
Offshore Transmission: Draft Cost Assessment for the Dogger Bank A (DBA) Offshore Windfarm Transmission Assets

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This document sets out the cost assessment for the Dogger Bank A Offshore Wind Farm Transmission Assets (the **Transmission Assets**). This assessment of costs will be used by the Gas and Electricity Markets Authority (the **Authority**) to determine the value of the Transmission Assets to be transferred to the successful bidder in the Tender Process.

The Final Transfer Value (**FTV**) of the Transmission Assets is established as £896.5m.

This value has been published in the licence consultation under section 8A of the Electricity Act 1989 (the **Act**), and we do not expect any further changes to the Assessed Costs. However, we do not intend to finalise the FTV until the Authority has determined to grant an offshore transmission licence to the successful bidder.

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Executive Summary

This report sets out the cost assessment that Ofgem has undertaken from the Invitation to Tender (**ITT**) stage of the Tender Process in relation to the Dogger Bank A Offshore Wind Farm (**DBA**) Transmission Assets (the **Transmission Assets**). This work has been used by the Authority¹ to derive the Assessed Costs and will be used to set the Final Transfer Value (**FTV**) for the Transmission Assets. Unless otherwise stated or defined in-text, capitalised terms in this report are defined in the Glossary at Appendix 3.

The cost assessment process involves the below three key stages:

- The Initial Transfer Value (**InTV**) for the Transmission Assets was published in the Enhanced Pre-Qualification Document for Tender Round 10 on 26 January 2023² and was set at £960.1m, based on information provided to Ofgem by Dogger Bank Offshore Wind Farm Project 1 Projco Limited (**DBA Projco**), a joint venture owned by SSE Renewables, Equinor and Vårgrønn (for the purposes of this report, the **Developer**);
- Ofgem reviewed and analysed the cost information and calculated the Indicative Transfer Value (**ITV**) as £927.9m. This updated calculation was communicated to the Developer in the formal ITV letter issued 25th September 2023; and
- The Developer submitted a final cost assessment template (**CAT**) dated 25th January 2024 with a value of £951.8m (the **FTV CAT**). Ofgem reviewed this further cost information to calculate the final assessment of costs as £896,527,958.32 (the **Assessed Costs**). This is a reduction of £55.3m from the submitted FTV CAT. It is intended that the incoming Offshore Transmission Owner (**OFTO**) will be able to obtain the full benefit of all available capital allowances. Therefore, the final Assessed Costs of £896.5m is the amount that will be used to set the FTV at licence grant.

The key components of the InTV, the ITV and the FTV, together with the Developer's submission (the FTV CAT) are set out in Table 1 below.

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day-to-day work.

² Available at: [Offshore Transmission: Enhanced Pre-Qualification Document for Tender Round 10 | Ofgem](#)

Table 1: Summary of cost components*

Category	InTV Jan 23 (£m)	ITV Sep 23 (£m)	FTV CAT Jan 24 (£m)	FTV Sep 24 (£m)
Capex	727.5	703.3	712.5	754.3
Other	95.2	93.5	117.6	42.3
Contingency	27.2	29.2	0.0	0.0
Transaction	2.5	2.6	5.0	2.6
IDC	107.5	99.2	116.7	97.2
Total	960.1	927.9	951.8	896.5

**These figures may not add to totals due to rounding*

Sections 2.38 – 2.115 of this report set out details of the Assessed Costs and any reductions made to the values submitted in the FTV CAT and against the ITV. The main increases/decreases in the Assessed Costs, against the ITV figures, are as follows:

- a) the capital expenditure (**Capex**) component of the FTV has increased by £51.0m;
- b) the Other Costs have decreased by £51.2m;
- c) the ITV contingency amount of £29.2m was removed in its entirety; and
- d) the Interest During Construction (**IDC**) amount decreased by £2.0m.

Below we summarise the main increases and decreases to each cost category as shown in Table 1 and detailed in sections 2.38 – 2.115. Please note that the figures set out in this section have been rounded.

Capital expenditure (Capex)

The Capex of the FTV has increased by £51.0m since ITV. The main drivers for the cost increase are:

- a) Reallocations from Other Costs to Capex;
- b) Accurate and more reflective project management and staff costs; and
- c) Contract variations on the main contracts for Saipem, Aibel, Hitachi, NKT and Jones Bros.

Other costs

The development costs at FTV have decreased by £51.2m since ITV. The changes are mainly due to:

-
- a) Reallocation of costs to other cost categories (Capex and transaction costs)
 - b) Other adjustments to staff and development costs.

Contingency

We allowed £29.2m of contingency in the ITV. This has now been removed in its entirety from the FTV as it has been released or realised at this stage of the transaction.

Interest During Construction

The IDC amount has decreased by £2.0m since the ITV. This overall decrease in IDC is the result of negative adjustments for costs we have disallowed and changes to the timing of when assets are considered available for use.

Transaction costs

Transaction costs have increased by 0.1m since the ITV to £2.6m. The transaction costs are composed of both internal and external resource arising from the Developer's participation in the Tender Process.

Assessed Costs and FTV for the Transmission Assets

In accordance with Regulation 4(2)(b) of the Tender Regulations, the Assessed Costs of the Transmission Assets are £896,527,958.32. The Assessed Costs will be used as the FTV in accordance with Regulation 4(8) of the Tender Regulations.

1. Introduction

Context and related publications

- 1.1 In 2009, the Government introduced the regulatory regime for offshore electricity transmission to connect significant amounts of renewable offshore generation to the onshore electricity network (**the OFTO regime**).
- 1.2 OFTOs are appointed through a competitive tender process (the **Tender Process**). OFTOs are granted an offshore transmission licence (**OFTO Licence**) with a fixed revenue stream for a specified time.
- 1.3 From the outset, the OFTO regime has encouraged innovation and attracted new sources of technical expertise and finance, whilst ensuring that grid connections are delivered efficiently and effectively.
- 1.4 The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015 (the **Tender Regulations**) provide the legal framework for the Tender Process. The Tender Regulations require the Authority to calculate, based on all relevant information available to it, 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.
- 1.5 Where the Authority has determined to grant an OFTO Licence for a particular project, the assessment of costs must be used by the Authority to determine the value of the Transmission Assets to be transferred to the successful bidder. This value will be reflected in the revenue stream in the granted OFTO Licence.
- 1.6 This report should be read in conjunction with the "Offshore Transmission: Guidance for Cost Assessment" (the **Cost Assessment Guidance**).

