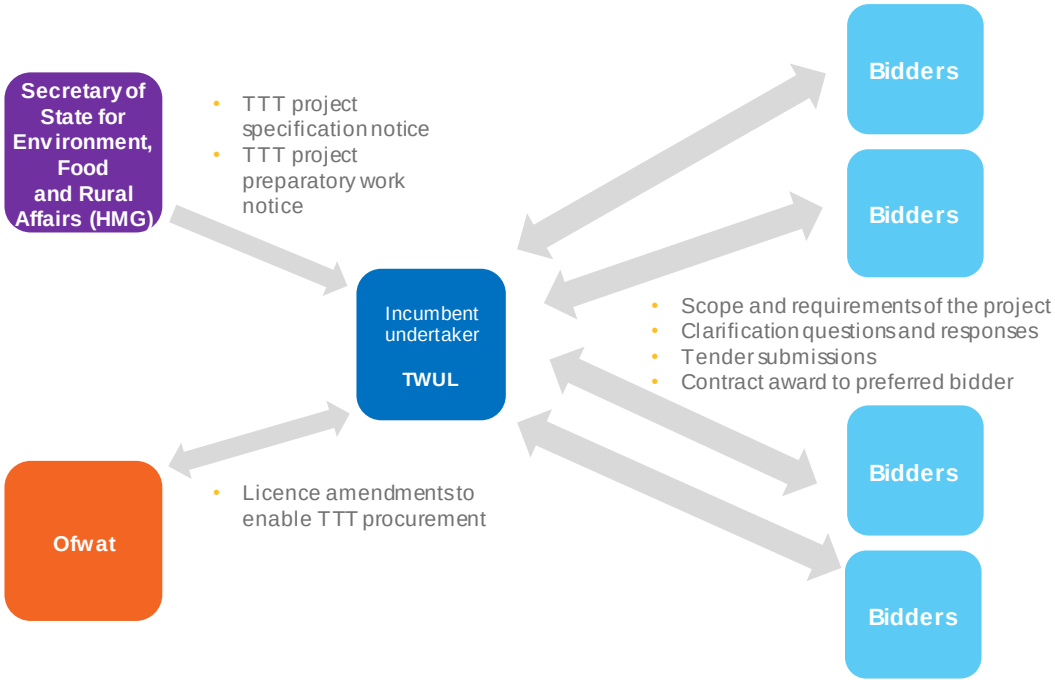
- Experience, track record and relevant management expertise will be assessed at PQQ stage (with re-test for any consortia changing its membership post PQQ stage)
- Structure of main works procurement and transition plan (incl. creation of independent project team) is such that bidders will not be assessed from a technical perspective beyond PQQ.

Pre-contract roles and responsibilities

nationalgridESO

Pre-licence roles and responsibilities

The diagram below describes the relationship between the parties involved before the contract award signing.



nationalgridESO

Pre-licence roles and responsibilities

The table below outlines the roles and responsibilities of key stakeholders.

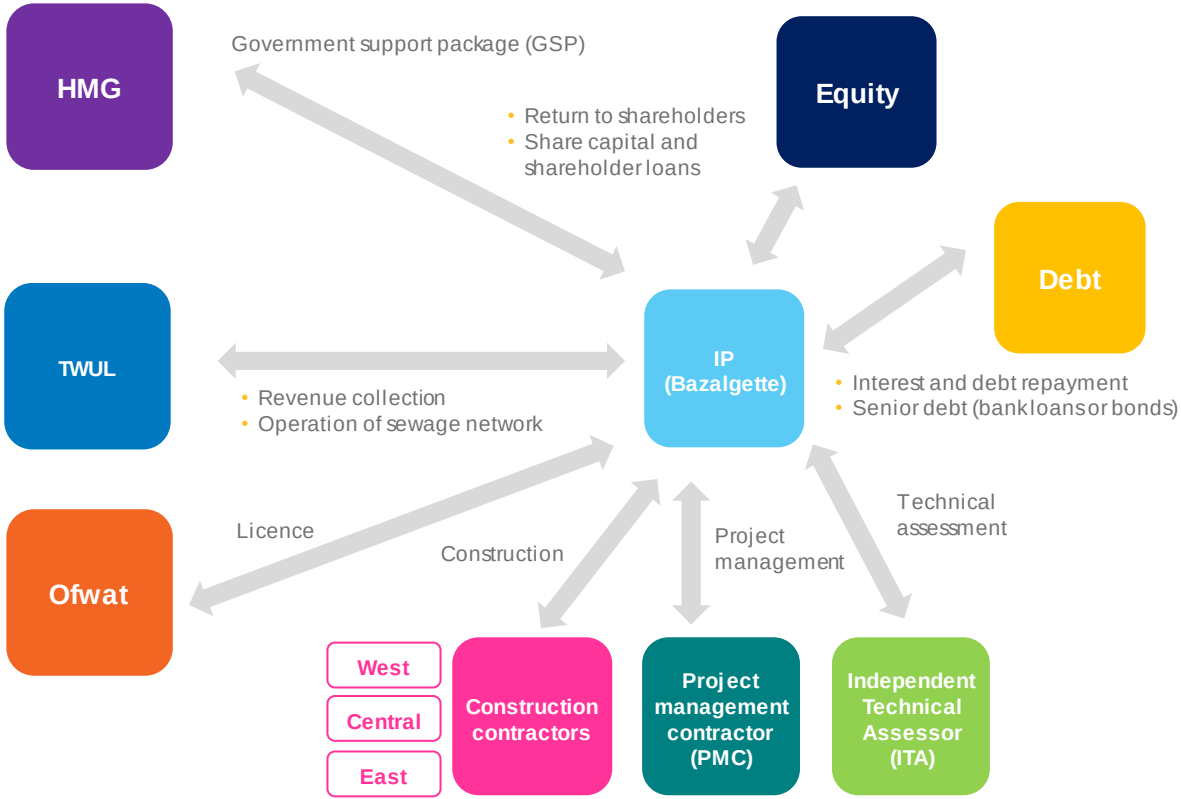
Areas of responsibilities	HMG	Ofwat	TWUL	Bidders
Project scope and preliminary works	• Responsible for the specification of the project under the Specified Infrastructure Projects Regulations (SIPR).	• No role in scope and preliminary works, except for enabling TWUL to undertake procurement and preliminary works under its licence	• Develop the Development Consent Order (DCO) application • Conduct a land acquisition programme • Carry out surveys and investigations, including environmental surveys, ground condition surveys, desk top surveys of any heritage and archaeological sites along the proposed tunnels route and build mitigation strategies, surveys in respect of third party assets needing to be diverted along the proposed Tunnels route, site investigations and monitoring activities • Procure the installation of infrastructure to enable the supply of power to the project • Undertake diversions and protection of utilities and services e.g. communication and gas.	• No role in scope and preliminary works.
Tender process and contract procurement	• Issue the project specification notice and the project preparatory work notice.	• Designate the IP pursuant to the SIPR • Grant the project licence to the IP.	• Run competitive tender exercise in order to designate the infrastructure provider for the project (including negotiations with Bidders and evaluation of the bids).	• Produce detailed solutions based on project specifications • Make submissions to the procurement authority where and when required at each stage of a Tender Exercise, including the WACC earned by the IP on its RCV during the construction period.

