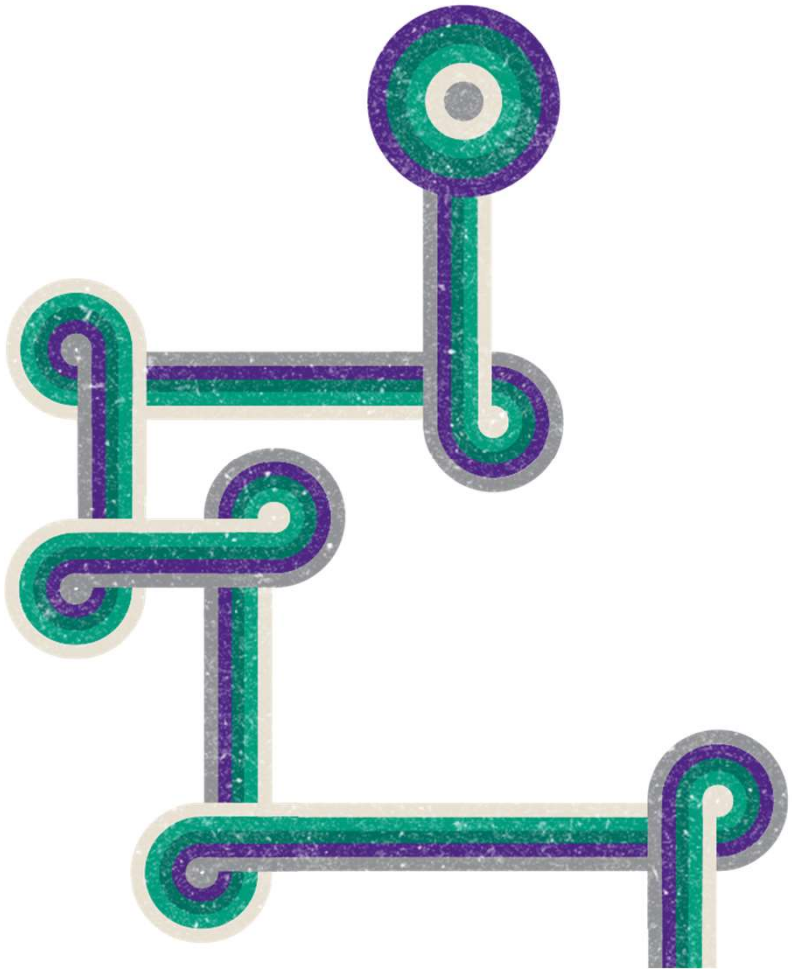
Grant Thornton

Hornsea Project Two Offshore Wind Farm Transmission Assets

Ex-Ante Cost Review

14 April 2022



Grant Thornton UK LLP
30 Finsbury Square
London
EC2P 2YU

T +44 (0)20 7184 4301
www.grantthornton.co.uk

Office of Gas and Electricity Markets
10 South Colonnade
Canary Wharf
London
E14 4PU

14 April 2022

Dear Sirs

Hornsea Project Two Offshore Wind Farm Transmission Assets

In accordance with the Variation Agreement dated 24 June 2021 in relation to Call Off Order Form Reference CON/SPEC/2020-15 dated 9 November 2020 between Smith Square Partners LLP and Ofgem, associated task order and Sub-contractor agreement dated 9 November 2020 between Grant Thornton UK LLP and Smith Square Partners LLP, we enclose for your attention our report detailing our findings arising from the Ex-Ante Cost Review of the Hornsea Project Two Offshore Wind Farm Transmission Assets.

Our conclusions and recommendations are included within the Executive Summary set out in section 1. However, for a full understanding it is necessary to read this in conjunction with our detailed commentary set out in sections 2 to 12 and appendices A to J.

This report is confidential and has been prepared exclusively for Ofgem. Whilst other parties may be interested in receiving a copy of this report, we stress that, to the fullest extent permitted by law, we cannot accept any responsibility whatsoever in respect of any reliance that these parties may place on our report in any decision that they may make in relation to the Hornsea Project Two Offshore Wind Farm.

Yours faithfully

Grant Thornton UK LLP 14/4/2022

Glossary

ABB	ABB A/S and ABB Limited consortium
Allseas	Allseas Group S.A.
BAFO	Best and final offer
BCR	Budget change request
Balfour Beatty	Balfour Beatty Civil Engineering Ltd
Bladt	Bladt Industries A/S
Boskalis	Boskalis Subsea Ltd
Capex	Capital expenditure
CAR	Construction All Risks
CAT	Cost assessment template
CoE	Cost of electricity
CR	Cost reporting
CTV	Crew transfer vessel
DCO	Development Consent Order
Developer	Ørsted/Ørsted A/S
DKK	Danish Krone
Dong Energy	Former name of Ørsted A/S
Dragados	Dragados S.A.
DRC	Dynamic reactive compensation
EPC	Engineering, procurement and construction
EUR	Euro
FID	Final investment decision
FTV	Final transfer value
FX	Foreign exchange
GBP	Great British Pound
Generation Assets	The generation assets of HOW02
GIS	Gas Insulated Switchboards
Grant Thornton	Grant Thornton UK LLP
HDD	Horizontal directional drill
Heerema	Heerema Marine Contractors Nederland SE
HOW01	Hornsea Project One Offshore Wind Farm
HOW02/ the Wind	Hornsea Project Two Offshore Wind Farm
HSE	Health, Safety & Environment
HV	High Voltage
IDC	Interest during construction
ITT	Invitation to tender
ITV	Indicative transfer value

Glossary (continued)

J Murphy and Sons	J Murphy and Sons Ltd
Jan de Nul	Jan de Nul NV
Keppel	Keppel FELS Limited
LS Cables	LS Cable & System Ltd
Nexans	Nexans Norway AS
NGET	National Grid Electricity Transmission plc
NKT	NKT HV Cables AB
Ofgem	The Office of Gas and Electricity Markets
OFR	One Fixed Rate
OFTO	Offshore transmission owner
ONSS	Onshore substation
Ørsted	Ørsted A/S
OSS	Offshore substation
OTM	Offshore transmission modules
OWP	Ørsted wind power
PO	Purchase order
Prysmian	Prysmian PowerLink S.r.L
QHSE	Quality, Health, Safety & Environment
RCS	Reactive compensation station
Saipem	Saipem SpA
SCADA	Supervisory control and data acquisition system
SCS	Substation Control System
SGD	Singapore Dollar
SLP	Sembmarine SLP Limited
SMOP	Sembcorp Marine Offshore Platforms Pte. Ltd
STDL	Siemens Transmission and Distribution Limited
STX	STX France SA
THC	Transformers, HV Components and Protection Systems
TJB	Transition Joint Bay
Tideway	Tideway BV
Transmission Assets	The transmission assets of HOW02
TMO	Transmission organisation
USD	United States Dollar
VO	Variation order
VolkaInfra	Work breakdown structure
WBS	Work breakdown structure
WTG	Wind turbine generator

Contents

Section 1: Executive summary

Executive summary

Introduction

- This report relates to the Hornsea Project Two Offshore Wind Farm which is owned by Ørsted A/S via Ørsted Wind Power A/S
- HOW02 is a 1,386 MW offshore wind farm located approximately 90 km (at the nearest point) east of the Humber Estuary, East Yorkshire in England. HOW02 will use 165 Siemens Gamesa WTGs each with a capacity of 8.4 MW
- The Wind Farm is subdivided into three zones, North East South West and North West, all terminating to a single OSS, linking to a single RCS located within the export cable routes. The OSS has interlink facilities at Transmission 220 kV GIS and Generation 66 kV GIS
- The HOW02 Transmission Assets are currently under construction and operations have now commenced, with the expectation of it reaching full power by the end of 2021 and becoming fully operational in Q2 2022
- The HOW02 Transmission Assets will include the OSS, an RCS, three offshore export cable circuits with an average route length of approximately 128 km, three onshore transition joints and three onshore export cable circuits with a route length of approximately 38 km, connecting to an ONSS and connected via two 400 kV cables to two double bus bar 400 kV GIS bays within the existing NGET Killingholme onshore substation. Within the ONSS there is an additional complete 220 kV GIS bay to allow future connection of innovative systems to the transmission assets during the project lifetime