Related Publications

- [The Electricity \(Competitive Tenders for Offshore Transmission Licences\) Regulations 2015 | Ofgem](#)
- [Offshore Transmission: Tender Process Guidance Document for TR10 | Ofgem](#)
- [Offshore Transmission: Guidance for Cost Assessment \(2022\)](#)

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2. The Cost Assessment Process

Section summary

The Tender Regulations require the Authority to calculate, based on all relevant information available to it, 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 project. This section sets out the process that Ofgem followed in carrying out the cost assessment for the DBA offshore transmission project (the **Project**).

Overview of the cost assessment process

- 2.1 The Tender Regulations provide the legal framework for the process we follow for granting offshore electricity transmission licences. This process includes calculating the economic and efficient costs of developing and constructing the offshore Transmission Assets to be transferred to the new OFTO.
- 2.2 The calculation of those costs shall be:
- a) where the construction of the Transmission Assets has not reached the stage when those Transmission Assets are available for use for the transmission of electricity, an estimate of the costs which ought to be incurred in connection with the development and construction of those Transmission Assets; and
 - b) where the construction of the Transmission Assets has reached the stage when those Transmission Assets are available for use for the transmission of electricity, an assessment of the costs which ought to have been incurred in connection with the development and construction of those Transmission Assets.

Cost assessment principles

- 2.3 The cost assessment principles, the reasoning for such principles, and the overall process we have adopted can be found in the Cost Assessment Guidance.
- 2.4 We have applied these principles in our cost assessment process for the Project and, where appropriate, have taken into account project-specific circumstances.
- 2.5 The remainder of this section describes some of the key elements of the cost assessment process. Section 3 provides the detail as to how these have been applied to the specifics of the Project.

Data collection

- 2.6 To undertake cost assessments, we gather and review a range of information and supporting evidence. These relate to the forecast and actual costs of developing and constructing the Transmission Assets that will transfer to the OFTO. Detailed cost information is provided by the Developer in the form of cost assessment templates, contract values, asset cost schedules and cashflows. The Developer also provides supporting evidence to substantiate its cost submissions including, amongst other things, contract documentation, supplier payment lists, invoices and receipts.
- 2.7 We work closely with the Developer to gather information relating to the following cost categories in the development and construction of the relevant Transmission Assets:
- a) capital expenditures;
 - b) other costs (such as development costs);
 - c) contingency provisions;
 - d) transaction costs; and
 - e) interest during construction.

Process stages for cost assessment

- 2.8 The cost assessment process involves the key stages described below.

Initial Transfer Value (InTV)

- 2.9 The InTV value is based on cost submissions by the Developer for the relevant project. This value is made available to bidders at the Pre-Qualification or the Enhanced Pre-Qualification (**EPQ**) stage of the tender process. The letter we send to the Developer at this time indicates that the calculation might be updated as a result of any further information provided by the Developer and our continuing analysis.

Indicative Transfer Value (ITV)

- 2.10 We provide the estimate of costs for the Transmission Assets (the **ITV**) for the commencement of the Invitation to Tender (**ITT**) stage of the tender process. This value is used as an assumption underlying the Tender Revenue Stream (**TRS**) bids submitted by bidders at the ITT stage. The ITV letter we send to the Developer at this stage confirming the ITV indicates that the calculation might be

updated as a result of any further information provided by the Developer and our continuing analysis.

Assessed Costs

- 2.11 As soon as reasonably practicable after the ITV has been completed, we are satisfied that the assets are available for use, and we have obtained any further information that we require, we commence the exercise to determine the Assessed Costs.
- 2.12 Following this assessment exercise, Ofgem sends the Developer a draft cost assessment report (in the form of this report) setting out the amount of the Assessed Costs. This gives the Developer the opportunity to correct factual errors and propose the redaction of commercially sensitive information.
- 2.13 The draft cost assessment report is also sent to the preferred bidder, to allow it to incorporate the Assessed Costs into its estimate of the TRS payable to the OFTO. This TRS amount, incorporating the Assessed Costs, is published in a consultation pursuant to section 8A of the Electricity Act 1989, by which the Authority proposes modifications to the standard conditions of the OFTO Licence on a project specific basis (the **Section 8A Consultation**).
- 2.14 The draft cost assessment report is published alongside the Section 8A Consultation. The report remains in draft form until the conclusion of the Section 8A Consultation, and the Authority has determined to grant the OFTO Licence to the successful bidder.

Final Transfer Value

- 2.15 If a Developer retains some of the benefit of the available capital allowances, we reduce the relevant amount from the Assessed Costs before we derive the FTV. The FTV is confirmed once the Authority has determined to grant an OFTO Licence to the successful bidder. After licence grant, the final cost assessment report and supporting appendices are published on the Ofgem website.
- 2.16 Ofgem normally finalises the assessment of costs prior to commencement of the Section 8A Consultation. The FTV is taken into account when the TRS for the full licence period is published.

Costs Assessment Analysis

2.17 Throughout the cost assessment process, Ofgem applies two key tests to the cost information submitted by the Developer. These are:

Test 1 – Assessing if a developer’s cost submissions are accurate and allocated appropriately

2.18 As a first test, we check the accuracy of the data provided by the Developer and the appropriateness of cost allocations, in particular, between the offshore generation and transmission assets. Throughout the cost assessment process, the Developer provides cost information to us on an ongoing basis. Where we identify discrepancies in how the Developer has allocated these costs, we check with the Developer to assess if they have been allocated to the correct asset category and make adjustments accordingly.