Post-contract roles and responsibilities

nationalgridESO

Post-licence roles and responsibilities

The diagram below describes the relationship between the key parties involved in TTT delivery model post-licence.



nationalgridESO

Post-licence roles and responsibilities

The table below outlines the roles and responsibilities of the stakeholders.

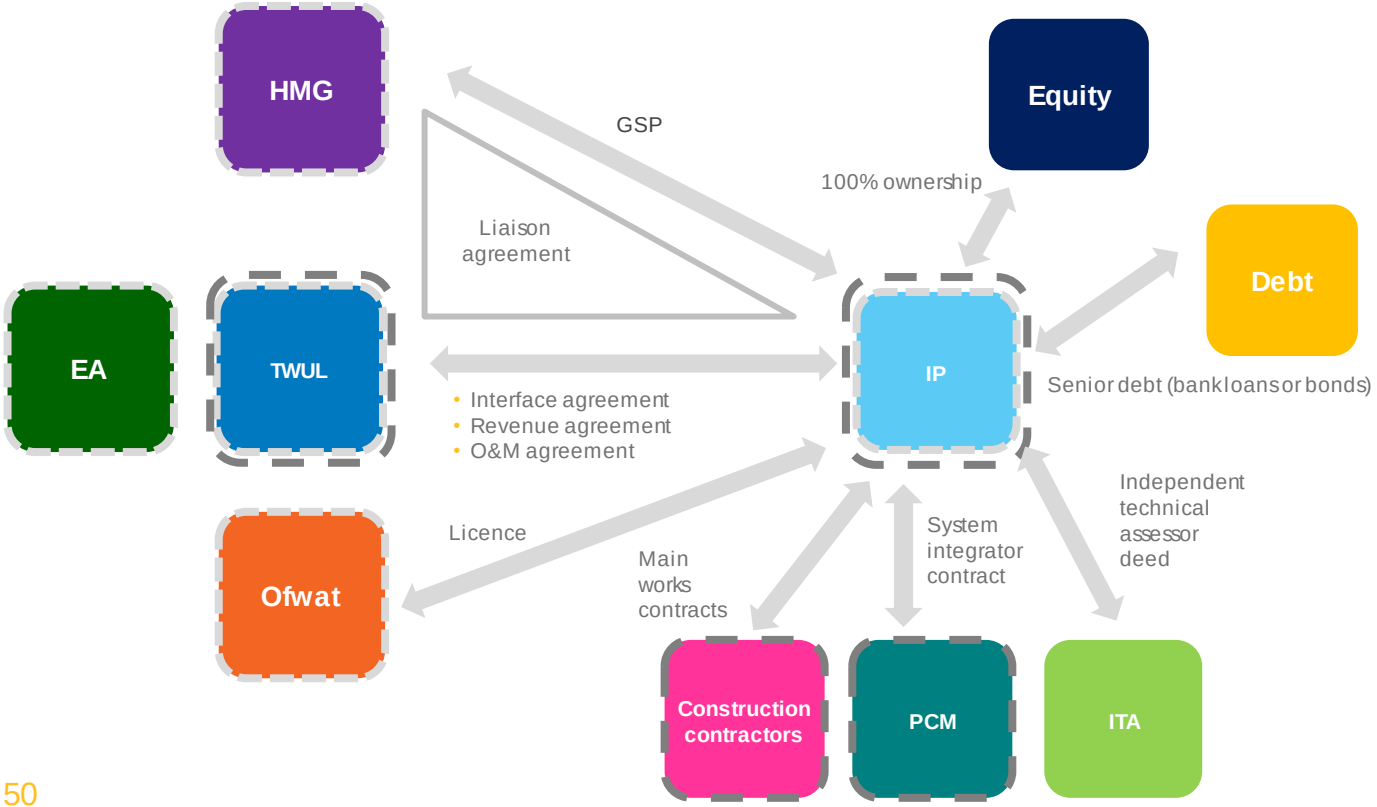
Areas of responsibility	HMG	Ofwat	TWUL	IP	ITA	PMC	Construction contractors
Licence and contracts	• Enter a series of contracts with the IP known as the GSP.	• Hold the licence with IP • Monitor compliance of the IP with the provisions of the licence.	• Transfer the ITA and construction contracts to the IP.	• Enter into contracts with the ITA construction contractors procured by TWUL on its behalf pre-licence.	• Enter into contract with the IP.	• Enter into contract with the IP.	• Enter into contracts with the IP.
Design and construction	• As part of the liaison committee, oversee the project's progress including the mechanism for dealing with any predicted cost overruns.	• As part of the liaison committee, oversee the project's progress including the mechanism for dealing with any predicted cost overruns.	• Transfer or novate any contract for the provision of a power supply and associated substations to the IP • Accept the project.	• Responsible for the design and construction, pursuant to the contracts procured by TWUL • Report regularly to Ofwat on its costs and its progress • Engage and manage the PMC directly • Reach acceptance under the interface agreement by the longstop date.	• Verify the IP's expenditure • Report to the liaison committee on the engineering aspects of the construction.	• Provide services, execute and complete works and assist the IP in developing solutions in relation to the design and construction of the project through the contractual framework set out in the programme management services agreement.	• Responsible for the project's construction.
Operation	• No role in operation (GSP is only during construction).	• Ongoing role as the economic regulator of the IP.	• Undertake operation of the overall sewer network system.	• Own and operate the tunnels and shafts once constructed • Responsible for the operation and maintenance of the infrastructure.	• No role in operation.	• No role in operation.	• No role in operation.
Financing and payment	• Provide contingent financial support to the IP under the GSP until operations start.	• Following acceptance, apply the incentivisation mechanism, confirm the RCV and conduct a regulatory price determination to set the operational WACC.	• Collect the IP's revenues and pass them through to the IP on a pay when paid basis.	• Finance the project, based on the revenue stream • Receive its revenue from TWUL • Responsible for the payment of its contractors.	• Receive payment by the IP from its revenue.	• Receive payment by the IP from its revenue.	• Receive payment by the IP from its revenue.

Contractual structure

nationalgridESO

TTT contractual structure

Overview of TTT commercial structure is set out below.



Alliance participants

Members of liaison committee

nationalgridESO

TTT contractual structure

The table below outlines the main documents that support the project and their description.

Document	Description

Licence	The regulatory licence sets out:
	• the **IP's principal regulatory duty to design, construct, finance, test, commission, own, operate and maintain TTT**
	• the **IP's obligation to achieve acceptance under the interface agreement by the longstop date** (18 months after the scheduled acceptance date)
	• the **methodology for determining the IP's allowed revenue** during the construction phase and at the post construction review for the initial operations phase
	• the **Bid WACC** of 2.497% bid by the IP's equity investors for the period up to 31 March 2030
	• a **regulatory incentives and disincentive regime** in relation to **overall cost and annual spend profile** by reference to the annual base case forecast and delay beyond the scheduled acceptance date (applied at the post construction review)
	• **restrictions on the IP's ability to amend the contractual incentives and disincentive regime** in the alliance agreement (or the terms of the revenue agreement)
	• the **regime for periodic reviews** (the first of which is scheduled to take effect from 1 April 2030, unless TTT is delayed beyond January 2029) during the subsequent operations phase to determine the WACC and whether the IP's allowed revenue should be changed
	• a **process** in line with "standard" water utility licences for the IP to request after the post construction review and for Ofwat to make **interim determinations for changes** to the allowed revenue for notified items, relevant changes of circumstance (including change in law) or circumstances that have a substantial adverse effect on the IP's licensed business
	• the **role of Ofwat as determiner of any mandatory variation dispute** under the operation and maintenance agreement and/or the liaison agreement.
	• provisions in line with "standard" water utility licences dealing with:
	  • the submission to Ofwat and/or publication of information and regulatory accounts
	  • regulatory ring fencing
	  • disposal of protected land
	  • payment of Ofwat and Competition and Markets Authority (CMA) fees.