Grant Thornton review

- Our review and this report is based upon the CAT submitted to Ofgem dated 22 June 2021 and incorporates information and explanations provided regarding the costs in this version of the CAT, both from our site visit and in correspondence with the Developer, up to 10 January 2022
- Grant Thornton has been instructed by Ofgem to review the ex-ante cost assessments prepared by the Developer for the Transmission Assets of the Wind Farm (Ex-Ante Cost Review)
- The Ex-Ante Cost Review has considered the accuracy, completeness and allocation of costs against the CAT prepared by the Developer for the Wind Farm Transmission Assets. The review is based on supporting information and methodology provided by the Developer
- The purpose of this review is to:
  - determine if the Developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information
- The Developer's estimate of the cost of the Wind Farm Transmission Assets, included in the CAT dated 22 June 2021, amounts to £1.21 billion. This represents a £0.11 million decrease on the initial cost assessment by the Developer as set out in version 1.0 of the CAT. The Developer's estimated costs of the Transmission Assets, as set out in the CAT, are summarised in the table on the following page

Executive summary (continued)

Transmission Assets cost summary

	CAT Reference	Direct costs £	Contingency £	Total £	%
Project common costs	CR8	[redacted]			
Offshore substation	CR2	[redacted]			
Submarine cable supply and installation	CR3	[redacted]			
Land cable supply and installation	CR4	[redacted]			
Onshore substation	CR5	[redacted]			
Reactive substation	CR6	[redacted]			
Connection costs	CR7	[redacted]			
Transaction costs	CR9	[redacted]			
Total capital costs		[redacted]			
Interest during construction		[redacted]			
Total		**1,183,962,146**	**28,460,478**	**1,212,422,623**	**100%**

Summary of findings

- The Developer has provided us with supporting documentation and/or explanations for the majority of items included within the CAT. Our review found that all major items of capital expenditure for Transmission Assets have either been procured under contracts specific to the transmission business, or have been procured under contracts specific to the Wind Farm as a whole and have been allocated between the Transmission and Generation Assets using a mix of allocation methodologies that will be considered further in this report
- As part of our line-by-line review, as instructed, of the CAT, we have sought to agree the costs of the transmission business above £250,000 to supporting documentation, representing £1.07 billion (97.13%) (excluding IDC) of the total costs of the CAT. This included:
  - confirming costs in the CAT to contracts between the Developer and subcontractors, contract variations orders and to working schedules prepared by the Developer that set out how estimated costs within the CAT have been calculated
  - gaining an understanding from the Developer about the determination of costs in the CAT, such as the approach to procurement of main items of expenditure, the allocation of shared costs between the transmission and generation businesses, and the treatment of costs incurred in foreign currencies
- A summary of our testing and cost coverage is set out in the 'Summary of testing approach' table at the end of this executive summary
- In most cases, we were able to confirm that the costs included in the CAT were appropriately stated. However, we identified that some costs were incorrectly stated, and as such, we propose adjustments for these costs and the revised cost of the Transmission Assets within the 'Impact of cost assessment' table at the end of this executive summary. The proposed adjustments include adjustments to reflect the updated CAT (v2.1) submitted by the Developer on 16 August 2021
- Furthermore, there are some areas which we draw to Ofgem's attention, and these are detailed in the table on the following pages

Conclusion

- Based upon our review, subject to the items included in the "Impact of cost assessment" table and the matters highlighted in the "Matters requiring further consideration by Ofgem" tables, we consider that the costs of the Transmission Assets included in the CAT dated 22 June 2021 appear to be appropriately stated

Executive summary (continued)

Matters requiring further consideration by Ofgem

Area	Further information	Grant Thornton observations
Transaction costs – CR9 • Supporting information for an amount in the CAT	• We have not been provided with any supporting information for transaction costs totalling £[redacted] included within CR9, being assessment costs of £[redacted], external technical consultant costs of £[redacted] and legal costs of £[redacted] • The Developer has explained that these costs are an estimate based on previous projects	• Whilst we consider the inclusion of transaction costs in the ITV to be reasonable, absent further information, we are unable to say whether these transaction costs totalling £[redacted] are reasonable • Accordingly, we recommend that Ofgem should obtain further information from the Developer before accepting these costs
Contingency • Validation of contingency provision	• The CAT includes a contingency of £[redacted] ([redacted] of pre contingency capital costs excluding IDC) which Ørsted has calculated based upon its assessment of risks it has elsewhere in relation to the Transmission Assets (and a share of common costs where appropriate), the likelihood of such risks being realised and an estimate of the costs involved in these circumstances	• Based upon our experience of similar projects, the approach taken for the calculation of contingencies is in line with what we have seen on previous projects • Likewise, in light of the level of completion of the Transmission Assets, the percentage of contingencies as a proportion of total capital costs is in line with what we have seen on similar projects • However, we consider that the assessment of the expected value of risks and of the likelihood of each event occurring fall within the scope of a technical assessment, rather than the Ex-Ante Review • We note that by the time of the ex-post cost assessment (the Ex-Post Review), the value of the contingencies is expected to fall to zero, as at this stage all costs will be known • Accordingly, we recommend that Ofgem should obtain an update of the contingency provision from the Developer prior to finalising the ITV
Cost allocation	• The majority of costs relating to the Transmission Assets are fully attributable to the Transmission Assets • However, where costs are not directly attributable to the Transmission Assets, the Developer has adopted the same approach as [redacted] and has allocated costs using the following methods: – [redacted] – [redacted] – [redacted]	• [redacted] • [redacted] • Accordingly, we recommend that Ofgem should consider this further and see whether it is able to obtain a more detailed calculation from the Developer

Executive summary (continued)

Matters requiring further consideration by Ofgem

Area	Further information	Grant Thornton observations
Areas requiring technical input • Time spent by internal staff	• In order to substantiate resources costs, the Developer has provided a resource planner, which details, by month, the expected hours that employees who work on the Wind Farm as a whole will spend on the Transmission Assets • The Developer has also provided the 2021 hourly rate schedule • However, the resource planner does not include the hourly rates and therefore no verification work has been done in relation to the rates used. Further, it is not within our area of expertise to establish whether the time spent by the internal staff and the rates used are reasonable • The Developer has stated that all profit elements have been removed from the CAT	• We recommend that Ofgem should consider instructing technical advisors to review the resources time and rates in order to determine whether these costs (in terms of both hours spent and the hourly rates used) are being efficiently incurred, including whether they include any profit element
Covid related costs	• In addition to the items in the CAT with 'Covid' in the line heading, we have identified a number of costs within the CAT that are 'covid-related within Remaining Budgets • Further, we note that the Developer has explained that it is currently difficult to estimate which VOs within Remaining Budgets are Covid related • Where our review has identified such costs, we have highlighted this within the Appendices	• It is not within our scope to quantify the covid related costs and further it is not within our area of expertise to establish whether such costs have been efficiently incurred and are allowable • Accordingly, we recommend that Ofgem should consider instructing technical advisers to review the costs identified and determine whether these should be included within the Transmission Assets costs
Remaining Budget • Verification of costs included in Remaining Budget	• We have verified the costs included in Remaining Budgets by agreeing the costs included in the CAT to a breakdown provided by the Developer. For individual amounts included within the breakdown provided we have requested supporting documentation. However, for the majority of estimates we have only been provided with explanations from the contract manager, i.e. no third party documentation has been provided • Our verification work in the Appendices details whether supporting documentation and/ or explanations have been provided by the Developer • Further, we note that the Remaining Budgets include a number of costs relating to OSS delays and spares	• We recommend that Ofgem should consider the costs included with Remaining Budget further in order to determine whether these should be included within the Transmission Assets costs