2.19 To support the cost assessment process, we undertake an independent forensic accounting investigation³. The scope of this investigation is shared with the Developer in advance. This investigation is based on the final costs that the Developer provides to us and applies to a sample of contract costs. The actual sample for each project varies due to the different contracting strategies adopted by the Developer and the specific needs of the project, but generally focuses on the most expensive contracts and/or contracts that materially increase in cost.

2.20 The forensic accounting investigation scrutinises the cost allocations provided by the Developer. This may indicate the need for amendments to the Developer's submissions to reflect, for example:

- a) the actual costs incurred (e.g. in respect of exchange rates on foreign currency payments); and/or
- b) more relevant metrics for the allocation of shared service costs.

2.21 Where amendments, in our opinion, are required and, in the absence of further evidence from the Developer to substantiate the original allocation, we incorporate the recommended changes from the forensic accounting investigation.

Test 2 – Assessing if a developers’ costs are economic and efficient

³ Conducted by our forensic accounting advisors, Grant Thornton UK LLP.

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- 2.22 Under test two we assess whether the costs reported to date by the Developer have been economic and efficient.
- 2.23 We undertake benchmarking analysis using cost reporting data from other projects. This is used to identify cost outliers reported by offshore developers. Where cost outliers are identified on a project, these are further reviewed and Ofgem may use external consultants to investigate the reasons for this and evaluate whether the costs are economic and efficient.
- 2.24 We also consider the procurement processes adopted by the Developer to obtain economic and efficient Transmission Asset costs.
- 2.25 When undertaking the assessment of costs to derive the FTV, we review updated information provided by the Developer, as well as any cost areas flagged for further investigation at the ITV stage. Where costs have increased since the ITV, we ask the Developer to provide supporting documentation to justify these increases. We may undertake a technical investigation that focuses on, for example, a particular cost component, such as an increase of costs in a contract or multiple increases across several contracts.
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3. Dogger Bank A cost assessment

Section summary

This section sets out a short description of the wind farm and the Transmission Assets⁴, based on information provided by the Developer. It then summarises how we have undertaken our cost assessment for the Transmission Assets, from the InTV to the FTV and provides a breakdown of the key cost categories that we have considered and highlights the decisions that we have made.

Introduction

- 2.26 Dogger Bank A Offshore Wind Farm (**DBA**) is located in the North Sea 130km off the coast of Yorkshire, England, with a maximum export capacity of 1,200 MW comprised of 95 GE Renewable Energy Haliade-X 13MW Wind Turbine Generators. The Wind Farm output is exported, via 175km of subsea cables and 30km of onshore cables, to the 275/220 kV onshore substation at Creke Beck. This connects at the Transmission Interface Point (**TIP**) to the adjacent 400 kV National Grid Electricity Transmission (**NGET**) substation, connecting to the onshore Transmission Owner's system. For a full list OFTO assets, please refer to Appendix 1.
- 2.27 DBA will be the first commercial deployment of an offshore wind farm HVDC transmission system in the United Kingdom and will provide enough green energy to power more than 2 million homes.

⁴ The technical information contained in this section of the Report is based on information provided by the Developer and has not been independently verified by Ofgem.

Figure 1 – Dogger Bank A Offshore and Onshore Transmission Assets (Source: DBA)



- 2.28 DBA is owned by DBA Projco - a joint venture between SSE Renewables (40%), Equinor (40%) and Vårgrønn (20%), referred to in this paper as the 'Developer'. SSE Renewables is managing the development and construction of the Project.

Overview of cost assessment process for the DBA Project

- 2.29 We received initial cost information from the Developer in January 2023. Since then, we have worked with the Developer and our advisers to reach an assessment of the costs which ought to have been incurred in connection with the development and construction of the Transmission Assets. We set out below an outline of the steps taken, and to be taken, in the cost assessment process for the Project.
- a) **February 2023:** InTV (£960.1m) published.
 - b) **March 2023:** Developer submitted the ITV CAT
 - c) **March-September 2023:** forensic accounting and ITV investigation undertaken.
 - d) **September 2023:** ITV figure (£927.9m) determined and formal ITV letter issued.
 - e) **January 2023:** ITT stage commenced (bidding and evaluation).

- f) **July 2023:** ITT bid submission.
- g) **January 2024:** The Developer submitted the FTV CAT.
- h) **March 2024:** ITT stage ended; preferred bidder announced.
- i) **August 2024:** final cost reporting updates and supporting information received for the FTV from the Developer.
- j) **October 2026:** this draft cost assessment report released to the Developer for comment and the Preferred Bidder for information.
- k) **October 2026:** draft cost assessment report published alongside the Section 8A Consultation.
- l) **TBC:** The Authority to determine the FTV when granting the licence to the successful bidder. The final cost assessment report will be published after licence grant.

Summary of the InTV and ITV determination

- 2.30 The InTV of £960.1m was published in February 2023. This value was based on information received from the Developer at an early stage in the construction and development of the Project. This value was included in the EPQ document for the commencement of the EPQ stage of the Project.
- 2.31 The ITV of £927.9m was established in August 2023, with the formal ITV letter issued to the Developer in September 2023. Our estimate was supported by our forensic accounting advisors, Grant Thornton, our internal analysis, and the supporting information provided by the Developer.
- 2.32 We conducted an in-depth cost analysis at ITV; however, some costs could not be fully investigated and were highlighted as needing further attention at the FTV stage.
- 2.33 Please refer to Appendix 2 for the main points arising from our ITV review, the forensic review, and a description of the adjustments made at ITV. Full details are also set out in the ITV letter issued by Ofgem on 25 September 2023 (published separately).