TTT contractual structure

Document	Description

Licence	• provisions authorising:
	  • HMG to revoke the licence on 25 years notice
	  • Ofwat to revoke the licence in the event that the IP's RCV depreciates to zero or the appointment of a special administrator ceases to have effect and either the licence has not been transferred to a replacement infrastructure provider or the IP has not been rescued as a going concern or Ofwat grants a project licence to another company to carry on the IP's regulated activities.
	• provisions dealing with transfer, making safe of assets etc. following the issue of a discontinuation notice pursuant to the Discontinuation Agreement
	• a **procedure to allow the IP to seek an extension of the longstop date**; and
	• a **regime to allow the IP to charge customers directly** following completion of TTT pursuant to the modification of the Water Industry Act (WIA) (as opposed to collecting revenue through TWUL pursuant to the revenue agreement) if the IP issues irrevocable notice to terminate the revenue agreement which it is entitled to do following a breach by TWUL of the revenue agreement.

WIA and SIPR	• The WIA and SIPR underpins the **whole regulatory regime** under which the project was developed • The **WIA empowers the Secretary of State to make regulations** about the provision of infrastructure for the use of water utility companies. It also contains **an obligation on Ofwat to exercise and perform its powers and duties** in the manner it considers best calculated to, among other things, further the consumer objective and to secure that IP is able (in particular, by securing reasonable returns on their capital) **to finance the proper carrying out of its regulatory functions**.
Market Disruption Facility between HMG and the IP	• In the **event of severe disruption in the debt capital markets causing the IP liquidity issues**, **HMG provides liquidity support** through a committed term loan debt facility.
Special Administration Offer Agreement (SAOA)- between HMG and the IP	• In the event that a **special administrator is appointed to the IP** by the court under the Insolvency Act/WIA as it applies to the IP, the special administrator is required to transfer the IP's business to one or more new undertakers • In the event that **no transfer takes place within 18 months** (or HMG or Ofwat applies for a discharge of the Special Administration Order), HMG is obliged either to **make an offer to the special administrator to acquire the IP or issue a discontinuation notice** • In addition to insolvency and in common with the rest of the water industry, the special administration regime can be used for **enforcement purposes where a licensee is failing** to such an extent that transferring it to one or more new owners is seen as the only way to protect the interests of customers.

TTT contractual structure

Document	Description
Supplemental Compensation Agreement - between HMG and the IP	• In circumstances where **any elements of the agreed insurance package become unavailable** as a result of market events or where any losses exceed the level of cover available under the commercial insurances, **HMG provides financial support to fill the gap**.
Contingent Equity Support Agreement (CESA) - between HMG, the IP and the IP's holding company	If the IP's **costs of delivering the project are forecast to exceed the threshold outturn**, there are two options. 1) HMG may **invest sufficient equity in the IP for the IP to finance the amount of the forecast cost overrun above the threshold outturn** that the IP's existing shareholders choose not to fund either themselves or through new third party investors, or 2) **issue a discontinuation notice**.
Discontinuation Agreement - between HMG and the IP	• In the circumstances described in the Discontinuation Agreement, HMG has the **right to issue a discontinuation notice** and is obliged to **pay compensation to the IP's debt (Senior Debt Compensation) and equity (Equity Compensation) capital providers** • The **Senior Debt Compensation and the Equity Compensation are capped** by reference to the incentive adjusted RCV plus Breakage Costs, subject to exceptions, at the date of discontinuance (total compensation) • **Senior debt will be paid 100% of principal and outstanding accrued interest** including Breakage Costs, less agreed deductions • The **calculation of the compensation payable to the shareholders** will be determined in accordance with methodology set out in the Discontinuation Agreement. This compensation will vary depending on whether the IP is in special administration (broadly market value) or not (broadly the lower of the Total Compensation minus the sum of Senior Debt Compensation and amounts paid under the Supplemental Compensation Agreement which have been used to discharge senior debt liabilities and the amount which would (taking into account all prior Distributions by the IP) provide the equity with a real internal rate of return equal to the base case IRR as of the date of discontinuation).
Alliance agreement between TWUL, the IP, the Main Works Contractors and the System Integrator Contractor	• The objectives of the alliance agreement are to **facilitate and encourage co-operation and co-ordination between the alliance participants** with respect to the work to be performed for the project and to **set out an incentive regime to incentivise early and cost efficient delivery** of the project.
Liaison agreement between HMG, TWUL and the IP	• An agreement that **establishes a liaison committee comprising the signatories, and Ofwat and the Environment Agency (EA) as observers**, to **oversee the project's progress including the mechanism for dealing with any predicted cost overruns** above the threshold outturn that may arise. An **independent technical adviser** will **report to the liaison Committee on the engineering aspects of the construction** • In addition, the liaison agreement sets out the **relationship between the various project documents** to be entered into by TWUL, the IP and HMG and the consequences as between TWUL and the IP of discontinuation, de-designation and de-specification of the project under the legislative regime.

TTT contractual structure

Document	Description
Interface agreement between the IP And TWUL	• An agreement that **regulates the relationship between TWUL and the IP during the design, construction, testing and commissioning phases, and the system acceptance period of the project** including, for example, site access, health and safety, design review and integration, commissioning activities etc • **The IP is responsible for carrying out the main tunnelling works** and **TWUL provides certain enabling and interface works**. • The limited contractual/financial remedies available to the IP and to TWUL under the interface agreement are acknowledged by them (to ensure customers' money does not simply get passed from one to the other) but the parties have the ability to refer matters to Ofwat /the EA for regulatory enforcement • The project is unusual in that there is a **physical interface between two regulated entities' assets** and the acts or omissions of one may put the other in breach of its regulatory obligation thereby exposing it to enforcement action. In order to address this, Ofwat and the EA have jointly issued an Enforcement Explanatory Note which sets out how they will approach enforcement in such circumstances.
Revenue agreement between TWUL and the IP	• It governs the **rights and obligations of TWUL** and with respect to **the billing, collection and payment of the charge that the IP is entitled to require TWUL** to pay in respect of the service provided by the IP to TWUL • **TWUL recovers the IP's charges from Wastewater Customers** (whether directly or through its arrangements with the Water Only Companies (WoCs) and other agencies) in accordance with the TWUL Billing Procedures. **TWUL pays the relevant proportion of the revenue to the IP as and when collected from customers and there is a sharing mechanism for bad debtors**.
Operation and maintenance agreement between TWUL and the IP	• The Operation and maintenance agreement **deals with the relationship between TWUL and the IP following the issue by TWUL of an acceptance certificate in relation to the project** • Pursuant to the operation and maintenance agreement **the IP is responsible after the acceptance date for operating and maintaining the its assets** so as to allow flows to pass through TTT to the connection with TWUL's Lee Tunnel, whilst maintaining a temporary storage volume in TTT.
Independent technical assessor deed	An agreement **appointing an independent technical adviser to report to the Liaison Committee on the engineering aspects of the project**.
Main works contracts and system integrator contract	**Three contracts (West, Central and East)** based on the New Engineering Contract 3 Engineering and Construction Contract for the tunnelling works including a gain/pain share mechanism in relation to target cost.

