

Offshore Transmission Market update

October 2018





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1. Introduction

HM Government has set a target of generating 15% of the UK's energy supply from renewable sources by 2020.

With approximately 8GW offshore wind capacity already operational in UK waters¹, the continued growth of the offshore wind sector is expected to be a fundamental contributor to meeting this target and continuing decarbonisation through the 2020s. Supported by recent statements of continued commitment to the renewable energy sector through a pipeline of CfD auctions², HM Government forecasts that approximately £22.2bn will be invested between 2017 and 2021 in the UK offshore wind market.³

As part of a policy framework to support investment in renewable energy, HM Government and Ofgem have established a regulatory regime for offshore transmission networks. This is designed to ensure offshore renewable generation projects are economically and efficiently connected to Britain's electricity grid.⁴

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

OFTO licences are awarded following a competitive tender process run by

Ofgem. Entering the sixth Tender Round of the OFTO regime, Ofgem has successfully licenced 16 OFTOs since 2009, comprising over £3bn of investment in offshore transmission.

Over the past 10 years, OFTOs have matured into a recognised and sought-after investable asset class for a range of financial investors seeking the key characteristics offered by investment in OFTOs, including:

- Long-term, predictable, inflation-linked Tender Revenue Stream (“TRS”);
- A transparent tender process and stable regulatory regime;
- A creditworthy offtaker in the form of National Grid Electricity Transmission (“NGET”);
- No construction risk (in the case of Generator Build model);
- Limited operational risk, which is not linked to performance/operation of the wind farm; and
- A mature financing market with proven delivery of bank debt, private placements and public bonds.

This market update provides an overview to investors of the following OFTO market features:

- Overview of the OFTO regime, OFTO assets and key licence conditions;
- A summary of performance obligations and risk allocation between OFTO, generator and other contractual parties;
- Overview of Tender Round 6 (“TR6”) assets and tender process; and
- A brief overview of the offshore wind project pipeline and potential for future OFTO investment.

¹ <https://www.renewableuk.com/page/UKWEDhome>

² <https://www.gov.uk/government/news/energy-minister-claire-perry-hails-success-story-of-offshore-wind-in-newcastle-today>

³ HM Treasury (2017) National Infrastructure and Construction Pipeline Autumn 2017

⁴ <https://www.ofgem.gov.uk/electricity/transmission-networks/offshore-transmission/our-role-offshore-transmission>

2. OFTO Regime

2.1 What is an OFTO?

Each OFTO is governed by a perpetual licence that provides long-term (25 years in the case of TR6) revenue certainty, subject to availability. OFTOs may be awarded under either the Generator Build model (in which the wind farm developer is responsible for constructing the offshore transmission cable) or the OFTO Build model – in which the OFTO licensee is responsible for constructing the offshore transmission cable. To date, all OFTO licenses have been awarded under the Generator Build model, as will be the case for TR6. As a result, this document focusses primarily on the Generator Build model, save for exceptions as noted throughout.

The assets transferred to the OFTO under the Generator Build model typically include the offshore substation, (comprising a platform and interface with the wind farm inter-array cables); the transmission export cables; the onshore substation (which exports to the onshore transmission system) and ancillary equipment. Understanding the following technical aspects is therefore of relevance to OFTO licensees:

- The subsea cable technology;
- Installation and bedding of the subsea cable, including an understanding of the seabed;

- The onshore and offshore substation equipment and connections; and
- The maintenance plan and annual remedial measures required to achieve the system availability target.

OFTO technology (and the market's understanding thereof) has developed in line with the OFTO regime over the past decade. However, the TR6 assets are generally larger in value and further from shore than previous tender rounds. As such, bidders' technical solutions will need to be robust and well-defined to address these differences.