Process for determining the Assessed Costs (FTV)

Accuracy and Allocation

- 2.34 The Project was constructed using a multi-contract strategy. An ex-post forensic accounting investigation was undertaken by Grant Thornton to ensure that the

costs reported to us by the Developer were accurate, in that they represented the actual costs incurred by the Developer during the development and construction of the Project.

2.35 This investigation considered the following five main contracts in respect of the Transmission Assets:

- (a) HVDC;
- (b) export cable;
- (c) offshore platform;
- (d) onshore civils; and
- (e) offshore T&I.

Efficiency

2.36 After costs had been appropriately identified and allocated, we performed an assessment of whether these costs were economic and efficient, which involved an internal benchmarking review as well as a wider review of costs incurred in each cost category.

Summary of Assessment

2.37 Following completion of the development and construction of the Transmission Assets, the Developer submitted costs in the January 2024 FTV CAT amounting to a value of £951.8m. Our assessment of the economic and efficient costs which have been or ought to have been incurred, in connection with developing and constructing the Transmission Assets, has established an Assessed Costs value of £896,527,958.32. Table 2 below provides a breakdown of the cost categories for the Project at each stage and the changes between the ITV and the FTV stages, and paragraphs 2.38-2.115 set out the issues considered as part of the FTV stage.

Table 2: Summary of cost categories*

Category	InTV Jan 23 (£m)	ITV Sep 23 (£m)	FTV Sep 24 (£m)	FTV- ITV Sep 24 (£m)	Change between ITV and FTV (£m)
Capex	730.2	703.3	754.3	51.0	<u>Increase of:</u> 23.5 OSP reallocations 16.2 Offshore Cable reallocations

					9.9 Onshore Cable reallocations 7.5 OCS reallocations 0.6 Connection reallocations 0.1 Transaction reallocations 5.2 OSP scour and cable protection 1.9 Offshore Cable scour and cable protection 5.6 OSP settlement agreements 0.2 Offshore Cable variations 0.3 Onshore Cable Civils variations 5.0 OCS variations 3.3 OCS corrections 0.7 Onshore cable variations <u>Decreases of:</u> 5.6 contracted-rate corrections 1.2 Offshore cooling 5.7 OSP variation reductions 7.9 OSP Transport & Installation OSP Transport & Installation 7.9 TCE Lease removal 0.6 Fibre optic generator allocation 0.2 OSP generator allocation
Other	92.7	93.5	42.3	-51.2	<u>Increase of:</u> 9.1 Staff cost 4.7 Land Costs <u>Decrease of:</u> 7.6 Forewind Costs 0.2 Development Costs 5.4 Advisory, IT & Communications, Legal and Lenders Technical Advisory Costs 51.7 Reallocations
Contingency	27.2	29.2	0	-29.2	<u>Decrease of:</u> 29.2 contingency has been released or realised

IDC	107.5	99.2	97.2	-2.0	<u>Increase of:</u> 17.5 Increase from ITV position <u>Decrease of:</u> 14.5 Adjustment to end date 5.0 Capex adjustment
Transaction	2.6	3.3	2.6	-0.7	<u>Decrease of:</u> 0.7 Removal of the Successful Bidder payment
Total	960.1	927.9	896.5	-31.4	

**These figures may not add to totals due to rounding.*

Capital Expenditure

2.38 The Capex element of the Assessed Costs is £754.3m. Overall, the Capex has increased by £51.0m from the ITV to the FTV stage as set out in more detail in Table 2 above.

Accuracy and Allocation of Capex costs

- 2.39 For the majority of Capex costs incurred on the Project, it was clear costs should be allocated to the Transmission Assets or the Generation Assets in their entirety. For costs shared between Generation Assets and Transmission Assets, the Developer allocated a proportion of costs to the Transmission Assets using the Capex ratio between Generation Assets and Transmission Assets.
- 2.40 For many Capex costs it was also necessary to consider the allocation of costs between the DBA and its sister Dogger Bank B project with which it shares some costs on the onshore substation and cable route. The allocation of most of these costs was 50/50 between the two projects.
- 2.41 During our assessment we reviewed costs where the Transmission Asset allocations were either not clear or not justified. In these occurrences, we applied an allocation methodology based on our best understanding of the costs and any supplementary evidence we were provided.

Efficiency of Capex costs

- 2.42 Most cost categories had an increase in costs. This overall increase is the result of cost updates and reallocations from the Developer and adjustments applied following our cost review, which are detailed below.

Cross Cutting issues

Reductions from contracted rates

2.43 The Developer submitted during the FTV review a number of corrections to the contracted rates across all the assets. These corrections result in an overall decrease of £5.6m from the ITV.

Ofgem view

2.44 These corrections were verified by our forensic auditors, and result in a decrease in costs from the ITV of £5.6m. We view these changes as economic and efficient and have accepted these

Reallocations from Other Cost to Capex and transaction costs

2.45 The following costs were included by the Developer in the 'Other Costs' category in its submission rather than the appropriate CAPEX and transaction cost categories. They have been reallocated as follows:

- £23.5m was reallocated from Other Costs to the OSP.
- £16.2m was reallocated from Other Costs to the Offshore Cable.
- £9.9m was reallocated from Other Costs to the Onshore Cable.
- £7.5m was reallocated from Other Costs to the OCS.
- £0.6m was reallocated from Other Costs to the Connection Costs.
- £0.1m was reallocated from Other Costs to the Transaction costs.

Ofgem view

2.46 These reallocations were agreed between Ofgem and the Developer. The majority of these reallocations were requested to be carried out between the ITV and the FTV but were carried out after the submission of the FTV. These reallocations ensure that costs are correctly classified.

Offshore Substation Platform (OSP)

OSP Scour and Cable Protection

2.47 An additional £5.2m was included in the FTV as an addition for OSP Scour and Cable Protection that were omitted at the ITV stage. These costs were not included at the ITV stage as this Contract had not yet been entered into by the Developer.

Ofgem view

- 2.48 We recognise that Scour and cable protection is required and have allowed this correction and the additional costs of £5.2m have been included in the FTV.