TTT contractual structure

The table below outlines the contractual structure of TTT model.

Area	Contractual arrangements
Revenue	• The regulatory licence, issued at the outset of the project, **governs the amount that the IP is entitled to pass through to TWUL for collection and payment under the revenue agreement** throughout the lifetime of the project • During the **construction phase** the revenue is calculated in accordance with the formulae set out in the licence using a bespoke **"building block" approach** with a number of adjustment mechanisms including a **financing cost adjustment to provide compensation for movements in the underlying cost of debt outside of a cap and collar** and an **adjustment to account for the delay in any adjustment for under-recovery/bad debts in the TWUL collection process under the revenue agreement** • Unless expenditure falls within the limited definition of excluded project spend, **all expenditure on the project up to the threshold outturn prior to 1 April following the post construction review** (scheduled for November 2027) **is allowable project spend** i.e. **it will go on to the RCV for inclusion in the IP's revenue calculation**, subject to the incentive/disincentive regime set out in the licence. The **threshold outturn is set at a level that is c. £960 million** (30%) **above the target price**. It includes a contingency that would **allow for the occurrence of some degree of unforeseen circumstances that would be financed by existing shareholders**. Above the threshold outturn the CESA would apply and **existing shareholders/debt are not obliged to finance the additional expenditure** although they could choose to do so. **Expenditure between the target price reflected in the base case forecast and the threshold outturn** is **subject to the cost incentive/disincentive regime** whereby **the IP bears 40% of the overspend risk** and **shares in 40/50% of any underspend** and if the base case forecast exceeds the aggregate allowed project spend there is a decrease in the RCV applicable to the operations phase equal to 10% of the difference • During the **operation phase** the revenue is again based on a **"building block" approach** but contains a number of bespoke elements that address the **adjustments that are to be made at the post construction review to implement the cost and programme incentive/disincentive regime** set out in the licence. Changes in the IP's revenue will be set much in accordance with the traditional Ofwat quinquennial regulatory periodic review/determination process • Once the revenue is set under the licence it is a pass through to the revenue agreement for collection and payment on a "pay when paid" type basis by TWUL • Whilst **in theory Ofwat could seek a change to the revenue provisions of the licence**, Ofwat has stated that it is **unlikely to be in the public interest for it to refer a proposed modification of it to the CMA** and that, consequently, a **modification to the licence is only likely to be made with the IP's consent** • The licence provides that **the IP must not, without Ofwat's prior written consent, agree to any amendment** of the revenue agreement, the alliance objectives, the alliance commitments, the milestones table or any other provision of the alliance agreement relating to incentives or financial liabilities including those provisions and schedules dealing with the project Cost Incentive and the project Programme Incentive. There are further restrictions on the IP's ability to agree contractual changes in the liaison agreement and the GSP.

TTT contractual structure

Area	Contractual arrangements

Revenue	• **Any change** in the contractual arrangements to which the IP is a party **would require the IP's agreement**
	• There are a **number of areas** under the licence where **Ofwat has a discretion** under the licence in respect of matters that affect the IP's revenues, in particular, **in the way in which some aspects of the incentive/disincentive regimes work**. These include:
	  • Before the post construction review:
	  • **Predicted additional expenditure in excess of the threshold outturn** - the regime in respect of such additional expenditure is normally determined by Ofwat on a forward looking basis (ex-ante) based on a predicted overrun in excess of the threshold outturn and broadly seeks to replicate the existing framework under the licence e.g. an Ofwat determined new additional allowable project spend cap, annual spend profile, WACC and incentive/disincentive regime applicable to the additional spend
	  • Any **extension to the longstop date**
	  • The **WACC to be factored into the calculation of delay deduction in respect a major delay** beyond the administrative penalty end date i.e. 18 months plus
	  • Any **changes to the annual base case forecast following the relevant trigger events** e.g. change in law, changes in the defined "fixed" technical requirements of the project and changes in the project specification under SIPR.
	  • After the post construction review:
	  • a process in line with "standard" water utility licences for the IP to request and for Ofwat to **make periodic determinations of changes** in the charges that the IP may make in respect of its regulated activities
	  • a process in line with "standard" water utility licences for the IP to request and for Ofwat to **make interim determinations for changes** to the allowed revenue for notified Items, relevant changes of circumstances that have a substantial adverse effect on the IP's licensed business.

Procedure for appeal	• The **licence is enforceable and appealable** in the same way as any other regulatory licence issued by Ofwat although there are **express provisions allowing appeal to the CMA** in respect of discretions exercisable by Ofwat in respect of the longstop date, the application of incentives/disincentives, disallowed expenditure etc • **Each of the contractual documents is enforceable** in accordance with its terms **through the English courts** but **most disputes must be referred to the liaison committee** before proceedings are commenced • The IP has the ability to **appeal Ofwat decisions/determination to the CMA** • Subject to any revenue agreement dispute being referred to the liaison committee under the terms of the liaison agreement, the **revenue agreement is enforceable as a contract through a tiered dispute resolution process** involving senior management discussions, **expert determination** and, ultimately, **through the English courts**.

TTT contractual structure

Area	Contractual arrangements

Gaps in the regime	• The **vast majority of regime is specified in detail up front** albeit in a combination of legislation, regulatory licencing and contracts. The **following elements are reassuring to the equity investors**:
	  • **Ofwat's statutory obligation** to exercise and perform its powers and duties in the manner it considers best calculated **to secure that the IP is able** (in particular, by securing reasonable returns on their capital) **to finance the proper carrying out of its regulatory functions** (which includes using reasonable endeavours to maintain an investment grade credit rating
	  • **Equity's obligation to fund** is **limited to the threshold outturn amount**
	  • Subject to adjustment only in accordance with the incentives/disincentives regime, the **Bid WACC is fixed for the construction phase** and was **bid in light of a known risk profile** specified upfront in the regulatory and contractual matrix
	  • The scope and the extent of the GSP, in particular, the CESA and the Discontinuation Agreement; and
	  • The **ability**, as a last resort, to **charge customers directly**.
	• It follows that the **principal risks in the project from an equity perspective** revolve around:
	  • **Legislative and regulatory change** (which is mitigated by regulatory guidance etc.)
	  • The **limited circumstances in which Ofwat is able to exercise its discretion over matters that may impact the IP's revenue** (see in the revenue section); and
	  • Some **residual regulatory risk around Ofwat's approach to revenue setting in the future**.

Abandonment of the project	• **The IP is not entitled to abandon the project/its regulatory obligations** • Abandonment by the IP would be a licence breach and the IP would be **susceptible to enforcement action**, including Special Administration • Additionally, the licence requires that the IP's ultimate controller(s) provide industry standard undertakings in accordance with the water industry norms including an undertaking not to take actions that would cause a licence breach. Abandonment would breach such undertakings • In order to ensure continuity of TTT, the IP is subject to a statutory Special Administration regime including, in extremis, as part of the enforcement regime. This regime is supplemented by the SAOA and the Discontinuation Agreement.