Executive summary (continued)

Matters requiring further consideration by Ofgem

Area	Further information	Grant Thornton observations
Foreign currencies • Approach to costs incurred in foreign currencies – OFR	• A large proportion of costs of the Transmission Assets are denominated in foreign currency • The Developer has adopted the same approach as HOW01 where it has calculated an exchange rate for each contract based upon the expected payment profiles and the forward exchange rates that it would be able to obtain for those contracts • The rates for each contracts are collated into a financial model, which derives a single rate, the OFR, for the Transmission Assets as a whole, as follows: – EUR[redacted]:£1 – DKK[redacted]:£1 – USD[redacted]:£1 – SGD[redacted]:£1 • As part of our cost verification we confirmed that the applicable OFR has been applied to all lines included in the CAT above £[redacted]	• We consider that the principles of the approach taken by the Developer in relation to costs incurred in foreign currencies, with a focus on mitigating the impact of foreign currency movements, to be reasonable • However, the OFR model is complex and accordingly, we recommend that Ofgem should discuss the construction of the OFR with the Developer to confirm it accords to Ofgem's policies for foreign currencies

Executive summary (continued)

Summary of testing approach

	Total costs	Substantiated	Unsubstantiated	Under £250,000
	£	£	£	£
Project common costs	[redacted]			
Offshore substation	[redacted]			
Submarine cable supply and installation	[redacted]			
Land cable supply and installation	[redacted]			
Onshore substation	[redacted]			
Reactive substation	[redacted]			
Connection costs	[redacted]			
Transaction costs	[redacted]			
Total	[redacted]			
% of total costs	100%	[redacted]		

Executive summary (continued)

Impact of cost assessment

	CAT reference	Section	£
Cost of Transmission Assets per CAT dated 22 June 2021 (excluding IDC)			1,096,682,595
Adjustments to reflect the costs included in the CAT dated 16 August 2021			
Decrease in supply of topsides for removal of generator item (VO.098.01)	CR2	6	[redacted]
Decrease in supply of topsides for removal of generator item (VO.098.03)	CR2	6	[redacted]
Decrease in supply of topsides for removal of generator item (VO.098.06)	CR2	6	[redacted]
Decrease in supply of topsides - Remaining Budget	CR2	6	[redacted]
Increase in installation of piles/jackets/topsides - Remaining Budget - reallocation of TMO from CR5	CR2	6	[redacted]
Increase in Jack-up Vessel (contract 135) - reallocation from CR3	CR2	6	[redacted]
Increase in Jack-up Vessel (AM135.01) - reallocation from CR3	CR2	6	[redacted]
Increase in Vessels - Remaining Budget	CR2	6	[redacted]
Decrease in Vessels - CTVs ([redacted])	CR3	7	[redacted]
Decrease in Jack-up Vessel (contract 135) - reallocation to CR2	CR3	7	[redacted]
Decrease in Jack-up Vessel (AM135.01) - reallocation to CR2	CR3	7	[redacted]
Decrease in Vessels - Remaining Budget - reallocation to CR6 ([redacted])	CR3	7	[redacted]
Decrease in Civils - Principal works - Remaining Budget - reallocation of TMO to CR2 ([redacted]) and CR6 ([redacted])	CR5	9	[redacted]
Decrease in GIS 440kv - CAT3 - removal of VO.03.33 from CR5 (non-OFTO item)	CR5	9	[redacted]
Decrease in supply of topsides for removal of generator item (VO.098.02)	CR6	10	[redacted]
Decrease in supply of topsides for removal of generator item (VO.098.03)	CR6	10	[redacted]
Decrease in supply of topsides for removal of generator item (VO.098.06)	CR6	10	[redacted]
Increase in supply of topsides - Remaining Budget	CR6	10	[redacted]
Increase in installation of piles/jackets/topsides - Remaining Budget - reallocation of TMO from CR5	CR6	10	[redacted]
Increase in Vessels - Remaining - reallocaiton from CR3 and updated OFTO allocation ([redacted])	CR6	10	[redacted]
			[redacted]
Adjustments where the amount verified differs to the amount included in the CAT			
Increase to cable installation costs ([redacted])	CR3	7	[redacted]
Decrease to site investigation costs ([redacted])	CR3	7	[redacted]
Increase in Consents & environmental planning ([redacted]) - reallocation from CR4	CR3	7	[redacted]
Decrease in HDD Landfall - [redacted]	CR4	8	[redacted]
Increase in HDD Landfall - [redacted]	CR4	8	[redacted]
Decrease in Consents & environmental planning ([redacted]) - reallocation to CR3	CR4	8	[redacted]
Decrease in Civils - Design - Remaining Budget costs no longer required	CR5	9	[redacted]
Decrease in Civils - Principal works - Options costs no longer required	CR5	9	[redacted]
Increase in Electrical components - [redacted]	CR5	9	[redacted]
			[redacted]
Revised cost of Transmission Assets			**1,095,198,829**

Section 2: Introduction and background

Instructions and background

Instructions

- Grant Thornton UK LLP has been instructed by Ofgem to prepare an Ex-Ante Cost Review of the cost information and cost templates prepared for Ofgem by the Developer in relation to the HOW02 Transmission Assets
- In this review we established whether the costs greater than £250,000 provided in the Developer's CAT can be matched to specific contracts or other supporting information, and whether appropriate metrics exist for cost allocation between transmission and generation assets. Our work involved tracing the amounts stated in the CAT to supporting contracts, schedules and other supporting information that shows how costs have been derived. The review also involved a site visit to the Developer's premises in order to discuss the information provided, together with the basis for the cost allocation metrics used
- The purpose of a review at this stage is to:
  - determine if a developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information
- The Ex-Ante Cost Review is based upon the Developer's current estimates of the costs to be incurred in developing and constructing the Transmission Assets. Following construction of the Wind Farm, we expect to carry out a forensic review of the actual expenditure incurred by the transmission business (the Ex-Post Review)
- Grant Thornton's review of the Ex-Ante cost information prepared by the Developer is limited to the scope as set out above and does not include detailed cost verification or any review of technical or legal issues
- Our review and this report is based upon the CAT submitted to Ofgem dated 22 June 2021 and incorporates information and explanations provided regarding the costs in this version of the CAT, both during our meeting with and correspondence with the Developer up to 10 January 2022
- If further information is produced and brought to our attention after service of this report, we reserve the right to revise our opinions as appropriate
- This work does not constitute an audit performed in accordance with Auditing Standards
- Except to the extent set out in this report, we have relied upon the documents and information provided to us as being accurate and genuine. To the extent that any information we have relied upon are not established as accurate, it may be necessary to review our conclusions
- The report has been prepared using Microsoft Excel. The report may contain minor rounding adjustments due to the use of computers for preparing certain calculations