OSP Settlement Agreements

- 2.49 The Developer has included £6.2m for settlement agreements reached with Aibel after the finalisation of the ITV. These settlement agreements are made up of multiple variations on the initial contract. These have been grouped together and negotiated as settlements by the Developer.

Ofgem view

- 2.50 The settlement agreements included a variation [REDACTED], that has not been justified by the Developer as economic and efficient. As result we have reduced the value of the settlement accordingly by £0.5m.
- 2.51 The settlement agreements included three other variation orders, that the Developer has not evidenced as being economic and efficient. As result we have reduced the value of the settlement accordingly by £0.1m.
- 2.52 As a result of these two reductions to the Developer's submitted costs, the value included in the FTV for the Aibel Settlement Agreements is £5.6m.

OSP Variations

- 2.53 The Developer has included a reduction of £7.9m for Variations that occurred after the OSP contracts were signed. This reduction is due to detailed negotiations between the Developer and the OSP Contractor, once designs were finalised.

Ofgem view

- 2.54 We have reviewed the OSP variations submitted by the Developer and consider them to be economic and efficient. The reviewed variations result in a decrease of £5.7m from the estimate at the ITV.

Offshore Transformer Capacity

- 2.55 [REDACTED]
[REDACTED].

Ofgem view

- 2.56 After consultation with our technical team, [REDACTED]
[REDACTED] cost included in the FTV CAT has been removed, £1.2m, as

Ofgem view the transformer capacity exceeded that required by the transmission system and no alternative cost adjustment has been proposed by the Developer.

OSP Transport & Installation Variations

- 2.57 The Developer included £11.3m for variations that occurred after the offshore vessel contracts were signed. This value is an increase from the cost submitted at ITV due to the inclusion of variations which occurred after ITV review.
- 2.58 The variations included £8.1m for the hiring of a replacement vessel [REDACTED], £0.8m for the return of construction items [REDACTED] and a £0.2m Saipem Management variation.

Ofgem view

- 2.59 We consider the Developer should not have paid the £8.1m for a replacement vessel. The root cause of cost is the ownership of liability for the replacement of a vessel. The Developer was unable to make Saipem entirely contractually obligated to provide a replacement vessel should there be an issue with the original vessel.
- 2.60 The £0.8m incurred for dismantling costs, allowing a section of construction scaffolding to be reused in future projects. These costs were incurred to provide savings on the Developer's future Dogger Bank projects. Ofgem view is that this cost was not incurred in connection with the development and construction of the Transmission Assets; rather it was incurred for the benefit of those future projects and should therefore not be included in the FTV.
- 2.61 The Saipem Management variation, previously removed at ITV, was reincluded at FTV. No further justification was provided by the Developer and therefore this cost has not been included in the FTV.
- 2.62 The removal of these three variations have resulted in £7.9m not being included in the FTV.

OSP Generator allocations

- 2.63 The Developer included a reduction of £0.2m from those submitted at ITV, for the cost assigned to the Generator for retained equipment on the OSP. This is the result of the increase in OSP cost from ITV to FTV.

Ofgem view

- 2.64 Ofgem noted that the OSP allocation needed to be revisited at the close of the ITV. We accept this change and have not included the £0.2m reduction in the FTV.

Submarine Cable

TCE Lease Removal

- 2.65 The Developer included a final value of £7.9m for the lease of the windfarm area from the Crown Estate (TCE).

Ofgem view

- 2.66 The Developer indicated the TCE lease cost are for the windfarm area. None of this cost is for the cable corridor, the lease cost submitted is for the windfarm area. The OFTO allocation for this cost is now 0%.
- 2.67 The removal of the TCE License has resulted in £7.9m not being included in the FTV.

Offshore Fibre Optic Generator allocations

- 2.68 The Developer included a reduction of £0.1m from those submitted at ITV, for the cost assigned to the Generator for Fibre Optic usage. This is the result of a change to the apportioning methodology of Fiber Optic usage between the Generator and the OFTO.

Ofgem view

- 2.69 Ofgem noted that the Fiber Optic allocation needed to be revisited at the close of the ITV. The Developer amended the allocation methodology for the FTV. We accept this change and have not included the £0.1m reduction in the FTV.

Offshore Scour and Cable Protection

- 2.70 An additional £1.9m was included in the FTV as addition for Offshore Scour and Cable Protection that were omitted at the ITV stage. These costs were not included at the ITV stage as this Contract had not yet been entered into by the Developer.

Ofgem view

- 2.71 We recognise that Scour and cable protection is required and have allowed this correction and the additional costs of £1.9m have been included in the FTV.

Offshore Cable Variation

- 2.72 The Developer submitted an additional £0.2m of variations to the offshore cable contract. This was for additional surveys for remedial work at the interface with the OSP. This was unforeseen by the developer and contractor and only became apparent during the course of construction.

Ofgem view

-
- 2.73 After reviewing the information from the developer, we have included £0.2m for the new variations in relation to the additional unforeseen surveys and works. We consider the additional costs to be economic and efficient and results in £0.2m being included in the FTV.

Onshore Cables

Onshore Cable Variation

- 2.74 The Developer submitted an additional £1.2m of variations on the onshore cable contract. Of this, £0.7m was submitted for variations relating to the purchase of additional cable following an incident on the onshore contractors' site. This resulted in a drum of cable being damaged, and £0.5m cost for re-sequencing works and other unplanned contract variations.

Ofgem view

- 2.75 We have included £0.5m for the re-sequencing and other issues as these were evidenced to be economic and efficient. However, the £0.7m for cable replacement and related variations were deemed to be a contractor liability and not included in the FTV. This results in the £0.7m not being included in the FTV.

Onshore Cable Civils variations

- 2.76 The Developer included an additional £0.3m in variation orders at FTV, arising from issues post ITV submission principally related to landscaping, and boundary maintenance.