TTT contractual structure

Area	Contractual arrangements

Special circumstances	• Special circumstances that give rise to additional expenditure or delay, are dealt with under the licence
	• **Additional expenditure from unforeseen circumstances** (as long as it is not excluded project spend, is incurred prior to 1 April following the post construction review scheduled for November 2027 and is below the threshold outturn) will be **treated as allowable project spend i.e. it will be added to the RCV**
	• Expenditure above the threshold outturn will be treated in the manner described above
	• In the event of **"minor" delay** (up to the administrative penalty end date in August 2027 i.e. 18 months from the scheduled system acceptance date), **the IP is exposed to the risk of the Bid WACC being replaced for the delay period with the lesser of the then industry wide WACC set by the Regulator or the Bid WACC less 100bps**
	• In the event of **"major" delay** (beyond the administrative penalty end date until 31 March 2030), **Ofwat determines the WACC** that will apply to the adjustment for the delay period **in accordance with published economic guidance**. The Ofwat determined WACC applicable during the major delay period **is likely to be lower in circumstances where the major delay is within the IP's control** or **where the IP has not effectively mitigated its impact**
	• **Any delay is a risk borne by the IP within the parameters of the threshold outturn and the incentive/disincentive regime because there is no mechanism for extending the target acceptance dates** in the licence but **the IPP is entitled to seek an extension of time from Ofwat** in relation to the longstop date **in order to mitigate the risk of enforcement action for a breach of licence obligation to achieve acceptance by the longstop date**. The factors that Ofwat will take into consideration in determining any such extension are set out in the licence
	• 50% of the delay adjustment will be applied by reducing the RCV applicable during the operation phase and 50% will be applied as revenue deduction.
	• The published **economic guidance** sets out the approach Ofwat expects to take in making the following determinations:
	  • During the construction phase (i.e. up until 31 March following the First Periodic Review):
	  • Where Ofwat is required to do so under the terms of the licence e.g. in relation to the incentive/disincentive regime, the WACC of the IP undertaking the project
	  • The level of any Additional allowable project spend (i.e. the allowable spend above the threshold outturn)
	  • The incentive mechanisms that will apply to either expenditure incurred in excess of the threshold outturn or as a result of delays beyond the planned system acceptance date.
	  • During the operational phase (i.e. from 1 April following the First Periodic Review):
	  • The ongoing WACC for the IP.

SONI

nationalgridESO

Context

Background

SONI is the Transmission System Operator (TSO) for Northern Ireland and has three core roles:

- System operator: Operating the transmission network and balancing the system
- Network planner: Planning the transmission network from identification of need through to investing in pre-construction activities before transferring for construction
- Revenue collection agent: Collecting and distributing significant industry revenues on behalf of other market participants.

SONI relies fundamentally on highly skilled engineering and IT personnel to discharge its roles, it requires little by the way of fixed assets.

SONI is regulated by the Utility Regulator (UR) and at its last price review, it referred the UR's Final Determination (FD) to the Competition and Markets Authority (CMA) for appeal. The CMA established a framework that introduced three additional layers of margins-based remuneration on top of RAV*WACC. SONI's RAV is small and volatile and is not reflective of the scale of the risks it faces across its three core roles. The CMA's interventions were carefully calibrated to (1) remunerate SONI for the risks it was exposed to for performing each of its individual roles and (2) secure SONI's overall financeability, in the context of its asset-light structure. The CMA drew significantly on relevant market benchmarks for comparable activities to inform the calibration of SONI's margins to ensure it correctly balanced risk with return.

This case study is focused on the CMA established framework for SONI.

Roles and responsibilities

SONI does not have a formal procurement or contract management role. The significance of SONI as a benchmark is that it is asset-light and is remunerated on the basis of margins. Therefore, we will focus on the regulatory framework rather than role comparison.

Regulatory framework

SONI is subject to a five-year price control and is set an ex ante revenue cap. Its framework is principally comprised of (1) costs; (2) uncertainty mechanism; (3) RAV*WACC; (4) margins-based remuneration layers; and (5) incentives as set out in the table below.

Component	Treatment under the regulatory framework
Costs	• The UR sets cost allowances ex-ante for spend that relates to business as usual activities and strategic projects that are known and can be sufficiently specified ex-ante • In addition to its ex-ante cost assessment, the UR applies an ex-post cost review in the form of the Demonstrably Inefficient and Wasteful Expenditure (DIWE) test. The rules of the DIWE test stipulates that all spend is assumed to be efficient unless the UR can prove otherwise • Any over/under-spend is subject to 50% cost sharing with customers.
Uncertainty mechanism	• The uncertainty mechanism (known at the Dt mechanism) allows SONI to request additional funding for significant and complex strategic projects that become known and crystallise during the course of price review • The Dt mechanism is asymmetric to the downside because (1) any under-spend is 100% shared with customers while any over-spend is 100% borne by SONI (though SONI can apply for increases to the ex-ante cap); and (2) costs are subject to the DIWE test.
RAV*WACC	• SONI earns the allowed WACC on its RAV as well as its pre-construction assets prior to transfer, to remunerate it for undertaking the system operator and network planner roles • The allowed WACC incorporates an uplift to take account of SONI's asset-light structure.

Regulatory framework

Component	Treatment under the regulatory framework

Margins-based remuneration layers	• The CMA awarded SONI three additional layers of margins-based remuneration:
	• **(1) Asymmetric risk premium**
	  • SONI is exposed to substantial downside asymmetric risk on its Dt projects as effectively its worst case is unlimited downside and its best case is cost recovery
	  • The CMA FD provided SONI with a 3% margin on costs associated with significant and complex strategic projects (known as Dt costs) to cover its mean expected loss from the Dt mechanism and ensure the price control adhered to the 'fair bet' principle (that on average investors would earn the required return).
	• **(2) Cost of the Parent Company Guarantee (PCG)**
	  • SONI is required by licence to acquire a £10m PCG from its parent company to manage extreme downside risks
	  • The CMA decided that SONI should receive an allowance of 1.5% on the PCG value to cover the cost of the PCG on a standalone basis
	  • The calibration of the margin was informed by a range of market benchmarks (e.g. the pricing of preference shares), regulatory precedent and risk analysis to determine the probability of drawing on the PCG.
	• **(3) Collection agent margin**
	  • SONI faces liquidity risk and reputational risks in its collection agent role due to differences in timing between the receipts and payments of industry revenues
	  • The CMA granted SONI a 0.5% margin on collection agent flows based on market benchmarks (e.g. invoice discounting margins) and regulatory precedent.

Incentives	• The UR FD did not set out a complete incentive framework for SONI and this was not an area of contention during the CMA appeal • SONI is subject to a 50% cost sharing incentive on its ex-ante cost allowances and to reward/penalty for its management of one specific collection agent cashflow. We note that the UR is seeking to implement a broader incentive framework in the forthcoming price control which has been inspired by Ofgem's proposals for the ESO.

Smart DCC

nationalgridESO

Context

Background

The DCC is a central communication body with a role to manage communications and data transfer for the GB smart metering rollout programme. Its role includes delivering core smart metering IT infrastructure, investing in service operations and providing centralised data services to support smart metering.