Background

- HOW02 is part of the wider Hornsea development zone, which has a total planned capacity of up to [redacted] and is divided into four sub-projects; HOW01(1,218MW), HOW02 (up to 1,386MW), HOW03 ([redacted]) and HOW04 (approximately [redacted]). HOW02 is the second project to be built in the zone
- The site is located in the English Southern North Sea approximately 90 km east of the Humber Estuary, East Yorkshire and is planned to be operated from Ørsted's operation and maintenance hub in Grimsby
- Ørsted fully acquired the rights to the Hornsea Zone in Q3 2015 with HOW02 awarded a DCO in August 2016 under the Planning Act 2008. Since then, HOW02 has been developed by Breesea Limited, Soundmark Wind Limited and Sonningmay Wind Limited, which are indirect subsidiaries of Ørsted A/S. Construction work on the HOW02 Transmission Assets began in Q2 2018

Background (continued) and purpose and method of the review

Background (continued)

- HOW02 is a 1,386MW Wind Farm located approximately 90 km (at the nearest point) east of the Humber Estuary, East Yorkshire. HOW02 will use 165 Siemens Gamesa WTGs each with a capacity of 8.4MW. The Wind Farm is subdivided into three substation areas; North East, South West and North West
- The HOW02 Transmission Assets are currently under construction and operations have now commenced, with the expectation of it reaching full power by the end of 2021 and becoming fully operational in Q2 2022
- The assets will principally comprise:
  - a single OSS, mounted on a jacket foundation
  - three approximately 62 km long 220 kV three-core marine far shore offshore export cables
  - a RCS, mounted on a jacket foundation
  - three approximately 66 km long 220 kV three-core marine near shore offshore export cables
  - three sets of approximately 38 km long 220 kV onshore, underground cables
  - a new ONSS at Killingholme (located adjacent to the HOW01 ONSS)
  - two runs approximately 282 m long of 400 kV three single-core cables connecting the new ONSS to two new 400 kV NGET unlicensed bays at the existing NGET substation at Killingholme
- The subsea 220 kV cable circuits are divided into two main sections: the far shore lay area (between the OSS and RCS) and the near shore lay area (between RCS and the landfall location). The average route length from the OSS to the shore of the three offshore export cable circuits is approximately 128 km
- The offshore export cables are pulled through three HDD cable ducting systems that are installed at the offshore exit / onshore entry point close to the TJB behind the sea defence
- Three circuits of the onshore export cable along with three external fibre optic cables have been installed between the TJB and the HOW02 ONSS
- The HOW02 Transmission Assets are expected to deliver a minimum availability of 98%, taking into account both planned and unplanned maintenance

Purpose and method of the review

- The main purpose of the Ex-Ante Cost Review of the Wind Farm's Transmission Assets is to:
  - determine if a developer's cost estimate requires updating for the next stage of the transfer process, ITT
  - assist in the identification of technical issues by noting areas where the cost information suggests that further technical review may be required to consider efficiency as part of determining the ITV for the ITT stage of the process
  - assist determination of the ITV for ITT by reviewing accuracy, allocation and completeness of cost information. In particular:
    - whether the costs as set out in the Developer's CAT for the Transmission Assets are appropriately stated to use in the cost assessment
    - whether costs not directly attributable to either the Generation or Transmission Assets have been allocated to each on a reasonable basis
- The starting point in our review of the cost information provided was the CAT dated 22 June 2021 and was based upon the Developer's estimates of the costs of the Transmission Assets to May 2021

Purpose and method of the review (continued)

Purpose and method of the review (continued)

- Our review has considered confirmation that costs included in the CAT relate to contracts that are either for the Transmission Assets or are for the Wind Farm in a broader sense but have a reasonable basis for allocation between Transmission Assets and other elements of the Wind Farm. The basis of allocation is different in some cases depending upon:
  - whether the costs can be directly attributed to either the transmission or generation businesses (as in the case of the main capital contracts)
  - what is considered the main driver behind the relevant development or project management cost (this is usually capital cost or the degree of time/activity required in relation to different components of the Wind Farm development)
- In each case where an allocation is involved we have considered if the proposed method and rate of allocation are appropriate for that particular cost. We have not at this stage sought to verify that any expenditure has actually been incurred by tracing the costs included in the CAT to actual payments, as that will be done for selected contracts as part of the Ex-Post Cost Review

Section 3: HOW02 processes

Introduction, decision making process and procurement

Introduction

- In this section, we set out the processes that have been used by the Developer in relation to the procurement of, and the accounting for, the Wind Farm, and in particular, the Transmission Assets
- From our discussions with the Developer and our review of the cost information prepared by them in respect of the Transmission Assets, it is evident that there are systems in place which will help to ensure that the cost of the Wind Farm Transmission Assets represents value for money including:
  - specific planning and budgeting tools, including building on experience obtained from similar projects
  - controls over variation orders and large expenditure items

Decision making process

- The decision governance in the HOW02 project is based on a project specific Execution Project Authorisation Matrix which includes three steps of authorisations, namely:
  - authorisation to approve decisions (Decision Governance)
  - authorisation to enter commitments, i.e. signing contracts (Commitment Governance)
  - authorisation to approve and release payments (Payment Governance)
- The Developer has provided an extract from the HOW02 Execution Project Authorisation Matrix (September 2018) which shows the decision governance. This covers all decisions which will lead to a commitment made on behalf of HOW02 by Sonningmay Wind Ltd, Southmark Wind Limited, Optimus Wind Limited and Breesea Limited or Ørsted

Procurement process

- The Lead Contract Manager for HOW02 has the procedural responsibility for all procurement in the project. Contract Managers are responsible for sourcing, tendering and managing a contract throughout the whole process

Multi-contract strategy

- [redacted] HOW02 has adopted a multi-contract strategy as the most suitable, cost effective and efficient procurement and construction approach for the Transmission Assets
- [redacted]
- As such, Ørsted considers that a [redacted] strategy is more economical, and enables the Developer to enlist the services of suitable suppliers with the appropriate technical expertise and experience for specific tasks. It also allows the Developer to retain control and responsibility over all aspects of the HOW02 project, including over the management of key interfaces between contractors and the resulting impact on the project and underlying budget

Competitive tendering

- One of the main tools used by the Developer in achieving value for money and the highest compliance to requirements is the use of a competitive tendering process for the main elements of construction of the Wind Farm
- The majority of contracts were put out to tender, with Ørsted inviting specialist companies in each area to tender for the scope of work. However, in some circumstances the requirement to tender was waived according to the Authorisation Matrix, eg when the nature of the work required so or as a result of supplier capacity constraints as further detailed in Appendix B
- [redacted]

Procurement process (continued) and accounting and budgeting process

Procurement process (continued)

Approval limits

- The following limits have been set for the approval of contract award:
  - ≤ [redacted]: The sub-project Manager and the Contract Manager
  - > [redacted]: Executive Director(s) of affected HOW02 Companies/EPC Director/Deputy EPC Director and Lead Contract Manager
  - > [redacted]: Executive Director and Chairman of Board of Directors of affected HOW02 Companies

Contracting

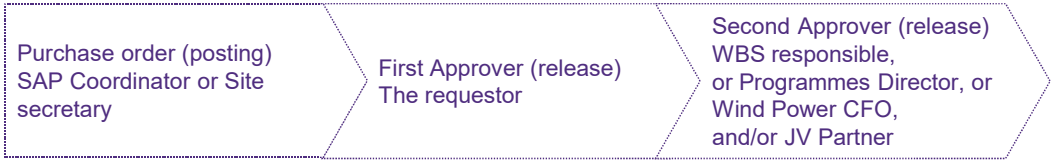
- The majority of the construction contracts sit with Optimus Wind Limited, with asset title transferring to Breesea Limited, Soundmark Wind Limited and Sonningmay Wind Limited at construction completion
- Our review of the tenders in this project is set out in Appendix B