Ofgem view

- 2.77 The submitted variation orders were for unforeseeable additional works required to finalise the cable route. After our review of the variation orders, we consider these additional costs are economic and efficient and have included the £0.3m in the FTV.

Onshore Converter Station (OCS)

OCS Variations

- 2.78 The Developer submitted £5.3m for additional variations being incurred post ITV. These included an increase for a variation where the Developer was required to provide additional funding to reach a contractual agreement milestone and £0.3m for currency fluctuations that occurred during procurement.

Ofgem view

-
- 2.79 The additional funding for a contractual agreement variation was not included in the FTV as we consider it is not efficient for the Developer to pay additional sums to reach an agreed contracted milestone, as no explanation was provided to justify an increase in cost to reach the contracted milestone.
- 2.80 A variation of £0.3m for currency fluctuations was included by the Developer in the Developer's FTV submission. This variation arises from currency fluctuations post contract signing, this variation is not considered to be efficient and economic. Therefore this £0.3m was not included in the FTV.
- 2.81 The remaining variations of £5.0m were for minor modifications to the Hitachi contract. After these variations were reviewed, we consider these to be economic and efficient. Therefore, we have included the additional £5.0m cost in the FTV.

OCS Corrections

- 2.82 In their final submission for the FTV, the Developer included changes in costs for items not included at ITV and costs that were not correctly submitted at ITV. In total these corrections represent an increase of £3.3m from the ITV value.

Ofgem view

- 2.83 The corrections proposed by the Developer were verified by our forensic auditors. They included both increases in cost for items incorrectly omitted from the ITV, such as landscaping and decreases such as generator allocations. We view these changes as justified and have accepted these and have included the £3.3m in the FTV.

Reallocations from OCS to Reactive

- 2.84 £2.9m for harmonic filters was included in the OCS cost category in the FTV submission. We have reallocated this cost to the Reactive cost category.

Ofgem view

- 2.85 The Developer had not allocated the harmonic filter costs to the Reactive cost category. The cost of this equipment was reviewed and reallocated to the Reactive cost category for consistency with other projects. This reallocation does not affect the summary table as it occurs in the Capex category.

Reactive

Reallocation

- 2.86 The cost of the harmonic filter was reallocated from the OCS to Reactive as noted above in paragraph **Error! Reference source not found..**

Connection

Reallocation

- 2.87 A portion of staff cost was reallocated from the CR8 to Connection as noted above in paragraph 2.45.

Other Costs

- 2.88 From our cost review we identified that some cost items within the Other Costs category (i.e. Staff Costs and Land Agreements) were allocated incorrectly and they should have been apportioned correctly between the different CAT cost categories. However, for simplicity, we applied a process of reviewing and adjusting costs prior to reallocating them to the correct cost categories.

Staff Cost

- 2.89 The Developer submitted £43.1m of Staff Costs, a total increase in costs of £13.6m from the ITV. The evidence provided to support the updated costs outlined a range of activities (including, but not limited to, IT, legal and HR) that were aimed to support staff in the delivery of the Project.

Ofgem view

- 2.90 In our assessment, we reviewed the different elements of the staff costs and requested further evidence to support these as being economic and efficient costs. We arrived at the following views, as described below.
- 2.91 Staff Costs – The Developer was requested to provide a detailed breakdown of the [REDACTED] staff rates it charged to the project. The Developer did not provide this level of evidence we required to substantiate the costs submitted. As such, we consider that the staff unit costs that were submitted have a 10% uplift/mark-up as we have seen on other projects. We therefore removed a 10% value to account for the uplift/mark-up, resulting in a reduction of £1.2m from the Developer's FTV submission.
- 2.92 Forecast Staff Costs - The forecast profile submitted does not follow the expected linear decline we would expect see in the close-out of a project, based on previous projects. As such we have assumed a straight-line linear reduction between the last actual cost incurred value provided for June 2024 and the final forecast datapoint February 2025. We have then calculated the formula of this straight-line profile and applied the formula to the intermediary months. This creates a more realistic declining profile we would expect to see on a project moving towards the transaction (estimated at December 2025 at the time of the

FTV was set). This results in a reduction of £0.7m from the last forecast provided by DBA.

- 2.93 [REDACTED] Management Fees - the Developer proposed a 50% allocation staff management fees to the OFTO and 50% to the Generator. However, we consider that the proposed principle was not justified as being relevant to these costs and therefore we have retained our approach of 25% of management fees allocated to the OFTO as defined in the Cost Assessment Guidance. This resulted in a reduction of the submitted staff management fees of £2.3m and has not been included in the FTV.
- 2.94 These changes result in an overall increase in staff costs of £9.1m included in the FTV.
- 2.95 We have subsequently reallocated the staff costs across the cost categories as detailed above along with land costs as described in paragraph 2.45.

Land Agreements

- 2.96 The Developer submitted an additional £4.9m in land agreement cost in their FTV submission. This increase was the result of incorrectly including TCE seabed lease cost and increases in crop compensation costs.

Ofgem view

- 2.97 Our cost assessment covers development and construction costs only, hence, £0.2m for land use agreements costs, including agents' costs and crop compensation, relating to the period after first power which are considered operational costs and, therefore, cannot be included in the FTV.
- 2.98 The remaining £4.7m was reallocated as described above along with the staff costs as described in paragraph 2.45, this reallocated figure is then further discussed as TCE License removal in paragraph 2.65 of this report.

Forewind Costs (Development and Joint Venture (JV) purchase)

- 2.99 The Developer submitted £8.8m for Forewind Development Cost (an increase of £1.2m from the ITV) and £4.0m for the JV purchase after the dissolution of the Forewind consortium. These costs represent the acquisition of the JV, by the Developer.

Ofgem view

- 2.100 For Forewind Development and Forewind JV Purchase, our assessment of the detailed costs identified costs that we considered as being not economic and efficient (the met mast, miscellaneous and general costs). We applied a

sequential approach to apportion the reduction amongst the various components not related to the Project that were included in the JV. This approach ensured that only the proportion of costs that related to the Project were included.