The DCC was formed in 2013/14 after it was granted a twelve-year licence to operate by BEIS (formerly DECC) following a competitive tender process. Its business activities are asset-light and in every year have looked significantly different to the last. The DCC's activities in its initial years have a focus on scoping, designing and building of complex IT systems. During 2015/16 the DCC transitioned to testing its IT systems, which was reflected in a significant change in its cost base – its external costs increased substantially. Since then, it has been delivering its IT systems across geographical regions and is entering into a steady state of ongoing operation.

Roles and responsibilities

The DCC's role requires it to procure and manage external contracts with data and communication service providers. The table below maps the roles and responsibilities designated for Early Competition to the DCC's procurement process for external contracts.

Early Competition role	Comparable role under the DCC precedent
Procurement Body	DCC is responsible for procuring external contracts
Approver	No clear comparable role
Contract Counterparty	DCC is responsible for managing external contracts
Payment Counterparty	DCC is responsible for paying external contractors

Regulatory framework

The DCC has an annual price control process to determine its annual allowed revenue. Its allowed revenue is fundamentally comprised of (1) baseline margin; (2) uncertainty mechanism; (3) incentives and (4) costs, as set out in the table below.

Component	Treatment under the regulatory framework
Baseline margin	The baseline margin is an annual fixed money value and is intended to remunerate the DCC for the work it does and the risks it bears. These risks include: • Security breaches or data loss incidents • Operational and delivery challenges for smart meter roll out • Procurement and contract management risks with external contractors • Likelihood of future extensions to the smart meter licence • Failure to deliver on innovation targets • Regulatory risks such as ex post cost risk. The annual values and basis for the baseline margin were agreed between Ofgem and the DCC at bid and set for the duration of the licence.
Uncertainty mechanism	The uncertainty mechanism within the framework permits the DCC to propose annual adjustments to the baseline margin to compensate it for material variations that have occurred or are likely to occur in relation to delivering its obligations. Ofgem is clear that the uncertainty mechanism is not an annual review of the baseline margin set at bid. The adjustment proposed should reflect the value that the DCC has added for energy customers in terms of its additional burden or activities as a result of the material variation.
Incentives	The incentive mechanisms within the framework apply to the DCC's baseline margin. These incentive mechanisms have evolved over time in response to the DCC's changing business activities. See the Smart DCC incentives case study for further detail (pg 70).

Regulatory framework

Component	Treatment under the regulatory framework
Costs	The costs incurred by the DCC are largely made up of: • Internal costs e.g. costs related to payroll and IT • External costs e.g. costs related to large external contracts with data and communication service providers to support smart metering appointed through a competitive tender process • Pass-through costs e.g. costs related to the Smart Energy Code administration secretariat. The DCC is required to submit to Ofgem its annual outturn and forecast costs as part of its annual price control process. The burden of proof is on the DCC to justify internal and external costs as economic and efficient. Ofgem does not scrutinise pass-through costs as it considers the DCC has no control over these costs. Ofgem evaluates the DCC's internal costs and external costs under an ex post framework. It carries out an annual ex post review of the DCC's outturn internal and external costs with the intention to disallow costs which it deems are not adequately demonstrated as efficient and economically incurred. Ofgem also reviews forecast internal and external costs that the DCC deem certain enough to include in its forecast allowed revenue and only accepts forecast costs that it considers have been fully justified as economic and efficient. It then scrutinises the variation between forecasts costs accepted a year before against the incurred and revised forecast costs submitted by the DCC as part of its annual ex post review.

OFTOs for Ofgem as Procurement Body

nationalgridESO

Context

Background

The first Offshore Transmission Owner (OFTO) tender round was held in 2009 and the preparations for Tender Round 7 are currently underway. There are two build options under this regime, generator build (where developers construct the necessary transmission assets) or OFTO build (where an OFTO designs and constructs the transmission assets as well as financing it etc). To date all OFTO licenses have been awarded under the generator build model. The number of assets tendered during tender rounds has varied.

Through this regime, separate entities take responsibility for the generation, transmission and ultimate distribution of offshore wind power. OFTOs finance, operate, maintain and own the related transmission assets.

The procurement exercise is started when the developer meets the qualifying project criteria. Ofgem then gives notice of the tender to industry and defines the assets to be competitively tendered based upon development status of each windfarm. Once the tender has been concluded, under a generator build model, assets are transferred to OFTOs following construction and commissioning.

The winning OFTO pays the transfer value to the developer upon transfer of the assets to the OFTO. The transfer value is determined by Ofgem on the basis of economic and efficient costs incurred by the developer in connection with the development and construction of the transmission asset. Regarding risk there is no construction risk (in the case of generator build model). The OFTO's revenue stream is linked to a minimum availability threshold which reduces the allowed revenue in line with actual availability. This is the key operational risk from the OFTO's perspective.

Ofgem's remuneration framework is essentially a zero-risk cost pass through model as all reasonable costs are passed to the successful bidder and developers.

Roles and responsibilities

The following table maps across early competition roles against roles that exist under the OFTO regime.

Role	Entity who carries out this role under OFTO regime
Procurement Body	Ofgem carries out the procurement process once notified by the developer
Approver	Ofgem is the approver as well as the Procurement Body. Not comparable to early competition in that regard.
Licence Counterparty	Ofgem
Contract Counterparty	Not applicable
Payment Counterparty	ESO

Regulatory framework for Ofgem as Procurement Body

Component	Treatment under the remuneration framework
Baseline margin	No margin applied
Uncertainty mechanism	No mechanisms
Incentives	No incentives

Costs	Ofgem recover costs from the bidder.
	• Tender costs:
	  • To commence the tender exercise the developer must make a payment to Ofgem (an amount determined by Ofgem to be reasonable) for the purpose of recovering their tender costs. They must also provide Ofgem with a security, in a form approved by them, in respect of any liability that the developer has or may have in the future under these regs in respect of Ofgem's tender costs
	  • Ofgem must specify the payment and nature of the security, date and time for payment and the way the payment is made. Ofgem hold these securities to recover costs in the event of an incomplete tender process
	  • As soon as tender round is finished, Ofgem must calculate its tender costs in relation to that tender round and aggregate; payments made under the regs by the developer etc. and not repaid, the value of any security forfeited by the developer
	  • Where this aggregation exceeds the total tender costs Ofgem must, as soon as practicable, repay in whole or in part, including any accrued interest, (whatever they deem reasonable) any payments or forfeited security. This ensures tender costs are not exceeded
	  • Where this aggregation is less than the total tender costs, Ofgem must give notice to the successful bidder or whoever is granted the OFTO licence to make a payment to Ofgem of an amount (if any) determined by Ofgem to be reasonable for the purpose of covering the tender costs.
	• Cost incurred in connection with preliminary works and construction phase contracts and transmission assets calculation of costs:
	  • Where Ofgem estimates these costs for a particular project they recover the monies for this activity from the developer. Where they have assessed these costs, they recover the cost of the activity from the successful bidder.

Smart DCC incentive regime

nationalgridESO

Smart DCC incentive regime

The Data Communications Company (DCC) is a central communication body with a role to manage communications and data transfer for the GB smart metering rollout programme. Its role requires it to procure and manage external contracts with data and communication service providers. The DCC is regulated by Ofgem and is subject to margin-based remuneration and an incentive regime.