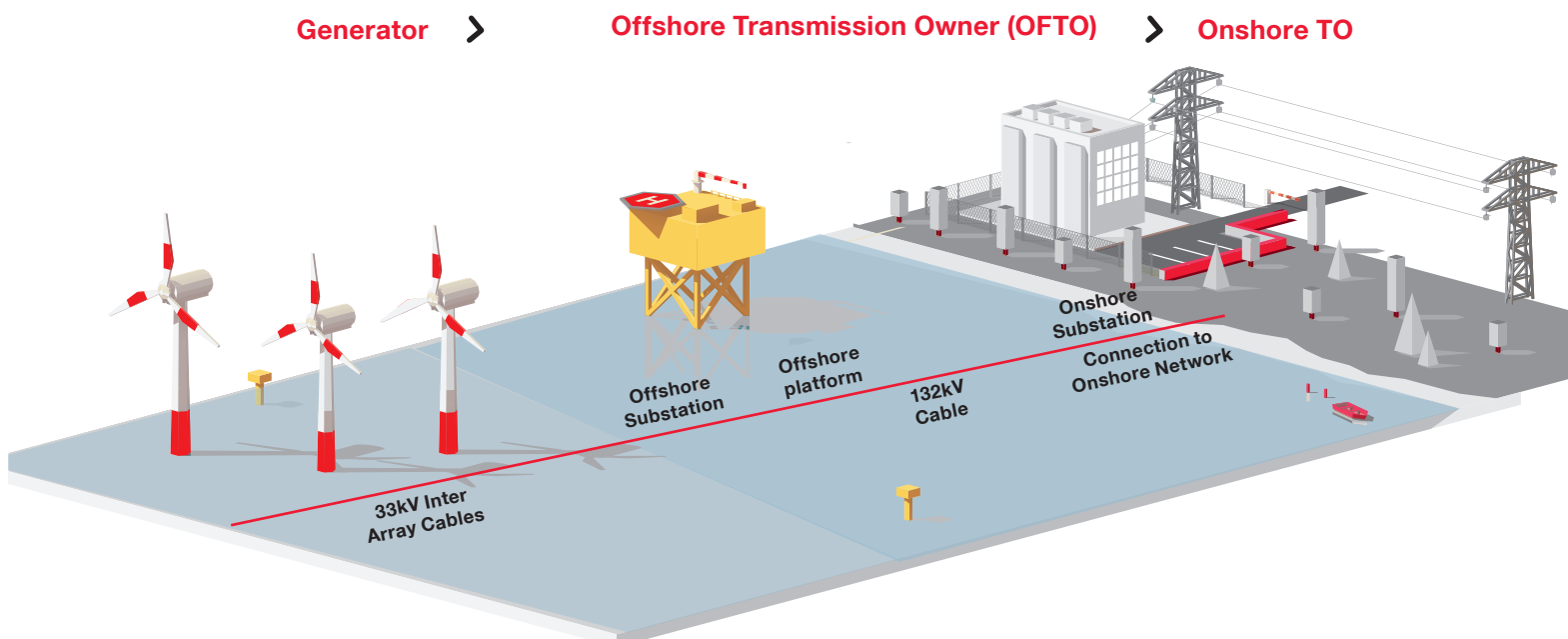


Figure 1: OFTO asset overview
Source: Ofgem

2.2 OFTO key parties

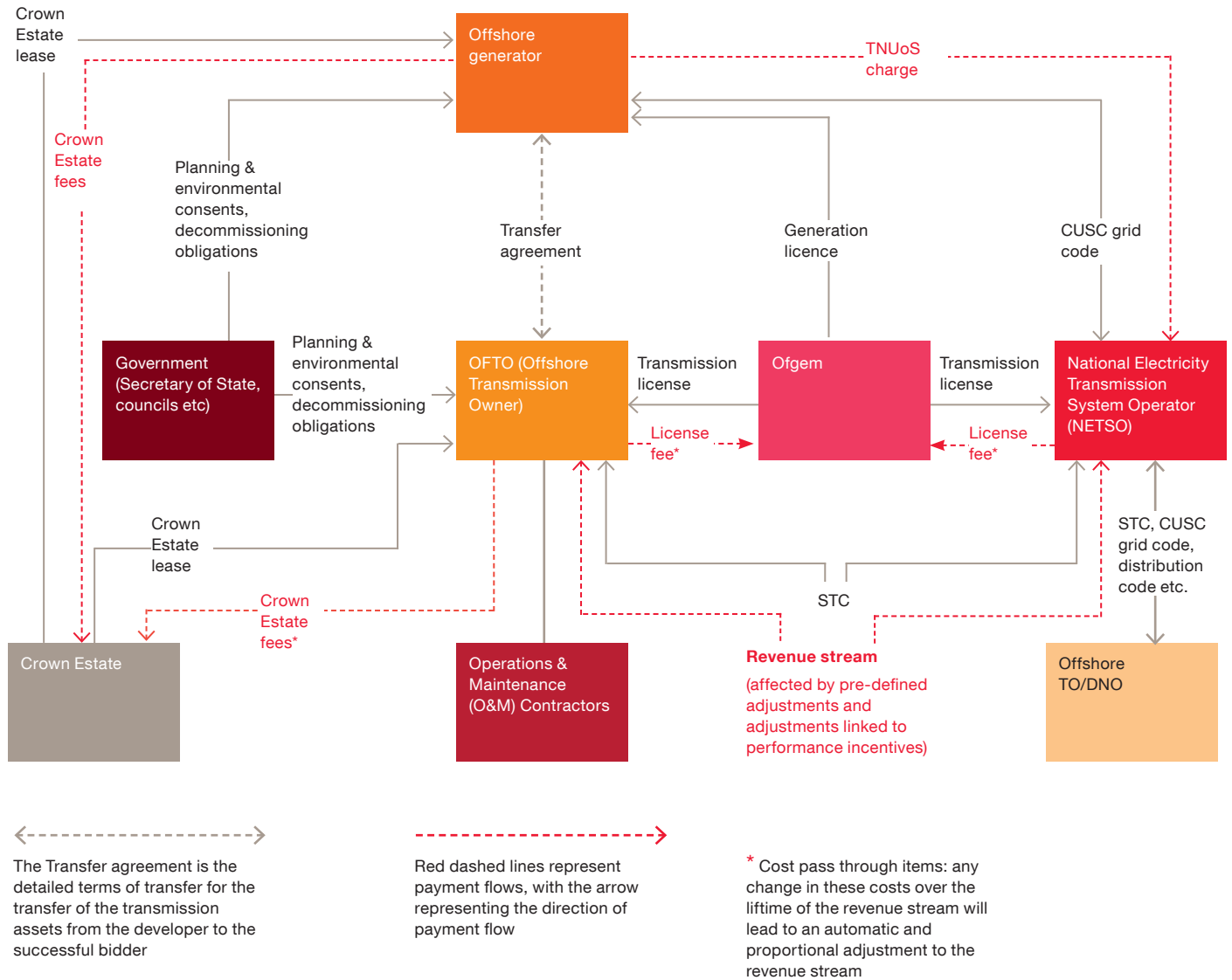
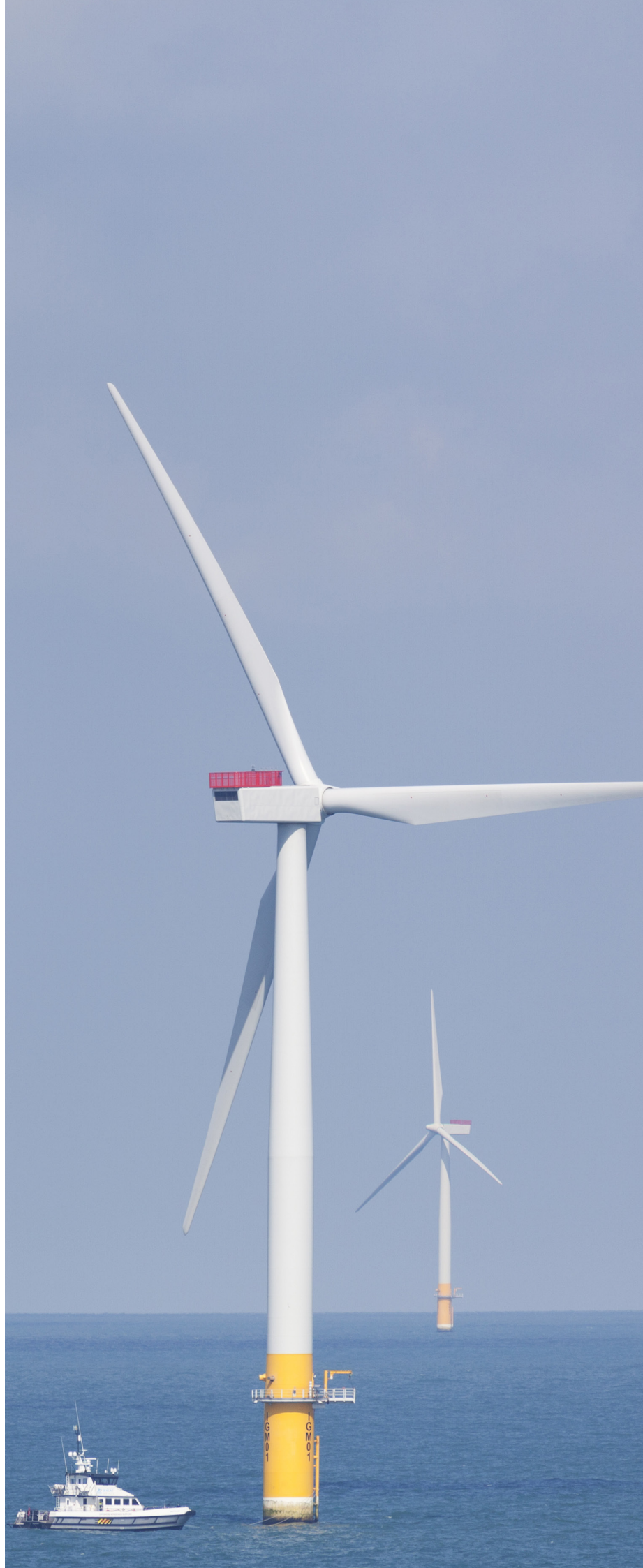


Figure 2: OFTO key parties (Ofgem)

Key	
CUSC	Connection and use of system code
DNO	Distribution network operator
STC	System operator– transmission owner code
TNUOS	Transmission network use of system
TO	Transmission owner

Key parties under the OFTO regime are:

- OFTO: responsible for the maintenance and operation of the transmission assets whilst the licence is held;
- Ofgem: Independent economic regulator, responsible for managing the process for granting offshore transmission licences (on the basis of a competitive tender process);
- NETSO: National Electricity Transmission System Operator (a role currently held by National Grid Electricity Transmission). NETSO pays the TRS to the OFTO, with pre-defined adjustments based on availability;
- Offshore generator/developer: Will transfer OFTO assets (in parallel with licence award to OFTO) in return for receiving Transfer Value as a lump sum;
- HM Government: Underpins OFTO agreements with planning and environmental codes; and
- Crown Estate: Provides a lease to the OFTO (lengths can vary, but will be 50 years for TR6 projects).