Accounting and budgeting process

- As project manager of the Wind Farm, Ørsted provides the accounting team that supports the Wind Farm project and undertakes the budgeting process
- Ørsted operates a SAP system for accounting which records the actual costs and remaining committed costs
- The SAP data feeds into ICON, which uses 'networks' mapped to CAT headings according to WBS hierarchy. ICON allows for direct allocation of OFTO costs with the OFTO % allocation maintained in ICON at the PO level (ie invoices are allocated to Transmission Assets/ Generation Assets within the system)
- Data from ICON is separated into Resources, Travel and Contracts depending on the 'network' in a linked CSV file, with resources data analysed separately to take account of transfer pricing
- The CAT is populated by combining this formatted data into the template

Invoice and approval process

- The Developer operates a rigid invoice and purchase order approval process, as set out in the below diagram:



- For each contract, purchase orders are prepared for the costs expected to be incurred, along with a cash flow profile
- The contract manager approves the application for payment from the contractor, prior to the contractor issuing the invoice
- When the 'First approver' (ie the person who requested the purchase order) receives the invoice of costs incurred for 'release', the invoice amount and currency is matched against the purchase order (and the payment plan if one has been created). The 'First approver' ensures that the terms, quantity, quality and the amount are in accordance with both the contract and the item(s)/services(s) received from the vendor
- The 'Second approver', defined in the Authorisation Matrix depending upon the size and type of the invoice, approves the release of the invoice by the 'First approver'

Budget Change Request

- A BCR is created whenever a change in cost baseline is expected from the budgeted amount requiring the transfer of budgets between packages and the usage of contingency

Accounting and budgeting process (continued) and cost accounting and allocation methodology

Accounting and budgeting process (continued)

Budget Change Request (continued)

- The BCR approval process is performed on a monthly basis and requires approval from the below levels, in the following order, dependent upon the value of the change:
  - Relevant Package Manager
  - EPC Director (if it is part of EPC scope)
  - Programme Director
  - Programme Financial Manager
  - Programme Steering Committee
  - JV Partner (if outside of delegated authority)

Forecasting updates

- Typically two thorough (and two light) budget revisions are performed annually

Cost controlling

- Capital expenditure, budgets and forecasts are updated on a monthly basis in reviews between the Cost Controller and Package Manager. Budgets are made up of actual costs incurred, committed costs and remaining costs. Remaining costs are considered on a monthly basis, with the Package Manager being asked to provide rationale for those costs

Cost accounting and allocation methodology

- As detailed on the previous page, the CAT has been prepared by populating costs (and forecasts) that relate to the transmission works from the project cost report, executed contracts and the project's cost system, with cost allocation to Transmission or Generation Assets, or to the Wind Farm as a whole (shared costs) being maintained (for the majority of costs) in the ICON system

Cost allocation methodology

- Where project costs are not fully attributable to the Transmission Assets, ie they relate to the Wind Farm as a whole (shared costs), estimates have been made of the proportion of the costs that should be attributed to the Transmission Assets based on the nature of the shared costs
- Shared (or indirect) costs are typically indirect costs which are for the general benefit of the overall project and include:
  - general project management and administration
  - project support functions eg procurement, cost control, health and safety
  - general consultants eg legal/environment and consent
  - offices – London, Denmark and on site
  - SCADA equipment benefitting both the Transmission and Generating Assets
- Further detail on our review of cost allocation is set out in the next section

Section 4: Costs common to the Transmission Assets as a whole

Introduction, resourcing costs, interest during construction and boundaries

Resource costs

	£
Project common costs	[redacted]
Offshore substation	[redacted]
Submarine cable supply and installation	[redacted]
Land cable supply and installation	[redacted]
Onshore substation	[redacted]
Reactive substation	[redacted]
Connection costs	[redacted]
Transaction costs	[redacted]
Total	[redacted]

Introduction

- Whilst the CAT breaks down the costs of the Transmission Assets into distinct areas, largely based upon the separate components that make up the Transmission Assets, there are certain costs and cost principles which are common to the Transmission Assets as a whole
- As such, we have summarised the work that we have undertaken in relation to these costs and cost principles in this section and cross refer to our findings in relation to such costs and cost principles in the later sections of this report

Resourcing costs

- The CAT includes approximately £[redacted] relating to the time costs of project management resource on the project, including time spent by both Ørsted employees and contractors on the Transmission Assets, as summarised in the table above
- The Developer has provided a resource planner, which details, by month, the expected hours that employees who work on the Wind Farm as a whole will spend on the Transmission Assets, and allocated where appropriate, to derive total expected resources costs for the Transmission Assets
- We have also been provided with the 2021 hourly rate schedule. However, the resource planner does not include the hourly rates and therefore no verification work has been undertaken in this regard, as further detailed in the executive summary
- Overall, whilst we can confirm that there appears to be a reasonable basis for the Developer's estimates of resources costs, we do not have the technical expertise to determine whether the time spent or rates used are economically or efficiently incurred. We recommend that Ofgem's technical advisers should review the breakdowns provided of the number of hours by activity and the hourly rates used in order to assess whether the number of hours spent and the hourly rates are efficiently incurred

Interest during construction

- Interest should be included within the Transmission Assets costs up to the end of construction (after which, the project is expected to be generating power)
- The Developer's current interest cost for the construction period of the Transmission Assets totals approximately £[redacted]. For the avoidance of doubt, we have not verified the Developer's assessment of interest during development or construction, as this is outside the scope of our review

Boundaries used for the purposes of cost allocation

- The HOW02 Information Memorandum 2021 confirms the boundary points of the Transmission Assets proposed by the Developers, as follows:
  - OSS (North West, South West and North East circuit) – located at the 66 kV MV switchgear incomer termination connecting from the grid transformers on the OSS
  - Onshore – located at the first gas barrier zones on both the main and reserve 400 kV bus bar contained within the existing NGET Killingholme 400 kV substation

Contingencies, global discounts and related party transactions

Contingencies

	£
Project common costs	[redacted]
Offshore substation	[redacted]
Submarine cable supply and installation	[redacted]
Land cable supply and installation	[redacted]
Onshore substation	[redacted]
Reactive substation	[redacted]
Total	[redacted]

Contingencies

- The CAT provided by the Developer includes a contingency provision of [redacted]
- The Developer has calculated the contingency provision based upon its assessment of risks in relation to the Transmission Assets (and a share of common costs where appropriate), the likelihood of such risks being realised and an estimate of the costs involved in these circumstances
- The package managers are responsible for identifying all potential risks in connection with their specific packages, based upon issues that have arisen from previous projects, and then with support from the project risk manager, they estimate the probability of the risk materialising and the cost
- The contingency provision included within the CAT, approximating [redacted] of pre-contingency capital costs excluding IDC, is summarised in the table above, with the contingency amounts being calculated by multiplying the expected amount which would be incurred if the risk materialised by the probability that the risk will materialise
- The bulk of the contingency provision is in relation to the OSS, submarine cable supply and installation and RCS. The Developer has provided details of the main risks on which the contingency provision has been calculated for each of CR categories of the Transmission Assets as follows:
  - [redacted]
  - [redacted]
  - [redacted]
- By the time of the Ex-Post Review, the value of the contingencies will fall to zero, as all costs will be known by this stage

Application of overriding global discounts

- The Developer has confirmed that no global discounts have been obtained in the course of the project

Related party transactions

- The Developer has confirmed that there have been no related party transactions in the course of the project