The incentives are mix of evaluative and mechanistic, and have evolved over time to align with the DCC's changing business activities:

- During its implementation phase the DCC was penalised for failing to meet implementation milestones by sacrificing a pre-agreed amount of its baseline margin. This incentive is no longer active as the DCC has commenced live operations
- As its external costs have become material the DCC is rewarded for securing cost savings with external contractors by retaining a share of the savings
- During its operational phase the DCC will be penalised for poor performance in system performance, customer engagement, and contract management and procurement. A 70% weighting on system performance and 15% weighting on the other two areas, is applied to arrive at the final incentive penalty. The three areas are set out in more detail below.

1. System performance – fundamental for the successful delivery of the smart meter rollout and business-as-usual operations

- Install and commission: concerns the connectivity of newly installed smart meters to the DCC network
- Prepayment: concerns DCC's role in delivering top-ups to prepayment meters
- Service availability: concerns the ability of DCC services to be accessible as needed by users
- Firmware management: concerns the rollout of firmware updates for smart over the DCC's network
- The DCC can lose 50% of its margin if it performs poorly in a single geographical region.

Smart DCC incentive regime

2. Customer engagement – the DCC's decisions should be strongly informed by an understanding of its customers' needs

- Timing and frequency of engagement
- Quality of information provided by the DCC
- Taking account of customer views.

3. Contract management and procurement – the DCC should enter into, manage and close out contracts effectively and efficiently

- Applies a modified version of the NAO Contractual Relationships Audit Framework. The framework allows an assessment of an organisation's relationships, capability and performance in relation to contract management. It includes consideration of, for example:
  - Commercial strategy: Is there an overarching commercial strategy, with a clear rationale for the approach being taken?
  - Contract approach: Does the balance of risk and reward encourage service improvement, minimise perverse incentives and promote good relationships?
  - Contract management: Is the service being managed well, with costs and benefits being realised as expected?

Thames Water's role in the Tideway Tunnel project

nationalgridESO

Thames Water's role in the Tideway Tunnel project

Thames Water is the counterparty to the interface and revenue agreements with Bazalgette on the Tideway Tunnel Project. Bazalgette is the equivalent of a successful bidder and Thames's role is comparable to a contract and payment counterparty.

Separately, Thames is required to undertake certain activities to ensure Tideway Tunnel is delivered on time and to budget. For this reason Ofwat has included a number of Tideway Tunnel-specific incentives at PR14 and again at PR19 relating to the implementation of the project.

The PR19 incentives are generally mechanistic and contain a mix of financial and reputational incentives. The PR19 performance commitments are set out below:

- Readiness to receive Tideway Tunnel flow at the Beckton sewage treatment works by the target commencement date. This is not relevant for the ESO as it does not operate the network
- Effective stakeholder engagement (including with Bazalgette). This could be relevant as the ESO will likely need to undertake market engagement as part of early competition
- Critical asset readiness for the London Tideway Tunnels by the target commencement date. This is not relevant for the ESO as TOs are responsible for connecting new assets to the existing network
- Establish an effective system operator for the London Tideway Tunnels. This is not relevant for early competition as a new system operator is not required
- Maximising the value of land sales relating to the Tideway Tunnel project. This is not relevant for the ESO's roles within early competition as it will not be required to buy and sell land
- Managing early handback of project land from Bazalgette. This is not relevant for the same reason as above.

SONI evaluative incentive framework

nationalgridESO

SONI evaluative incentive framework

SONI is the Northern Irish SO and is regulated by the Utility Regulator (UR). It earns the WACC on its RAV as well as a number of margin-based layers of remuneration. The UR has recently put in place an evaluative incentive regime for PC2020-25, similar to what Ofgem has designed for the ESO. The incentive regime has not yet been finalised however it will focus on the following areas:

- Decarbonisation: supporting government decarbonisation policy and targets
- Grid security: ensuring customer receive secure and reliable electricity supplies
- System-wide costs: ensuring value for money within and across the electricity system
- SONI service quality: ensuring SONI provides an appropriate range and quality of services to industry participants.

The UR has not decided on the performance metrics that would be included in incentive regime but has highlighted the following metrics as potential candidates:

- Use of renewable energy sources for electricity (RES-E)
- System non-synchronous penetration (SNSP)
- Renewable Dispatch Down
- Cyber security maturity scores
- Stakeholder engagement
- Imperfection costs
- Internal costs.

The ESO Reporting and Incentives (ESORI) for Role 2: market development and transactions

nationalgridESO

ESORI for Role 2: market development and transactions

The ESO's role within Electricity Market Reform (EMR) has been integrated into the wider incentive regime as part of Role 2, under the RIIO-2 Final Determination (FD). We set out the incentives on Role 2 from the RIIO-2 FD below:

Criteria (b) of ESORI: Metric performance

- Competitive procurement: measures the overall % of services procured through competitive means (auctions and tenders) calculated by £ expenditure.

Criteria (d) of ESORI: Demonstration of plan benefits

- Diversity of service providers: measures the diversity of technologies that provide services to the ESO in each of the services covered by the above
- EMR decision quality: number of overturns in the Tier 2 disputes process for the Capacity Market (CM) per 1000 applications
- EMR demand forecasting accuracy: accuracy of forecasts of peak demand, for EMR T-1 and T-4 CM auctions.

CfD scheme

nationalgridESO

Roles and funding in the CfD scheme

Contracts for Difference (CfD) are **long-term contractual agreements to provide low carbon generators with price certainty** over the lifetime of the contract. To date, there have been three allocations rounds with a total allocated capacity of 15.4GW.

The table below indicates which entity carries out each role in the CfD scheme.

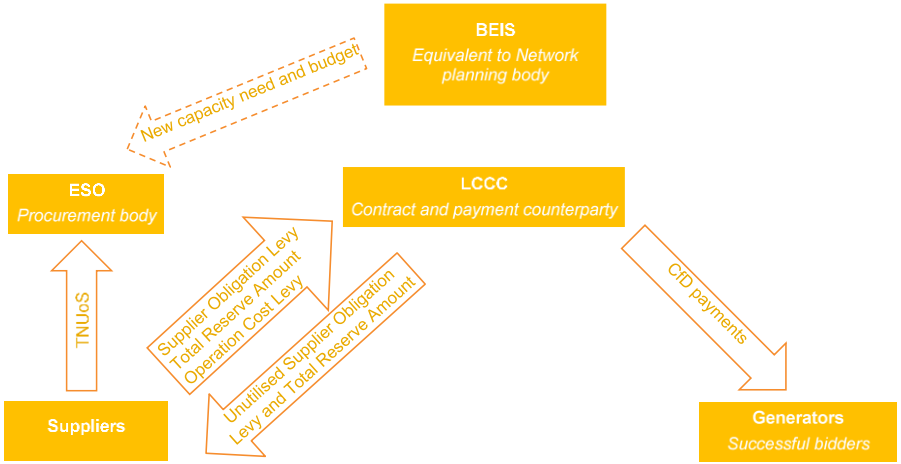
Role	Entity
Procurement Body	ESO
Approver	ESO
Contract Counterparty	Low Carbon Contracts Company (LCCC)
Payment Counterparty	LCCC

The **ESO**, as the EMR delivery body, plays the **role of procurement body** and runs the competitive tender process to appoint the bidders that will be awarded a CfD. The role is funded through **TNUoS**.