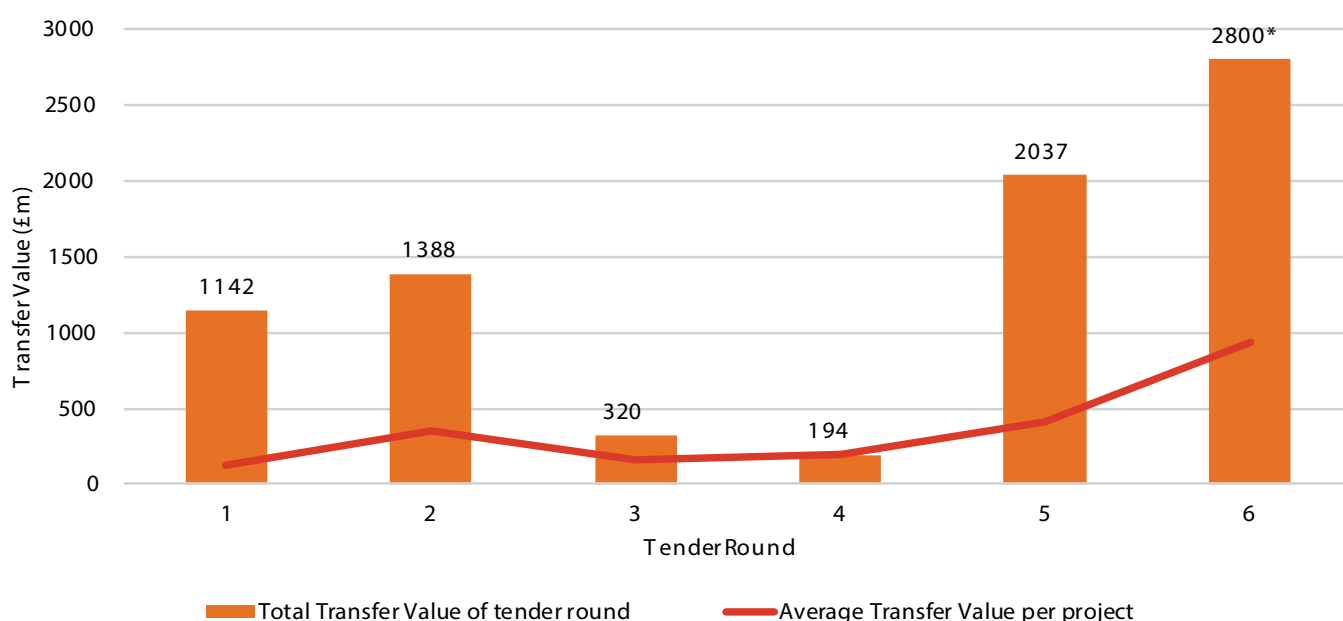


The existing OFTO licensees comprise successful bidders from each of Ofgem’s first five tender rounds. The first OFTO Tender Round commenced in 2009, with the second round (TR2) commencing in 2010. Tender Rounds 3, 4 and 5 started in February 2014, March 2016 and October 2016 respectively. At present, there are 16 OFTOs with the investment through the tender process to date in excess of £3.1 billion.⁵

For each Tender Round, Ofgem defines the assets to be competitively tendered based upon the development status of each wind farm.

The Energy Act 2013 allows developers to transmit electricity without a licence for 18 months (the “commissioning period”), which is triggered by a completion notice issued by NETSO. Under the Generator Build model, this has meant OFTO assets are transferred to OFTOs following construction and commissioning. In previous rounds, the number of assets tendered has varied from one (in TR4) to nine (in TR1). In TR6, Ofgem intends to tender licenses for three assets, as detailed further in section 7.

The OFTO will pay 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 the economic and efficient costs which ought to have been incurred by the developer in connection with the development and construction of the transmission asset.



* Indicative TR6 Transfer Value

5 OFTO Tender Process – Consultation For Future Tender Rounds

Figure 3: OFTO tender round transfer value



2.3 Decommissioning and Residual Value

The approach to decommissioning and residual value in previous tender rounds has been based on Ofgem's review of the appropriate form of ongoing operation of the asset. At the end of the revenue period, Ofgem will consider whether the offshore transmission assets are still required and/or still have a useful economic life.

1. If still required, Ofgem may extend the revenue period of the incumbent OFTO to cover appropriate costs or run a further tender process to appoint a new OFTO, revoking the licence of the incumbent OFTO;

2. If the offshore transmission assets are no longer required, the OFTO will fulfil its decommissioning obligations, following which the OFTO's licence will be revoked.

Under previous tender rounds, bidders have been required to make their own assumptions on the residual value of the OFTO assets at the end of the revenue period. As yet, no decision has been made as to how OFTO assets will be treated following the end of the revenue period for Tender Round 6.



3. OFTO licences

Each OFTO asset is regulated by a perpetual licence that provides revenues over the TRS term subject to performance and availability of the asset. These are awarded through competitive tender processes managed by Ofgem.

As well as the ability to generate revenue earned through the licence, licences also confer obligations on the OFTO to ensure compliance with applicable standards and codes and availability of the asset.

3.1 Licence and TRS term

OFTO licenses are issued for a perpetual time-period, however, the duration for which the TRS is paid is limited by the TRS term. In all prior OFTO rounds, the TRS term has been set at 20 years. In line with continued progression of technology within the offshore wind sector, Ofgem acknowledges the disparity between assumed asset lives for the generating asset and an OFTO revenue stream of 20 years. As a result, the TRS period for licenses awarded under Tender Round 6 will be extended to 25 years.

Ofgem retains the right to revoke any licence under a number of specified circumstances. These include⁶:

- Agreement by both OFTO and Ofgem that the licence should be revoked;
- Failure by the OFTO to comply with a final order or with a provisional order, or to pay any financial penalty by the due date;
- Failure by the OFTO to comply

with an order made by the court under section 34 of the Competition Act 1998; an order made by Ofgem under sections 158 or 160 of the Enterprise Act 2002; an order made by the Competition and Markets Authority under sections 76, 81, 83, 84 and 161 of the Enterprise Act 2002; or an order made by the Secretary of State under sections 66, 147, 160 or 161 of the Enterprise Act 2002;

- Financial difficulty of the OFTO (24 hour notice period);
- No certification by Ofgem in accordance with section 10D of the Electricity Act of the OFTO complying with section 10A of the Electricity Act; and
- Material misstatement of fact by the licensee in making its application for the licence (7 day notice period).

The notice period for revocation by the Authority is no less than 30 days in most cases, with exceptions noted above.

3.2 Revenues

The competitive tender process for awarding licences is partly based on the TRS levels bid in the competition. The TRS is included within the licence as well as any uplift (e.g. RPI inflation) to be applied over the contract term. For the duration of the licence, there is no regulatory discretion for amending this TRS. That is, the traditional periodic regulatory price control does not apply to OFTOs.