Cost allocation and foreign exchange

Cost allocation

- As detailed in section 3, [redacted], HOW02 makes a direct allocation of OFTO cost in ICON and the OFTO % allocation is maintained in ICON at PO level detail
- The shared cost allocation has been applied on a PO line item level and the line items for remaining budget
- The Developer has used three rates for the allocation of shared costs between the Transmission Assets and Generation Assets:
  - most shared costs have been allocated to the Transmission Assets based upon Transmission Assets capital costs as a percentage of total Wind Farm capital expenditure. The Developer has calculated the rate at [redacted], as further detailed below
  - SCADA costs have been allocated with [redacted] to Generation Assets and [redacted] to Transmission Assets
  - acquisition costs have been allocated with [redacted] to Generation Assets and [redacted] to Transmission Assets (using Smart Wind allocation percentage)

Capital costs

- Use of capital costs of the Transmission Assets as a percentage of total Wind Farm capital costs is an approach that is common in OFTO projects
- The general allocation rule for shared costs between Generation Assets and Transmission Assets is [redacted] and [redacted] respectively, based on the CAPEX split at FID
- The Developer has provided us with very high level workings of the rate at June 2018 amounting to [redacted]. The level of detail in these workings is such that we are unable to establish whether the amount of Transmission Assets capital costs accords with the Transmission Asset capital costs included in the CAT
- [redacted]
- Our observations in this regard are included in the executive summary

Foreign exchange

- Of total capital expenditure for the OFTO Assets, the Developer anticipated that up to [redacted] would be denominated in foreign currencies, principally EUR, DKK or USD
- The Developer has used the foreign currency translation methodology [redacted], OFR
- The OFR includes both committed costs and remaining budget, consisting of non-committed capex and resources and included with a hypothetical hedging date as of the CAT cut-off date
- The Developer has explained that the total budget amount of a foreign currency must exceed a minimum threshold of an equivalent of £[redacted] to qualify for being included in the model with its own OFR. Any foreign currencies falling below this threshold are included in the CAT using a spot rate conversion
- OFR is calculated as a weighted average of market-based FX forward rates for the portfolio of contracts per currency. The OFRs applied in the CAT are:
  - EUR[redacted]:£1
  - DKK[redacted]:£1
  - USD[redacted]:£1
  - SGD[redacted]:£1
- The Developer has used the daily FX forward rates from Reuters as the source for the market data and the corresponding curves are downloaded every working day into the Developer's internal price database (PReP). We note that we have not verified the calculation of the OFRs
- Our observations in this regard are included in the executive summary

Section 5: Project common costs and development costs

Project common costs and development costs

CR8 – project common costs

Costs overview	£
Project management / External Consultancy	[redacted]
Asset management	[redacted]
Consents & environmental planning	[redacted]
Insurance Costs	[redacted]
Development costs	[redacted]
Aquisition Cost	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs that are common to the project as a whole, which have been allocated to the Transmission Assets, together with the early development costs related to the Transmission Assets

Verification work

- Our verification work in relation to the project common costs is set out in Appendix C
- Based upon our review, subject to our observations in relation to the resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree project common costs and development costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of project common costs and development costs comprises costs below £250,000 which fall outside the scope of our review

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, the project common costs and development included in the CAT are appropriately stated

Section 6: Offshore substation costs

Offshore substation costs

CR2 – Offshore substation costs

Costs overview	£
Substation Design	[redacted]
Supply of piles/jackets	[redacted]
Supply of topsides	[redacted]
Installation of piles/jackets/topsides	[redacted]
Offshore site preparation	[redacted]
Electrical	[redacted]
IPC Platform Cables	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs of construction of the offshore substation and associated works

Verification work

- Our verification work in relation to the offshore substation costs is set out in Appendix D
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree offshore substation costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of offshore substation costs comprises costs below £250,000 which fall outside the scope of our review
- Whilst most offshore substation costs appear to be appropriately stated, the table opposite has highlighted eight items where the amount included in the CAT requires amendment

CR2 adjustments

	CAT amount £	Adjustment £	Reasons for adjustment	Revised CAT amount
[redacted]				
Total				

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, and the amendments highlighted in the table above, the offshore substation costs included in the CAT appear to be appropriately stated

Section 7: Submarine cable supply and installation costs

Submarine cable supply and installation costs

CR3 – Submarine cable supply and installation costs

Costs overview	£
Supply of cable	[redacted]
Cable installation	[redacted]
Offshore site preparation	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs associated with the supply and installation of the submarine cable

Verification work

- Our verification work in relation to the submarine cable supply and installation costs is set out in Appendix E
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree submarine cable supply and installation costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of submarine cable supply and installation costs comprises costs below £250,000 which fall outside the scope of our review
- Whilst most submarine cable supply and installation costs appear to be appropriately stated, the table opposite has highlighted seven items where the amount included in the CAT requires amendment

CR3 adjustments

	CAT amount £	Adjustment £	Reasons for adjustment	Revised CAT amount
[redacted]				
Total				

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, and the amendments highlighted in the table above, the submarine cable supply and installation costs included in the CAT appear to be appropriately stated

Section 8: Land cable supply and installation costs

Land cable supply and installation costs

CR4 – Land cable supply and installation costs

Costs overview	£
Supply of cable	[redacted]
Installation of cable	[redacted]
HDD Landfall	[redacted]
Land And Crossing Agreements	[redacted]
Consents & environmental planning	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs associated with the supply and installation of the land cable

Verification work

- Our verification work in relation to the land cable supply and installation costs is set out in Appendix F
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree land cable supply and installation costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of land cable supply and installation costs comprises costs below £250,000 which fall outside the scope of our review
- Whilst most land cable supply and installation costs appear to be appropriately stated, the table opposite has highlighted three items where the amount included in the CAT requires amendment

CR4 adjustments

	CAT amount £	Adjustment £	Reasons for adjustment	Revised CAT amount £
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]	
			[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]	
			[redacted]	
			[redacted]	
[redacted]		[redacted]	[redacted]	[redacted]
[redacted]				
[redacted]				
Total	[redacted]			

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, and the amendments highlighted in the table above, the land cable supply and installation costs included in the CAT appear to be appropriately stated

Section 9: Onshore substation costs

Onshore substation costs

CR5 – Onshore substation costs

Costs overview	£
Civils	[redacted]
Onshore Site Preparation	[redacted]
Electrical components	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs of construction of the onshore substation and associated works

Verification work

- Our verification work in relation to the onshore substation costs is set out in Appendix G
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree onshore substation costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of onshore substation costs comprises costs below £250,000 which fall outside the scope of our review
- Whilst most onshore substation costs appear to be appropriately stated, the table opposite has highlighted five items where the amount included in the CAT requires amendment

CR5 adjustments

	CAT amount £	£ adjustment	Reasons for adjustment	Revised CAT amount
[redacted]				
Total				

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, and the amendments highlighted in the table above, the onshore substation costs included in the CAT appear to be appropriately stated

Section 10: Reactive substation costs

Reactive substation costs

CR6 – Reactive substation costs

Costs overview	£
Design	[redacted]
Supply of piles / jackets	[redacted]
Supply of topsides	[redacted]
Installation of piles / jackets / topsides	[redacted]
Offshore site preparation	[redacted]
Electrical	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Contingency	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs incurred for the reactive substation

Verification work

- Our verification work in relation to the reactive substation costs is set out in Appendix H
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree reactive substation costs totalling £[redacted] ([redacted]) to supporting documentation
- The remaining £[redacted] ([redacted]) of reactive substation costs comprises costs below £250,000 which fall outside the scope of our review
- Whilst most reactive substation costs appear to be appropriately stated, the table opposite has highlighted six items where the amount included in the CAT requires amendment

CR6 adjustments

	CAT amount £	£ adjustment	Reasons for adjustment	Revised CAT amount
[redacted]				
Total				