The **LCCC** was set up to play the **role of contract and payment counterparty** in the CfD scheme. The LCCC is an **independent, not-for-profit company wholly owned by Secretary of State for BEIS**. As the CfD counterparty, the LCCC manages the CfD with low carbon generators.

Cash-flows, as represented in the diagram below, were set to ensure LCCC is adequately funded to make the required payments. In order to ensure that LCCC is always able to make payments to generators, it forecast and collects in advance the Supplier Obligation Levy, which is then used to settle and clear the CfDs.

Roles and funding in the CfD scheme



The **Supplier Obligation Levy** is set on a quarterly basis, one quarter in advance and is paid by suppliers based on their demand. The LCCC invoices the suppliers each working day and they must be pay within 5 working days. In-period adjustments can be done if the need arises.

The LCCC has 28 calendar days to make the CfD payments, which provides a **positive cashflow** to the LCCC due to timing. CfD payments were £1,803m in 2019/20.

To provide further reassurance that the LCCC will have **sufficient funds to make CFD payments on time**, it also collects the **Total Reserve Amount** from suppliers quarterly. This is calculated so there is a 19 in 20 probability that the LCCC will be able to make all the required payments during the relevant quarter, considering electricity prices forecasting uncertainty.

The LCCC **recovers its operational costs** through the **Operational Cost Levy** charged to suppliers. The levy is set annually in the Supplier Obligation Regulations and was set at £0.0592/MWh for 2019/20. The LCCC shares some resources with the Electricity Settlements Contracts (ESC), counterparty to Capacity market contracts. In 2019/20, operational costs were £12.1m and represented 0.7% of CfD payments.

nationalgridESO

Roles and funding in the CfD scheme

In April 2020, the LCCC took an interest free loan from BEIS (to be repaid at a later date from levy funds collected from suppliers) in order to help fund the projected April to June shortfall in supplier obligation levy receipts resulting from the significant drop in electricity demand and the impact on the amount required for CfD payments due to falling electricity prices.

If a supplier fails to pay and there is insufficient credit cover in place to cover the full amount of the levy, the failure is socialised between the remaining suppliers. However, this situation has never happened so far.

Any operational costs levy collected that exceeds the LCCC's requirement and unutilised Total Reserve Amount is **refunded to suppliers**.

TTT

nationalgridESO

Roles and funding in the TTT project

The Thames Tideway Tunnel (TTT) project was the **upgrade of the London sewer network** to reduce the incidence of the overflow of untreated sewage mixed with rainwater into river Thames and to comply with legal requirements.

TTT was vital to London's future and a priority for the Government and Ofwat with an **estimated cost of £4.2bn (in 2011 prices).** The project being built from three main construction shaft sites in Fulham, Battersea and Southwark is expected to take seven years to build and involve the use of 24 construction sites. The main construction work started in 2016 and will complete in 2023, with system testing and acceptance expected to run until 2027.

The table below indicates which entity carries out each role in the TTT project.

Role	Entity
Procurement Body	Thames Water
Approver	Ofwat
Licence provider	Ofwat
Payment Counterparty	Thames Water
Government support package (GSP) provider	Government

Thames Water ran **a competitive tender process to select the infrastructure provider (IP).** Bazalgette consortium won the competition to be the IP and **received a Licence from Ofwat to build, finance and operate the asset**. This **followed Ofwat's fit and proper assessment of the consortium** to be a licensed IP (in addition to meeting the tender requirements and winning the competition).

In a **parallel procurement process,** Thames Water procured **three contracts for the construction of the project that were novated to Balzagette**. Ofwat issued a waiver notice dis-applying the obligation on Tideway to comply with the procurement regime set out in the Regulations in respect of specified contracts and for specified circumstances to enable the novation of the construction contractors' contracts.

Thames Water is allowed to **recover the costs related to its procurement body and payment counterparty roles through its customers' bills,** as part of a **separate price control**. Ofwat amended Thames Water's licence to enable a separate price control for costs related to TTT, to set a **clear boundary between TTT and its other activities.** Thames Water will also collect from customers TTT's revenue of behalf of the IP.

Roles and funding in the TTT project

In respect of the **exceptional risks** inherent in executing a project of this nature and the implications for financing costs that customers would ultimately fund, the Government considered that **the project would not be financially viable without government support**. Therefore, it provided the **Government Support Package (GSP)** to mitigate some risks by **transferring liability to the taxpayer** if those risks materialise.

Under the GSP, until full commissioning and complete testing, HMT has agreed to:

- Either provide an **equity injection** to Bazalgette if its cost overruns exceed 30% or **discontinue and pay compensation**
- **Lend to Bazalgette** if economic or political events make it unable to access debt capital markets as planned
- **Indemnify property and liability claims above insurance limits** specified in Bazalgette's existing insurance cover, or if insurance is unavailable
- **Provide compensation to investors** in the event that the project is discontinued
- **Make an offer to purchase Bazalgette or provide compensation to investors** if it goes into special administration for 18 months.

A call on GSP is considered **highly unlikely**, although it was estimated that the **impact could be very large** (£6.6 billion in the 'reasonable worst case' scenario), if several risks materialise.

HMT's role also includes:

- **Monitoring project progress and risks** with governance arrangements including quarterly meetings with key project stakeholders, and regular meetings between ministers and officials to monitor progress throughout construction
- Appointing a loss adjuster (Crawford & Co) to ensure any claims made under the insurance element of the GSP are fair
- Appointing Independent technical assessors (ITAs) and technical advisers (TAs) to provide quarterly assessments on Bazalgette's reports on progress and project costs to provide advance warning of a call on the GSP so the Department can make appropriate preparations.

The Department for Environment, Food & Rural Affairs has no executive role in managing cost control on the project, but where forecasts indicate a project-level overspend, it can require Bazalgette to produce a mitigation plan to reduce or correct the overspend.

Liabilities in the TTT project

The liabilities in the TTT project are shared as set out below.

- **Thames Water stays liable for its own licence obligations** and the Environmental Agency (EA) and Ofwat can take enforcement action if it fails to meet them
- To promote cooperation, contractors and Thames Water are **collectively incentivised** through a financial rewards and penalties regime to achieve cost targets and time milestones during the construction period
- Based on ITAs and TAs reports, Ofwat can disallow expenditure which has not been agreed
- Bazalgette is held **accountable by the Department for the delivery** of the project to time, cost and quality
- Bazalgette's owners provided 'ultimate controller's' undertakings
- Bazalgette's **access to the GSP can be restricted** and it can have financial penalties in specified circumstances (such as Bazalgette breaching financial covenants) if it does not correct the situation in accordance with the remediation regime
- Contractors are **liable for deficiencies in their works for twelve years** after completion and for 50% of overruns in their respective section up to 25% of respective contract value
- In simplified terms, **customers are liable for 60% of overspends** between the target price and a cap if Ofwat considers they are efficiently incurred and they **get 70% of underspends on construction**. They are also **liable for 50% of over and underspends on project-related expenditure** in Thames Water's 2015–2020 business plan and for **100% of any gain or loss on the proceeds from sales of excess land** after construction ends.

nationalgrideso.com

National Grid ESO, Faraday House, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA

nationalgridESO