As noted above, the TRS is paid by the National Electricity Transmission System Operator (NETSO, currently National Grid Electricity Transmission (NGET)) with bonuses and deductions based on availability. As such, OFTOs are exposed to NGET counterparty risk. At present, NGET is rated A3/A-/A (Moody's/S&P/Fitch). In addition, NGET's transmission licence includes a number of ring-fence provisions (including maintenance of an investment grade credit rating). In the event that the wind farm ceases to operate, NGET's obligation to pay the OFTO continues.

Typically, availability bonuses and penalties are based around a target of 98% availability, with deductions capped at 10% of annual target/base revenue. Any excess deductions are carried forward for a maximum of 5 years. Bonuses can be up to 5% of annual revenue where the OFTO exceeds its annual availability target.

⁶ <https://www.ofgem.gov.uk/publications-and-updates/generic-ofto-licence-and-guidance-tr5>

3.3 Licence conditions

The OFTO licence is essentially a combination of conditions which:

- apply to all transmission licensees (Standard Conditions); and
- are specific to each transmission business (Modified Conditions, which can be either Amended Standard Conditions or Specific Conditions).

With the OFTO regime now a decade old, the licence conditions are tried and tested, and are familiar to developers, investors and key OFTO counterparties.

3.3.1 Standard Conditions

The Transmission Licence Standard Conditions⁷ include provisions common to regulated utility licences/ring-fencing mechanisms such as:

- Restrictions on disposal of relevant assets;
- Prohibition on cross-subsidies;
- Single purpose business;
- Certify availability of resources;
- Ultimate controller undertaking;
- Limitations on incurring indebtedness and granting security and cross-default;
- Use of all reasonable endeavours to maintain an investment grade issuer credit rating and/or make alternative financial arrangements acceptable to Ofgem;
- Finance incremental investments (to a maximum of 20% of the original investment costs) to provide additional capacity where requested by NETSO, subject to an increase in the TRS to recover such incremental investments;
- Prohibition on engaging in preferential or discriminatory behaviour;
- Prohibition on selling electricity; and
- Implement the OFTO of last resort mechanism.

Further conditions are set out within the Amended Standard Conditions, with additional details on these included in Appendix 3.

3.3.2 Pass through adjustments

The licence conditions stipulate a number of pre-defined costs that will pass-through the OFTO and be borne by NETSO. These include:

- Licence fee costs charged by Ofgem;
- Network rates costs (essentially business rates applicable to offshore transmission);
- Crown Estate lease costs and associated legal fees;
- Tender cost adjustment (covers fees paid to Ofgem as part of running the tender);
- Impact of change in law on efficiently incurred decommissioning costs (relative to base case assumptions bid), where agreed by Ofgem;
- Income adjusting events (being force majeure under the System Operator – Transmission Owner Code (STC), amendment to STC or an event considered and approved by Ofgem to be an income adjusting event) with a threshold value of either £500k or £1m (project dependent). Further information is set out in Ofgem’s consultation dated 6 February 2018⁸;
- Temporary physical disconnection payment, the purpose of which is to limit the OFTO’s exposure for unavailability deductions to what results from the OFTOs availability incentive mechanism;
- Impact of changes in obligations under the Marine and Coastal Access Act 2009 on efficiently incurred costs (relative to base case assumptions bid), where agreed by Ofgem; and
- Refinancing gain share, being 50/50 consumer to equity share of refinancing gains (excluding gains arising from exempt refinancings).

The OFTO has an obligation to demonstrate to Ofgem that it has

⁷ <https://epr.ofgem.gov.uk/Content/Documents/Electricity%20transmission%20full%20set%20of%20consolidated%20standard%20licence%20conditions%20-%20Current%20Version.pdf>

⁸ <https://www.ofgem.gov.uk/publications-and-updates/open-letter-consultation-income-adjusting-event-policy-offshore-transmission-licences-0>

endeavoured to take cost minimisation measures in relation to these pass-through costs.

3.3.3 Financial protections

More generally, the licence provides for the following:

- Exceptional Events – relief against unavailability deductions, as distinct from recovering the costs associated with making the repair;
- Income Adjusting Events – Ofgem describes these in OFTO licence guidance as ‘certain other events or circumstances that were not predicted at licence grant which may result in increased or decreased costs or expenses’, beyond a given monetary threshold, such as force majeure under the System Operator – Transmission Owner Code (‘STC’), amendments to the STC or other events considered by Ofgem to be income adjusting events. As noted above, please see consultation dated 6 February 2018
- Contingent Event Adjustments – These allow for protection in the event of variations in a small number of known, but unpredictable, factors. Ofgem’s intent seems to be to capture ‘high impact, low probability’ events, being those that i) the bidder was not aware of (and could not reasonably be expected to have been aware of) when submitting their ITT response, ii) cannot be resolved/fully mitigated through commercial

agreement and iii) the event is both contingent and material.

3.3.4 OFTO of last resort

In certain circumstances (such as the failure of an OFTO business) there is a risk of stranding the generator such that it cannot export power. To mitigate this risk, Ofgem has developed the OFTO of Last Resort mechanism which allows them to appoint an existing OFTO (or the Transmission Owner) as the OFTO for another project absent a competitive process. Further guidance can be found on Ofgem’s website.

3.4 Amending licence conditions

Ofgem can modify licences under i) sections 11A to 11F or ii) section 8A of the Electricity Act 1989. Sections 11A to 11F allow Ofgem to:

- Modify Standard Conditions or Amended Standard Conditions following licence grant; and/or
- Introduce Specific Conditions.

Section 8A allows Ofgem to modify the Standard Conditions prior to licence grant. To date, Ofgem has used Section 8A to incorporate project specific provisions into OFTO licences (typically as annexes to S8A notices).

Ofgem is required to publicly consult (for no less than 28 days) ahead of making any changes to a licence under either approach. There is a process for appealing Ofgem’s decisions to the Competition and Markets Authority (CMA).

Further detail will be set out in Ofgem’s Guidance on the offshore transmission owner licence for Tender Round 6.

4. Key OFTO commercial contracts

Transfer agreement

This agreement covers the purchase and sale of the Transmission Assets including transferral of contractual rights under the related construction contracts and the buyer's assumption of specified post-completion liabilities. As set out in Ofgem's "Guidance on the Transfer Agreement for TR4", the overarching principles of the Transfer Agreement include the following:

- Transfer the necessary property interests, rights, liabilities etc. relating to the Transmission Assets;
- Non-discrimination between different kinds of bidders;
- Be consistent with the offshore transmission regime and wider regulatory framework;
- Facilitate the tender process; and
- Be clear, complete and accurate.

Crown Estate lease(s)

The Crown Estate must give permission for cables/structures on the seabed and foreshore. As such, the OFTO will enter into one or more leases with the Crown Estate. The OFTO is typically obligated to maintain certain insurances under the terms of the Crown Estate leases.

Crossing agreements

These address the interface issues associated with physical crossing points between the Transmission Assets and other cables, pipelines etc.

STC Interface agreement

The OFTOs Transmission Assets will connect to the onshore transmission network. An interface agreement is required to manage this connection.