2.101 OFTO/Generator allocation – the Developer didn't provide any robust rationale or evidence to us to support DBA's proposed 50% generator/50% OFTO split for the Forewind costs. As such, and in line with 3.85 of the Cost Assessment Guidance, we have applied our default economic and efficient 75% generator/25% OFTO allocation to this cost.

2.102 The removal of costs and amendment to the Generator/OFTO split has resulted in £7.6m in costs included at the ITV not being included in the FTV.

Development Cost

2.103 The development costs submitted by the Developer, has increased by £0.2m from ITV. This increase is due to some costs being omitted in the ITV and subsequently included in the FTV. This cost has changed as during our review we identified several double counted cost items.

Ofgem view

2.104 We have applied a top-down reduction to Development costs submitted by the Developer. We calculated a pro-rata reduction, based on the deductions from the other Capex and Other costs, and applied it to the Development Costs.

2.105 This results in an overall reduction in Development Costs of £0.2m in the FTV when compared with the ITV.

Advisory, IT & Communications, Legal and Lenders Technical Advisory Costs

2.106 The Developer submitted a combined cost for Advisory, IT & Communications, Legal and Lenders Technical Advisory of £3.5m, a decrease of £1.9m from the ITV, but no detail as to the roles and responsibility of the advisors was provided for us to review.

Ofgem view

2.107 We have not included this cost in the FTV as due to insufficient information being provided by the Developer, we are not satisfied that this cost is economic and efficient. We removed the full £3.5m from the Developer's submission, in addition to the £1.9m decrease in the Developer submission, this results in a reduction of £5.4m from the ITV.

Contingency

2.108 The FTV does not contain any contingency value. The £29.2m of the contingency that was submitted at the ITV stage was either realised or released. Therefore, no value was included by the Developer in the January 2024 FTV CAT.

Interest During Construction (IDC)

2.109 Since the ITV, the Project had been progressing and incurring additional costs. This has, in turn, resulted in an increase of £17.6m in IDC based on the Developer's cost submission.

Ofgem view

2.110 In our review we deducted a total of £19.5m from the Developers submission for IDC. This was comprised of two separate adjustments as follows in the sections below.

2.111 We have made a £14.5m reduction to reflect the date of the completion of assets at the end of construction. We previously commissioned a consultant to advise us on the appropriate point in time when the assets could be considered safely energised and commissioned in order to establish when the IDC should cease. In conjunction with this advice, we concluded that these circuits could be considered safely energised and commissioned prior to the ION B dates and calculated the interest accrual accordingly, resulting in a reduction to the Developer's calculation of increased IDC referred to above.

2.112 Finally, a reduction of £5.0m was made to the total IDC representing the adjustment following the conclusion of the wider FTV cost assessment. This proportionate reduction in IDC was for all of the costs that were submitted and subsequently not included in the FTV and is a prorate adjustment.

Transaction Costs

2.113 The Developer incorrectly included the Successful Bidder payment in the ITV submission.

Ofgem view

2.114 This payment should not have been included in the submission and has been removed resulting in a reduction in the FTV of £0.7m.

Confirmation in relation to tax benefits

2.115 The ITV was calculated on the basis that the OFTO would obtain the full benefit of all available capital allowances. If this were not the case for the Assessed Costs,

we would reduce the assessment of costs for an amount that reflects the value of the tax benefit retained by the Developer. It is intended that the OFTO will be able to obtain the full benefit of all available capital allowances. At the time of licence grant, when the FTV will be set, this will be translated into the FTV coinciding with the Assessed Costs, should no other conditions change.

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4. Conclusion

2.116 In conclusion, in accordance with Regulation 4 of the Tender Regulations, the Authority has assessed the economic and efficient costs which ought to have been incurred in connection with developing and constructing the Transmission Assets as £896,527,958.32.

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5. Appendices

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Appendix 1 – List of OFTO assets

Offshore Substation Platform (OSP)

The Transmission Assets connect to the Dogger Bank A Offshore Wind Farm at the OSP. The one DBA OSP consists of:

- Relevant parts of 66kV GIS;
- 4 earthing transformers (offshore system earthing);
- Power transformers, 2x50%, each with 70% capacity for one year;
- 420kV GIS system;
- Reactors;
- AC/DC converter, incl valve cooling system;
- Control and protection and SCADA systems;
- Essential generator; and
- Auxiliary systems, including sea water cooling.

Onshore and Subsea Transmission Cable

- 320kV HVDC subsea export cable system
- 320kV HVDC onshore export cable system
- 48 core Fibre Optic communication cable

Onshore Converter Station (OCS)

- Cable discharge switches;
- DC Choppers;
- DC pole reactors;
- DC/AC converter including valve cooling system;
- Converter reactors;
- Valve isolator;
- Power transformers, three single phase transformers, including one spare single phase transformer;
- Pre insertion resistors;
- Harmonic filter;
- Auxiliary power supply, 1 x 1000 kVA rated supply from DNO, and 1 x 1000 kVA rated supply from Auxiliary Transformer; and
 - Surge arrestors, circuit breakers, VT's, CT's.

Appendix 2 – Ofgem ITV review: Individual cost categories

We undertook a detailed review of each cost category. Below we summarise the adjustments made to each category at ITV review stage (Note: figures may not add to totals due to rounding).

Offshore substation platform (OSP)

Following our ITV review, we have applied an overall increase to the OSP category of £2.6m, made up by the following adjustments:

- a reduction of £0.2m for costs which were identified to be recouped from the contractor.
- a reduction of £3.2m for unsubstantiated claims and open variations; and
- a re-allocation of £5.9m which was previously considered as Other Costs.

As a result of the above adjustments, we have estimated the value of £336.6m to reflect the cost of the OSP for the ITV.