Conclusion

- Based upon our review, subject to our comments in relation to resources rates and overhead allocation rates, as detailed in the executive summary, and the amendments highlighted in the table above, the reactive substation costs included in the CAT appear to be appropriately stated

Section 11: Connection costs

Connection costs

CR7 – Connection costs

Costs overview	£
Grid connection modification	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Total	[redacted]

Overview

- The table above summarises the costs incurred connecting the Transmission Assets to the National Grid

Verification work

- Our verification work in relation to the connection costs is set out in Appendix I
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree connection costs, totalling £[redacted] ([redacted]) to supporting documentation, with no issues arising
- The remaining £[redacted] ([redacted]) of reactive substation costs comprises costs below £250,000 which fall outside the scope of our review

Conclusion

- Based upon our review, the connection costs included in the CAT appear to be appropriately stated

Section 12: Transaction costs

Transaction costs

CR9 – Transaction costs

Costs overview	£
OFTO Transaction costs	[redacted]
Category specific project mgmt - Resources & travel	[redacted]
Total	[redacted]

Overview

- The table above summarises the transaction costs incurred in connection with the Transmission Assets

Verification work

- Our verification work in relation to the transaction costs is set out in Appendix J
- Based upon our review, subject to our observations in relation to resources rates and overhead allocation rates as further detailed in section 4, we have been able to agree transaction costs totalling £[redacted] ([redacted]) to supporting documentation
- However the Developer has been unable to provide supporting documentation for transaction costs of £[redacted] ([redacted]). As such, these are highlighted as unsubstantiated in the executive summary
- The remaining £[redacted] ([redacted]) of transaction costs comprises costs below £250,000 which fall outside the scope of our review

Conclusion

- Based upon our review, subject to our observations above regarding the unsubstantiated costs, the transaction costs included in the CAT appear to be appropriately stated

Appendices

A.	Restrictions on circulation, disclosures of interest, forms of report and information relied on
B.	Summary of key contracts tender process and award
C.	Project common costs and development costs verification work
D.	Offshore substation costs verification work
E.	Submarine cable supply and installation costs verification work
F.	Land cable supply and installation costs verification work
G.	Onshore substation costs
H.	Reactive substation costs
I.	Connection costs
J.	Transaction costs

A. Restrictions on circulation, disclosures of interest, forms of report and information relied on

Restriction on circulation

- Grant Thornton does not accept or assume responsibility, duty of care, liability or other obligation to any third party other than Ofgem who, as a result, either directly or indirectly, of disclosure of the whole or any part of this report by Ofgem, receives, reads or otherwise obtains access to this document. Any party relying on this report does so entirely at their own risk
- In the preparation of our report, Grant Thornton has been provided with material by Ofgem (and by third parties at Ofgem's request) relating to third parties. We have relied upon warranties and representations provided by Ofgem that it is fully entitled to disclose such information to us for inclusion within our report, free of any third party rights or obligations, and that Ofgem will only permit circulation of this report in accordance with any rights to confidentiality on the part of any third party. Any objections to the inclusion of material should be addressed to Ofgem. Accordingly, Grant Thornton acknowledges no duty or obligation to any party in connection to the inclusion in the report of any content referring to any third party material or the accuracy of such material

Disclosures of interest

- To the best of our knowledge, we have no connections with any of the parties or advisors involved in this matter, beyond normal commercial relationships, which would influence our report in any way

Forms of report

- For your convenience, this report may have been made available to recipients in electronic as well as hard copy format. Multiple copies and versions of this report may therefore exist in different media and in the case of any discrepancy, the final signed electronic copy should be regarded as definitive

Information relied on

- Grant Thornton has relied upon the following information in reviewing the cost assessment for the Wind Farm:
  - HOW02 Information Memorandum 2021 (provided in draft)
  - information contained in the Ofgem developer data room for the HOW02 project
  - information and explanations provided to us by the Developer. This includes several virtual meetings and email correspondence with the Developer to discuss the Transmission Assets

B. Summary of key contracts tender process and award

Introduction

- As set out in section 3, one of the main tools used by the Developers in achieving value for money and highest compliance to requirements is the use of a competitive tendering process for the main elements of construction of the Wind Farm
- In this section, we summarise the tender award process for the key capital components of the Transmission Assets

Export Cable Supply – [redacted]

- The scope of work includes onshore and offshore cable supply
- The Developer's main objectives of the sourcing process were to:
  - Secure delivery of Ørsted's [redacted] required export cable volume with delivery in [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]
- The sourcing process [redacted] HOW02, [redacted]
- [redacted]
- Due to the required amount of cables for HOW02 [redacted]

Onshore export cable supply

- [redacted] suppliers participated in the tendering for HOW02 [redacted]:
  - [redacted]
  - [redacted]
  - [redacted]
- The tenders were evaluated based on an evaluation model using the below criteria:

Evaluation results for onshore export cable supply

Tender Ranking	Weighted Total Score
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

B. Summary of key contracts tender process and award (continued)

Export Cable Supply – [redacted] (continued)

- Based on the results set out in the table on the previous page, it was recommended to award the contract for supply of onshore export cables to [redacted]

Offshore export cable supply

- [redacted] suppliers participated in the tendering following the direct invitation:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- The scope of works was [redacted]

Evaluation results of prices [redacted]

Expected contract amount EUR	[redacted]	[redacted]	[redacted]	Indirect saving	Total
Circuit [redacted]	[redacted]				
Expected contract amount EUR	[redacted]				
Shore ([redacted])	[redacted]				
Shore ([redacted])	[redacted]				

- Additional indirect cost of approximately [redacted] (as seen in above table opposite) [redacted]
- The tenders were evaluated based on an evaluation model as part of the award process. The criteria being [redacted]. The results are set out in the table below (taken from the procurement summary prepared by the Developer for the OFTO cost assessment

Table 11: Evaluation results for offshore export cable supply

Overall evaluation results - offshore
[redacted]

- After several rounds of negotiation and evaluation of final tenderers' final offers, the recommendation was to award the lots for the offshore export cable supply to the most competitive tenderers, [redacted]:
  - [redacted]
  - [redacted]

B. Summary of key contracts tender process and award (continued)

Offshore export cable installation – [redacted] (#0049)

- The scope of work included the cable laying and burial of three circuits with a total length of approximately 381 km including sub-activities such as boulder clearance, pre sweeping and crossings
- [redacted]
- [redacted] suppliers prequalified. [redacted] of them provided bids beyond the first round of submissions. Three suppliers were shortlisted after [redacted] rounds of submissions: [redacted]
- Following the final submission of bids, [redacted]

Benchmark of prices across prequalified tenderers

Prices all lots incl. Synergies (EUR)	[redacted]
[redacted]	
[redacted]	
Total sum	[redacted]

- The tenders were evaluated based on an evaluation model as part of the award process. [redacted]
- [redacted]

Evaluation results for offshore export cable installation

Supplier	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Total Score	Ranking
[redacted]							
[redacted]							
[redacted]							

- [redacted]

Onshore export cable installation – [redacted] (#0027)

- Contractors were requested to provide proposals for onshore export cable installation works based on [redacted], respectively
- [redacted] companies were invited to tender:
  - [redacted]
  - [redacted]
  - [redacted]
- The bidders submitted a price for [redacted] solutions in [redacted] 2018. After further clarifications, the decision was made [redacted]

B. Summary of key contracts tender process and award (continued)

Onshore export cable installation – [redacted] (#0027) (continued)

- [redacted]

[redacted]

- [redacted]
- [redacted]

[redacted]