Key industry codes and consent requirements

Codes

The key industry codes relevant to the OFTO and/or generator are based in large part upon the onshore transmission codes and are well-understood within the UK's power transmission sector. Many of the key obligations are set out in the following:

- Grid Code, which specifies the technical requirements for connection to, and use of, the national electricity transmission system (NETS). The Grid Code is owned and administered by NGET under the terms of its transmission licence. Compliance with the Grid Code is a requirement under the Connection and Use of System Code (CUSC);
- CUSC, being the contractual framework for connection to, and use of, the NETS. This also sets out the methodologies used to derive the charges that NGET levies for connection to and use of the NETS;
- Bilateral Connection Agreement, being the agreement which states how Generators will need to comply with the Grid Code, CUSC and balancing settlement code;
- System Operator-Transmission Owner Code, being the agreement which defines the relationship between the transmission system owners and the NETSO; and
- NETS Security and Quality of Supply Standard, which sets out criteria and methodologies for planning and operating the GB Transmission System.

Consent requirements

The majority of consents required to be held by the OFTO licensee primarily relate to planning, environmental and property rights. In order to meet Ofgem's Qualifying Project requirements, the project needs to demonstrate that it has obtained all necessary consents and property rights for the transmission assets to be constructed and that same are maintained /ensured such that they are assignable to the OFTO (where possible).



5. Availability Incentive

Under the Amended Standard Conditions, a maximum of 10% of an OFTO's target or base annual revenue is subject to exposure from deductions relating to the availability incentive. Deductions are linked to the OFTO system performance, as measured by the actual availability relative to the target (typically set at 98%). Since Tender Round 3, OFTO system performance has been linked to capacity outages, with periods of unavailability from larger capacity outages being weighted more heavily than smaller capacity outages for a proportionately longer period of time. That is, there is a relationship between time and reduction of capacity e.g. 2 hours at 50% capacity may be less penal than 1 hour at 0% capacity. In addition, outages in some months are more penal than others. This incentivises OFTOs to undertake essential maintenance at certain times.

Availability that falls below the target will incur revenue deductions of up to 10% in a single year. Penalties of up to 50% of annual base revenues may be accrued, however these would be paid over five years, capping an OFTO's deductions in any single year at 10% of base revenue.

The availability incentive also rewards OFTOs for exceeding the availability target. The OFTO can earn additional revenue of up to 5% of base revenues annually for exceeding the availability target. For investors, the OFTO therefore benefits

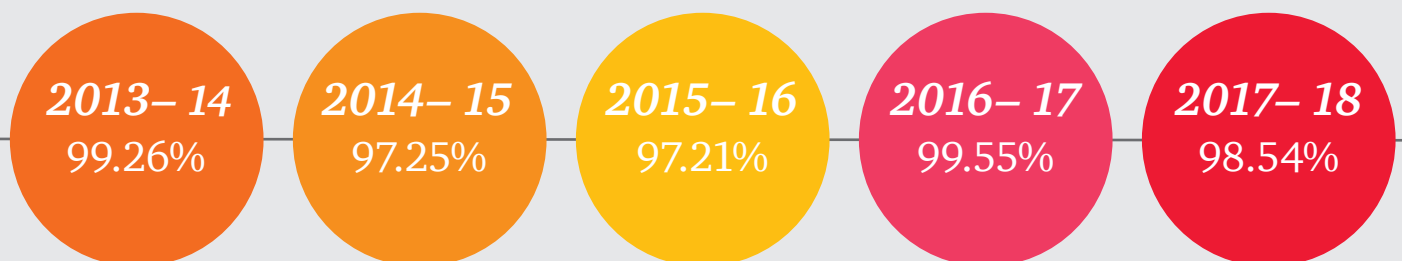
from predictable revenue with limited downside, whilst also providing the opportunity for investment upside and aligning incentives between Ofgem and the OFTO.

In the event that the availability of the OFTO system is reduced by incidents deemed to be outside of the control of the OFTO, the OFTO can apply to Ofgem for an exemption as a result of an "exceptional event". If Ofgem considers the exemption to be valid, a MWh adjustment is made to the OFTO's reported system performance, which will be taken into account when calculating deductions. This adjustment may be made in the following year depending on the timing of the outage.

5.1 Historic availability

Actual availability of offshore transmission has remained consistently high since the commencement of the OFTO tender process. The values below reflect OFTO-related availability of offshore transmission, after adjusting for non-OFTO unavailability and exceptional event adjustments as agreed with Ofgem. National Grid provides a full breakdown of monthly availability for each OFTO⁹.

The statistics show a consistent narrow spread around the 98% target¹⁰.



⁹ <https://www.nationalgrideso.com/insights/transmission-performance-reports>

¹⁰ 2014-16 figures show reduced availability relative to the performance target of 98% largely due to export cable primary system faults at Gwynt Y Mor and Thanet OFTOs. Adjusting for these specific outage events results in availability of 99.9% (2014-15) and 99.4% (2015-16) across the offshore transmission network.

6. Summary risk allocation matrix

Risk	Description	Impact on OFTO/mitigation
Construction	Increase in cost, delay in completion or inability to complete to the required standard	<ul style="list-style-type: none"> Under Generator Build model, borne by generator/ developer¹¹ or consumers (via associated TRS increase)
Wind farm yield/ capacity	Expansion of windfarm	<ul style="list-style-type: none"> OFTO can be required to increase its capacity, but limited to 20% of original investment and associated investment is recoverable via increased TRS
	Lower output than expected	<ul style="list-style-type: none"> N/A as OFTO payment mechanism is availability based
Wind farm operation	Prolonged outage or closure of wind farm	<ul style="list-style-type: none"> N/A as OFTO payment mechanism is availability based
OFTO unavailability	More/longer outages than planned	<ul style="list-style-type: none"> OFTO risk, mitigated by: <ul style="list-style-type: none"> Cumulative and annual caps on unavailability deductions Exceptional Events (relief events) Income Adjusting Events (events/circumstances not predicted/reasonably foreseeable at licence grant)¹²
Operating costs	Higher than expected operating costs	<ul style="list-style-type: none"> OFTO risk, mitigated by: <ul style="list-style-type: none"> Indexed TRS Pass through costs Relatively low operational gearing
High/low inflation	General inflation differs from forecast in model	<ul style="list-style-type: none"> OFTO risk, mitigated by: <ul style="list-style-type: none"> Bidder discretion over the proportion of the TRS which is indexed at RPI Use of index-linked finance or swaps
Decommissioning	Outturn cost of decommissioning the OFTO at end of life differs from assumptions in model	<ul style="list-style-type: none"> Base cost are an OFTO risk, mitigated by Contingent Event Adjustments where standards change (see change in law)
Residual value	Value inherent in licence at end of TRS	<ul style="list-style-type: none"> OFTO risk
Regulatory/policy risk	Unexpected change in regulatory treatment or HM Government policy	<ul style="list-style-type: none"> TRS not subject to regulatory price resets Ofgem track record and duties Licence revocable only if OFTO breaches conditions
Counterparty risk	Creditworthiness of party paying the TRS deteriorates	<ul style="list-style-type: none"> NGET highly rated NGET subject to regulatory ring fence Ofgem track record and duties
Financing costs	Increase in financing costs (where not hedged) pressures debt service/equity cashflows	<ul style="list-style-type: none"> From bid to financial close, Market Rate Adjustment covers movements in key macroeconomic variables (i.e. LIBOR swap) OFTO risk post financial close, typically mitigated through use of long-term financing, swaps and/or other fixed rate instruments OFTO structure has been banked 16 times so far
Change in law/force majeure		<ul style="list-style-type: none"> General change in law an OFTO risk, but mitigations include: <ul style="list-style-type: none"> Income Adjusting Events (see above) include force majeure under the STC and changes to the STC (above a threshold) Contingent Event Adjustments

¹¹ Construction completion is required to meet Ofgem's Qualifying Project requirement, being a threshold condition prior to the OFTO competition.