Submarine cable

Following our ITV review, we have made an overall increase of £0.6m to the submarine cable cost category, consisting of the following adjustments:

- a reduction of £0.6m for costs that have been incurred as a result of misunderstanding of requirements/recommendations;
- a reduction of £0.4m for offshore generator fibre costs;
- a reduction of £0.4m for double counting of CAR insurance provisional sums;
- a reduction of £0.4m for additional costs incurred related to guard vessels;
- a re-allocation of £2.4m which was previously considered as Other Costs.

As a result of the adjustments above, we have estimated the value of £151.1m to reflect the cost of the submarine cable at ITV.

Onshore cables

Following our ITV review, we have made an overall reduction of £1.4m, made up by the following adjustments:

- a reduction of £1.4m for unsubstantiated costs by our auditors Grant Thornton;
- a reduction of £0.3m for [REDACTED]
- a reduction of £0.1m for removal of onshore generator fibre costs;
- a positive adjustment of £41k for onshore site preparation costs;

-
- a positive adjustment of £0.2m for archaeology delay as the value submitted in CAT was incorrect; and
 - a re-allocation of £0.3m which was previously considered as Other Costs.

As a result of the above adjustments, we estimated the value of £69.1m to reflect the cost of the onshore cables for the ITV.

Onshore converter station (OCS)

Following our ITV review, we made an overall reduction of £6.6m, made up by the following adjustments:

- a reduction of £4.7m for the spare transformer unit not allowed;
- a reduction of £1.7m for a decrease in Northern PowerGrid DNO supply costs;
- a reduction of £0.1m for the increase of generator assigned space at substation;
- a reduction of £0.2m for adjustment to the OFTO/Generator split;
- a reduction of £0.1m for unsubstantiated claims and open variations; and
- a re-allocation of £0.2m which was previously considered as Other Costs.

Based on the above adjustments, we have estimated the value of the onshore converter station for the ITV at £158.1m.

Connection works

The Developer submitted £17.3m in costs for the connection works undertaken to connect to the 400kV transmission system. Following our ITV review, we have made the following adjustments:

- a positive adjustment of £0.4m for updated values during ITV review process.

Based on the above adjustments, we have estimated the value of the connection works for the ITV at £17.7m.

Other Costs

The Developer submitted costs, including end-to-end project management and development costs, into the category "Other costs."

Following our ITV review, we have reduced the costs of this category by £13.4m. The adjustments applied consisted of:

- a re-allocation of £8.8m which was previously considered as other costs but has been identified as category specific costs throughout the review process;
- a reduction of £0.9m for non-OFTO telecom systems contingency;
- a reduction of £1.2m for double counted forecast legal costs;
- a reduction of £1.2m for unsubstantiated claims in relation to Forewind development costs;

-
- a reduction of £0.4m for environmental costs to reflect the updated forecast;
 - a reduction of £0.3m for compliance costs to remove forecast customs clearance fees no longer required;
 - a reduction of £0.1m for insurance costs which were double counted;
 - a reduction of £0.1m for archaeology costs to correct an error;
 - a reduction of £0.1m for geophysical and geotechnical costs;
 - a positive adjustment of £0.2m for land agent fees;
 - a positive adjustment of £0.2m for development costs as a result of a formula error; and
 - a reduction of £0.7m for the double counting of land agreement costs

Based on the above adjustments, we estimated the value of this category for the ITV to be £92.9m.

Transaction costs

The Developer submitted transaction costs of £3.3m in the CAT.

Following our ITV review, we have reduced the costs of this category by £0.1m. The adjustments applied consisted of:

- a reduction of £0.1m for forecast legal costs.

Based on the above adjustments, we estimated the value of this category for the ITV to be £3.3m.

Interest During Construction (IDC)

The Developer submitted costs in the CAT for the Project's IDC. We have made an overall reduction of £2.1m to the IDC based on the level of cost disallowances made at the ITV review.

As with each of the costs at the ITV stage, this IDC figure is likely to be revised in response to any new adjustments or disallowances arising from the FTV assessment. We will also make an adjustment to IDC at FTV stage to reflect when the assets have become available for generation use. Based on these adjustments, we have included an estimated value of £99.2m for the Project's IDC.

Appendix 3 – Glossary

A

Assessed Costs

The final assessment of costs determined by Ofgem through the cost assessment process for the Dogger Bank A (DBA) Transmission Assets.

C

Capex

Capital Expenditure

CAT

Cost Assessment Template

Cost Assessment Guidance

Can be found here <https://www.ofgem.gov.uk/sites/default/files/2022-03/Offshore%20Transmission%20Guidance%20for%20Cost%20Assessment%202022.pdf>

D

Developer

Dogger Bank A (DBA)

E

EPQ

Enhanced Pre-Qualification

EPCI

Engineering, Procurement, Construction and Installation

F

FTV CAT

The Developer cost assessment template submitted in January 2024

FTV

Final Transfer Value

G

GEMA

The Gas and Electricity Markets Authority

Generation Assets

Dogger Bank A (DBA) Generation Assets (i.e. the windfarm)

I

IDC

Interest During Construction

InTV

Initial Transfer Value

ITT

Invitation to Tender

ITV

Indicative Transfer Value

ITV CAT

The Developer cost assessment template submitted in March 2023

ITV letter

The formal ITV letter issued to the Developer in August 2023

M

MW

Megawatt

O

OFTO

Offshore Transmission Owner

OFTO licence

See definition in Section 1 of this report

OFTO regime

See definition in Section 1 of this report

P

PIM

Preliminary Information Memorandum detailing the Project's details released to EPQ bidders through the tender portal.

PM

Project Management

Project

The development and construction of the Transmission Assets

S

Section 8A Consultation

See definition in Section 2.13 of this report

T

Tender process

The competitive tender process run in accordance with the Tender Regulations through which OFTOs are granted offshore electricity transmission licences

Tender Regulations

The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2015

Transmission Assets

Dogger Bank A (DBA) Transmission Assets

TRS

Tender Revenue Stream