¹² See Ofgem consultation dated 6 February 2018 for additional background.

7. Tender Round 6 overview

As shown by the list of prior OFTO licence awards in Appendix 1, the general trend in successive Tender Rounds is one of increasing Transfer Values, reflecting the larger capacity of offshore as the UK strives to meet its renewable energy target.

As the sector matures in terms of turbine capacity, efficiency and supporting infrastructure for offshore wind development, recent wind farm that have been successful in gaining a Contract for Difference (“CfD”) are being developed further from shore and are of a larger capacity than earlier farms. With this trend comes both a greater challenge for the OFTO in structuring more complex solutions as part of tender responses, and an opportunity to secure an investment of significant scale (and relative scarcity) in the UK’s infrastructure investment landscape.

TR6 provides investors with the opportunity to bid for three OFTO assets linked to some of the UK’s largest offshore wind farms, including Hornsea 1, which is expected to be the world’s largest offshore wind farm when completed.

The expected total transfer value across the three TR6 assets c.£2.8bn.

As in all previous OFTOs tendered to date, the TR6 licences follow the Generator Build model, rather than the OFTO Build model. However, the OFTO Build model, in which the OFTO would be responsible for building the assets as well as operating and maintaining, and decommissioning, will remain a potential option for future tender rounds.

7.1 Asset summary

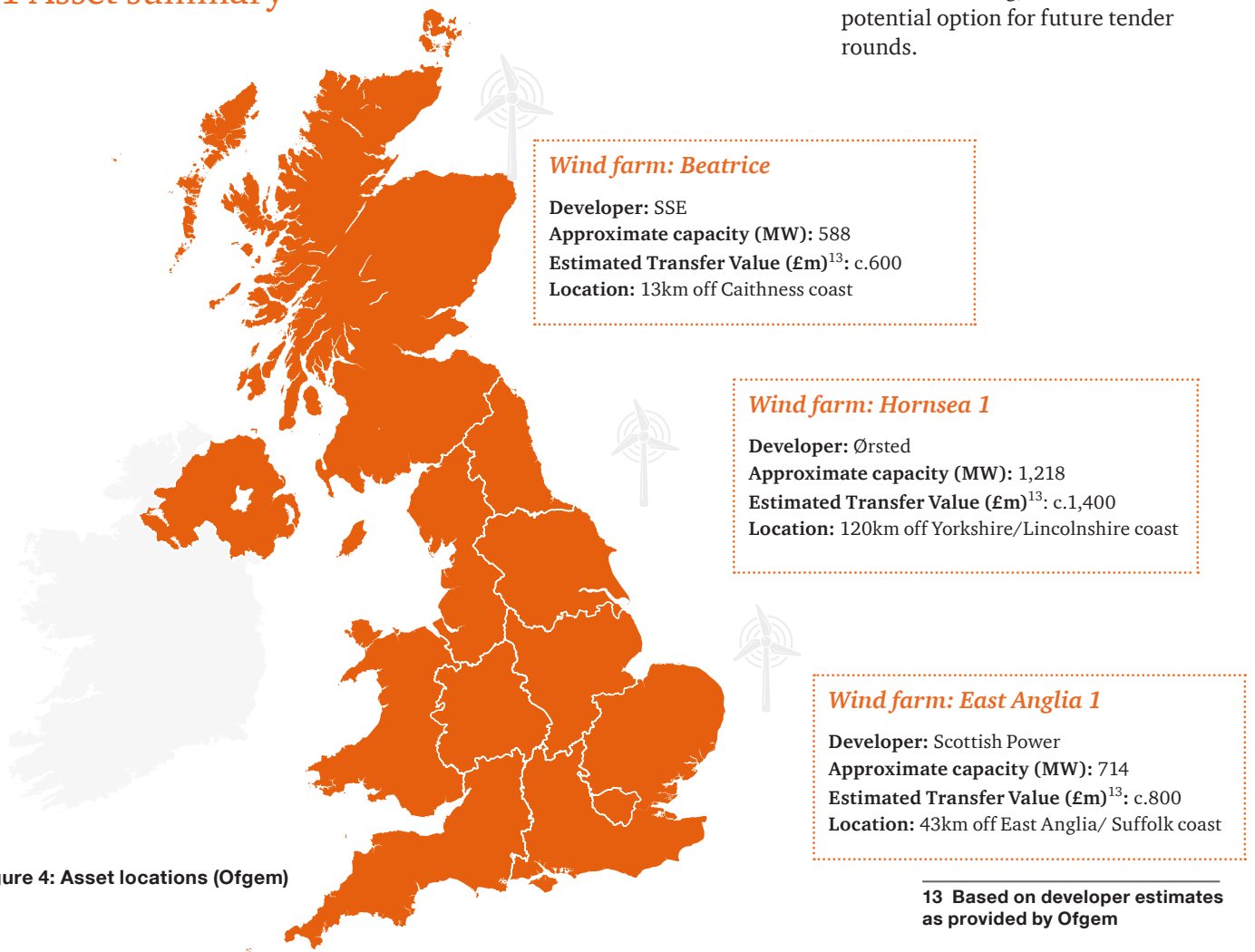


Figure 4: Asset locations (Ofgem)

¹³ Based on developer estimates as provided by Ofgem

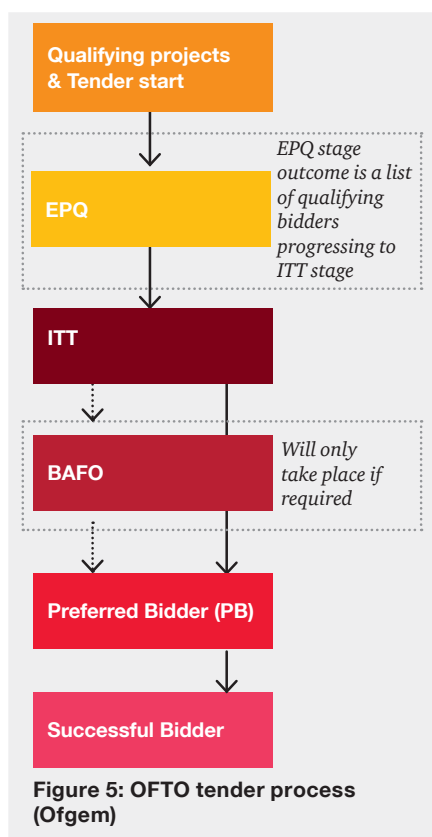
7.2 Overview of tender process

As in recent tender rounds, the bid process will consist of an Enhanced Pre-Qualification assessment (“EPQ”), followed by an Invitation to Tender (“ITT”) for each TR6 project, resulting in the appointment of a preferred bidder.

Drawing upon its experience from tender rounds 1 to 5, Ofgem has developed the TR6 tender regime to be robust, fair and transparent to bidders and developers. The process aims to:

1. Provide a level playing field to bidders;
2. Attract a wide range of participation from potential investors; and
3. Deliver value for money to consumers.

Ofgem has introduced a number of changes from the TR5 process to help achieve these aims. These changes are noted in more detail below.



Enhanced Pre-Qualification (“EPQ”)

The EPQ stage was introduced at TR3 in place of having separate Pre-Qualification and Qualification to Tender rounds. This approach has helped to streamline the bid process, reducing bidder costs and evaluation timelines.

The EPQ document will provide full instructions on how and in what form bidders should complete and submit the questionnaire. The typical EPQ structure is to assess bidders based on the following areas¹⁴:

1. *Suitability* – Bidder identification and grounds for exclusion;
2. *Economic and financial standing*;
3. *Technical and professional ability* – Experience of asset takeover, management and operations, and innovation;
4. *Limitation criteria* – Approach to asset takeover, management and operations, funding solution and financial and commercial risk management; and
5. *Other criteria* – Draft Transfer Agreement, EPQ Certificate, Confidentiality notice.

EPQ bidder shortlist

In previous EPQ evaluations, parts 1 to 3 above have been evaluated on a pass/fail basis, with part 4 serving to limit the bidder shortlist to a maximum of five bidders.

For TR6, Ofgem intends to increase the maximum number of bidders which could be shortlisted from the EPQ stage to eight bidders.

Through this change, Ofgem intends to attract further investor interest and reduce the potential limitation of bidder participation at ITT stage.

EPQ award

Following completion of the first EPQ and ITT stage for the first of the TR6 projects (Beatrice), if the bidder limit of eight qualifying bidders has not been reached, a second EPQ assessment will be undertaken in advance of the ITT for project two (Hornsea 1). In the new ‘passporting’ approach to EPQ introduced by Ofgem for TR6, bidders will only need to obtain one EPQ award that will remain valid for the full TR6 tender round.

Through the implementation of the passport approach, bidders who are unsuccessful or choose not to participate in the first (or second) project EPQ stage may still enter the process by qualifying through a later EPQ stage for TR6.

As in previous tender rounds, if there are material changes to information submitted by bidders at EPQ stage, bidders are obliged to notify Ofgem of such changes and Ofgem will be entitled to re-evaluate the EPQ submission in light of the change.

Invitation to Tender (“ITT”)

Following the EPQ stage, the shortlisted bidders for each project will be invited to respond to the ITT. The ITT stage is required for Ofgem to evaluate bidders’ proposals for financing, managing and operating a specific OFTO project. The purpose of the ITT stage is to identify a Preferred Bidder (and possibly a Reserve Bidder) for each project.

All qualifying bidders at the ITT stage will be granted access to the project data room, which will be predominantly populated with information provided by the project developer. The data room will contain information to assist bidders in making an investment decision and in structuring their ITT

¹⁴ Based upon TR5 EPQ document (https://www.ofgem.gov.uk/system/files/docs/2016/10/tr5_epq_document.pdf) Evaluation criteria for TR6 may vary from the criteria shown.

responses. Information contained within the dataroom will typically include contracts, leases, warranties, project financials, seabed surveys and evidence of compliance with applicable legislation and regulations.

The criteria at ITT stage will be based upon an evaluation of the financial and non-financial deliverability of each bidder's submission. The financial evaluation will primarily focus on TRS submitted by each bidder.

The evaluation criteria set out in each ITT will vary by project. Given the sizes of the financing requirements in TR6 (notably Hornsea 1), it is expected that the bidders will produce a wide range of financing solutions. This increase in scale may provide an opportunity for new bidders to enter the process with access to funding packages of sufficient scale to be competitive, or equity investors with an interest in larger ticket sizes that have not been drawn by previous tender rounds.

A notable change for the TR6 ITT evaluation is a 100% weighting on price, with quality criteria being set as a pass/fail (previously scored). All bidders will initially be evaluated on the robustness of their quality submission, with the bidder achieving the highest price score (i.e. lowest submitted bid price) being selected as the preferred bidder.

In some cases, Ofgem may request a Best and Final Offer ("BAFO") in the event that it considers further value can be obtained from the tender process or where it has not been possible to select a preferred bidder based upon the ITT responses alone. Following the ITT and potential BAFO stage, a preferred bidder (and potentially a reserve bidder) will be appointed.

Despite moving to a fully price-weighted evaluation approach, **Ofgem remains**

committed to providing bidders with clarity and feedback on submitted bids at ITT.

Preferred Bidder ("PB")/OFTO Licence Award

Following selection of the preferred bidder, a period of confirmatory due diligence will take place, during which the PB and developer will agree the arrangements for finalising the transfer of assets to the OFTO. When arrangements for transfer are finalised, a 28-day public consultation on amendments to the OFTO licence will take place, followed by financial close. Ofgem targets a preferred bidder phase of 6 months.

Based on experience from previous tender rounds, Ofgem is considering measures to ensure that the preferred bidder phase takes place efficiently and enables funding commitments to remain in place from ITT. As part of the tender process consultation undertaken earlier this year¹⁵, Ofgem set out a number of possible measures that could reduce the likelihood of a prolonged PB stage.

The outcome of the consultation is expected to be published by Ofgem in mid-October 2018.

¹⁵ <https://www.ofgem.gov.uk/publications-and-updates/ofto-tender-process-policy-consultation-future-tender-rounds>

7.3 TR6 timeline

The TR6 timeline will be a staggered evaluation process, in line with the development of each project. This approach is intended to help bidders manage resources and bid teams efficiently, rather than stretching resources across multiple tenders at the same time.

As detailed in section 7.2 Overview of tender process, the staggered approach to each ITT also allows for additional bidders to qualify under the new EPQ passporting approach, providing the opportunity for bidders to enter the tender process at a later date, if fewer than eight qualify under the first EPQ evaluation.

The proposed timeline for TR6 is set out below, with each project tender following the structure set out in Figure 5: OFTO tender process.



8. Future investment in OFTOs

Tender Processes



The UK remains committed to the development of renewable energy beyond the 15% 2020 target, with offshore wind being a fundamental contributor to decarbonisation and overall generation mix. In July 2018, the Government confirmed this commitment to renewable energy by announcing a further CfD auction round in May 2019, followed by a subsequent allocation round in 2021 and further auctions planned for every two years thereafter. In addition to ongoing offshore development, the Government expects these auctions to support up to 1-2GW of new offshore capacity every year in the 2020s.

This planned pipeline of development will continue to draw global investment for generation and transmission assets in what has now become a mature and competitive sector for both financial and strategic investors. It is anticipated that this strong level of government support and commercial interest will lead to further OFTO tender rounds to support the growth of the UK's offshore capacity.

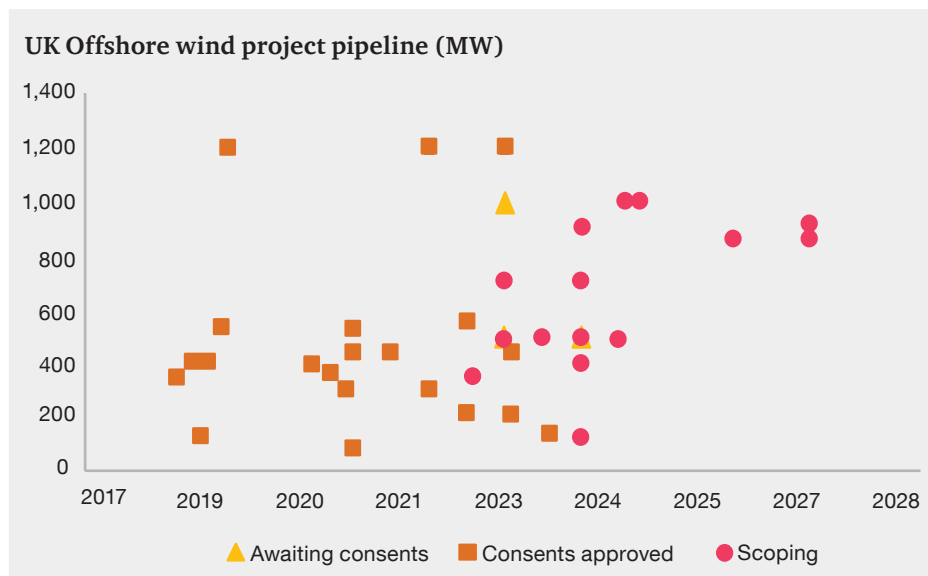


Figure 6: UK offshore wind development pipeline (National Grid)

Secondary market transactions

As OFTOs mature as an investable asset class, an increasing number of financial investors are showing interest not only in bidding for a stake through Ofgem's tender process but also in acquiring equity stakes through secondary market transactions.

Whilst there has only been a small number of these transactions to date (detailed in Appendix 2), as more OFTOs are tendered by Ofgem and in line with the longer licence period of 25 years, the opportunities to recycle capital through secondary market transactions may grow.

Source: <https://www.nationalgrideso.com/connections/registers-reports-and-guidance>

Appendices



Appendix 1 – Overview of previous tender rounds

Table 1: Prior OFTO licence awards

Tender Round	Project	Transfer Value	Selected Bidder	Status
1	Robin Rigg East and West	£65.5m	Transmission Capital Partners	Licence granted (2 March 2011)
1	Sheringham Shoal	£193.1m	Blue Transmission	Licence granted (27 June 2013)
1	Barrow	£33.6m	Transmission Capital Partners	Licence granted (27 September 2011)
1	Greater Gabbard	£317m	GET Balfour Beatty	Licence granted (26 November 2013)
1	Gunfleet Sands 1 and 2	£49.5m	Transmission Capital Partners	Licence granted (19 July 2011)
1	Ormonde	£103.9m	Transmission Capital Partners	Licence granted (10 July 2012)
1	Thanet	£164m	Balfour Beatty and Equitix	Licence granted (17 December 2014)
1	Walney 1	£105.4m	Blue Transmission	Licence granted (21 October 2011)
1	Walney 2	£109.8m	Blue Transmission	Licence granted (26 September 2012)
2	Lincs	£307.7m	Transmission Capital Partners	Licence granted (4 November 2014)
2	London Array	£459m	Blue Transmission	Licence granted (10 September 2013)
2	West of Duddon Sands	£268.9	Macquarie Corporate Holdings Pty Limited and 3i Infrastructure plc	Licence granted (19 August 2015)
2	Gwynt y Môr	£352m	Balfour Beatty and Equitix	Licence granted (11 February 2015)
3	Westermost Rough	£156.7m	Transmission Capital Partners	Licence granted (4 February 2016)
3	Humber Gateway	£162.9m	Balfour Beatty Equitix Consortium	Licence granted (7 September 2016)
4	Burbo Bank Extension	£193.9m	Diamond Transmission Partners	Licence granted (25 April 2018)
5	Dudgeon Offshore Wind Farm	£377.2m*	Transmission Capital Partners	PB became the successful bidder on 26 September 2018
5	Race Bank Offshore Wind Farm	£500.9m**	Diamond Transmission Partners and HICL Infrastructure	PB announced on 20 June 2018
5	Rampion Offshore Wind Farm	£313.1m*	n/a	ITT expected in Q4 2018
5	Walney Extension Offshore Wind Farm	£517m*	n/a	At ITT
5	Galloper Wind Farm	£329.1m*	n/a	At ITT

* Developer's initial transfer value

** Indicative transfer value (ITV)

Source: <https://www.ofgem.gov.uk/electricity/transmission-networks/offshore-transmission/offshore-transmission-tenders>

Appendix 2 – Secondary market OFTO transactions

OFTO	Seller	Buyer	Stake (%)	Financial close	Transfer Value GBP(m)	Transaction size GBP(m)
<i>Greater Gabbard</i>	AMP Capital's Strategic Infrastructure Trust of Europe (SITE)	Equitix Fund IV	33.33	03/12/2015	317	N.d.
<i>Greater Gabbard</i>	Balfour Beatty	Equitix Fund IV	33.33	02/12/2015	317	25.5
<i>West of Duddon</i>	Macquarie Capital	Pensions Infrastructure Platform (PIP) PPP Equity Fund	50	05/11/2015	269	N.d.
<i>Thanet</i>	Balfour Beatty	Equitix Fund III	80	16/02/2015	164	40
<i>Walney 1</i>	Macquarie Capital	Diamond Transmission Corporation	50	05/12/2011	105	N.d.

Appendix 3 – Amended Standard Conditions

Further to the Standard Conditions, the Amended Standard Conditions set out additional conditions relevant to OFTOs:

Amended Standard Condition	Description	Key features
<i>E12 (A1-A3)</i>	Revenue adjustments from bid to licence grant, definitions	<ul style="list-style-type: none"> • Sets out Definitions (A1) • Market Rate Revenue Adjustment, MRA (A2) – adjusts the Tender Revenue Stream (TRS) for movement in market rates from bid submission to financial close • Post Tender Revenue Adjustment, PTRA (A3) – adjusts for any movements in Transfer Value from start of Section 8A consultation to asset transfer
<i>E12 (B1-B2)</i>	Where and how OFTO operates	<ul style="list-style-type: none"> • Sets out transmission system areas (B1) – includes onshore and offshore connection points, map of the system area and circuit diagram • Activity restrictions (B2) – precludes OFTO from undertaking system operator (SO) activities and transmission activities outside those permitted by B1
<i>E12 (C1-C4)</i>	Requirements for OFTO structuring and conduct	<ul style="list-style-type: none"> • Business conduct (C1) – OFTO cannot share premises/resources with SO, generators or suppliers • Business separation (C2) – requires OFTO to prohibit cross-subsidy and implement financial ring-fence, separate boards for transmission business vs. any associated businesses, issuance of compliance statement to Ofgem • Information restrictions (C3) – subject to carve-outs, OFTO cannot share confidential information • Compliance Officer (C4) – OFTO required to appoint, annual reporting requirement to Ofgem
<i>E12 (D1-D2)</i>	Measurement, recording and reporting to Ofgem	<ul style="list-style-type: none"> • Regulatory reporting (D1) – monitoring of (inter alia) revenues/costs/ratios and sulphur hexafluoride (SF6); see Ofgem guidance on OFTO Regulatory Instructions and Guidance • Equity transactions (D2) – reporting of share issue/sale/buyback in the OFTO and/or changes in the ultimate controller of the OFTO
<i>E12 (J1-J2)</i>	Revenue rights and incentives	<ul style="list-style-type: none"> • Revenue entitlement (J2) Revenue composed of TRS, MRA, PTRA. Applicable pro-rata adjustments for first and last i.e. stub years, indexation adjustments. Correction factor for over/under recovery • Pass through items (J3) • Annual Revenue Adjustments (J4)



Contact details

PwC's Tender Round 6 team will be supporting Ofgem as financial adviser throughout the evaluation process.

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