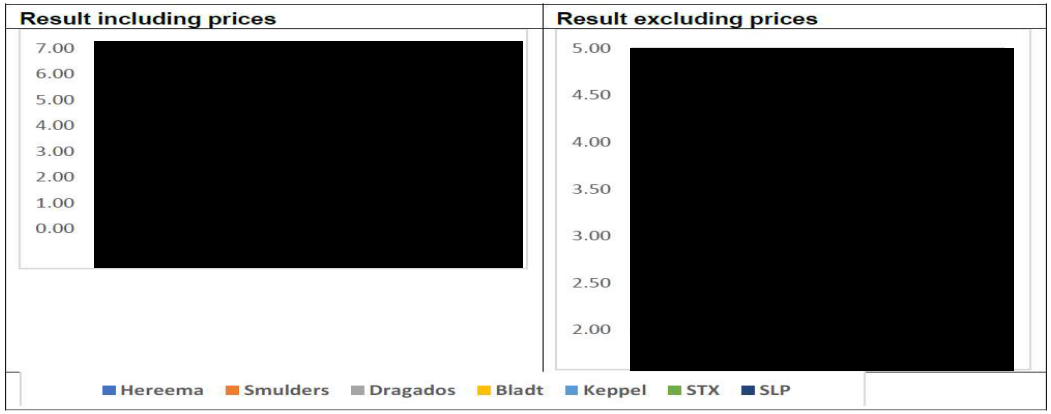
Supplier	[redacted]	Total Score	Comment
[redacted]			

- [redacted]

Offshore substation [redacted]

- [redacted]
- [redacted]
- [redacted]

[redacted] results after Round 1 for offshore substation



B. Summary of key contracts tender process and award (continued)

Offshore substation and [redacted] (continued)

- Based on the results of Round [redacted], the following changes were decided to the shortlisting of the suppliers for the various lots for Round [redacted]:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- The suppliers shortlisted for the various lots for Round [redacted] are shown in below table

Shortlisting of suppliers for Round [redacted]

Fabricator	Country	Lot 1	Lot 2	Lot 3	Lot 4
[redacted]					

- As a result of Round [redacted]:
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]
- [redacted]

B. Summary of key contracts tender process and award (continued)

Offshore substation and [redacted] (continued)

Lot 1 & 2

- The evaluation result post [redacted] was as shown in below table:

Evaluation results post [redacted] (Lot 1) and [redacted] (Lot 2) (weight applied)

Supplier	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Total Score
Lot 1							
[redacted]							
[redacted]							
Lot 2							
[redacted]							
[redacted]							
[redacted]							

- Lot 1 presented very close scores for all evaluation criteria, with [redacted]
- Lot 2 showed [redacted]
- [redacted]
- [redacted]

Lot 3 & 4

- The evaluation result post [redacted]:

Evaluation results post [redacted] (Lot 3) and [redacted] (Lot 4) (weight applied)

Supplier	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Total Score
Lot 1							
[redacted]							
[redacted]							
Lot 2							
[redacted]							
[redacted]							
[redacted]							

- For Lot 3, [redacted]
- For Lot 4, [redacted]
- However, [redacted]
- [redacted]
- Based on the above, it was recommended to award the contract for the [redacted]

B. Summary of key contracts tender process and award (continued)

Offshore substation and RCS topside and jacket transport and installation – [redacted] (#0057)

- [redacted]
- It was decided to perform a competitive tender with the suppliers capable of lifting the OSS topside, which had an anticipated weight of approx. [redacted]. The anticipated weight of the OSS topside limited the number of suppliers to [redacted] suppliers:
  - [redacted]
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]
- Evaluation criteria and weights are [redacted]
- Among the [redacted] suppliers, Allseas was not shortlisted for [redacted]
- The result of the evaluation of the [redacted]

Evaluation results for offshore substation and RCS transport and installation

Supplier	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	Total Score	Comment
[redacted]							
[redacted]							
[redacted]							

- Other benefits of awarding the contract to [redacted]
- Based on the above, [redacted] was recommended and approved as the most advantageous economical tender and awarded the contract for the offshore substation transportation and installation

Onshore substation – Civil Works Construction – [redacted] (#0034 and #0045)

- The scope of work was split into [redacted] packages:
  - [redacted]; and
  - [redacted]
- [redacted]:
  - [redacted]
  - [redacted]
  - [redacted]

B. Summary of key contracts tender process and award (continued)

Onshore substation – Civil Works Construction – [redacted] (#0034 and #0045) (continued)

- In order to maximize the opportunity, the contractor contracted for the civil works construction of the [redacted]
- The benefits of the [redacted] include:
- Mobilisation: the establishment of [redacted] provides cost down synergies, [redacted]
  - [redacted]
  - [redacted]
  - Early commencement: the contractor is [redacted]
  - [redacted]

Enabling works

- The final price received from [redacted]

Evaluation results for Enabling Works

Supplier	[redacted]
[redacted]	

Principal works

- The final price received from [redacted]
- [redacted]
- By continuing with the enabling works contractor, [redacted]
- In addition, HOW02 prices could still be f[redacted]
- Comparing the outcome of the sourcing process with the KPIs defined in the sourcing strategy, [redacted]

Evaluation results for Principal Works

Supplier	[redacted]
[redacted]	

- Based on the above, it was recommended to award [redacted] contracts for the onshore substation enabling works and principal works to [redacted]

B. Summary of key contracts tender process and award (continued)

HV Electrical Components, [redacted]

- The competition and number of potential suppliers in the market for HV electrical components were considered [redacted]
- The sourcing strategy was [redacted] HV electrical components, [redacted]
- [redacted]
- The target was [redacted]
- [redacted] suppliers were invited to tender to encourage sufficient competition to ensure timely and right priced deliveries. [redacted]
- The [redacted] suppliers were evaluated based on the criteria and weights of [redacted]

Evaluation results for HV components, [redacted] and protection

HOW02 and Framework		
Total score	Weight	[redacted]
[redacted]		
[redacted]		
[redacted]		
[redacted]		
Total	**100%**	[redacted]

- The evaluation showed that [redacted] had:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- Based on the above, it was recommended to award the contract to [redacted]

C. Project common costs and development costs verification work

Project management / External Consultancy

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
Training	[redacted]					
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
Total			[redacted]			

Asset management

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
Total			[redacted]			

C. Project common costs and development costs verification work (continued)

Consents & environmental planning

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
[redacted]						
[redacted]						
Total			[redacted]			

Insurance Costs

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
[redacted]						
[redacted]						
Total			[redacted]			

Development costs

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						

C. Project common costs and development costs verification work (continued)

Development costs (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
Total			[redacted]			

C. Project common costs and development costs verification work (continued)

Aquisition Cost

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
					[redacted]	
Total			[redacted]			

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract /variation number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
					[redacted]	
[redacted]						
[redacted]						
Total			[redacted]			

Contingency

Cost overview	Supplier	Contract /variation number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
					[redacted]	
Total			[redacted]			

D. Offshore substation costs verification work

Substation Design

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Supply of piles/jackets

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Supply of piles/jackets (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Supply of topsides

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Supply of topsides (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verified
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
[redacted]							
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
						[redacted]	
[redacted]							[redacted]
						[redacted]	
						[redacted]	
						[redacted]	
[redacted]							
[redacted]							
[redacted]							[redacted]
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
						[redacted]	
Total			[redacted]				

D. Offshore substation costs verification work (continued)

Installation of piles/jackets/topsides

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total							

D. Offshore substation costs verification work (continued)

Offshore site preparation

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Electrical

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							

D. Offshore substation costs verification work (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

D. Offshore substation costs verification work (continued)

IPC Platform Cables

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract/ variation number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							[redacted]

D. Offshore substation costs verification work (continued)

Category specific project mgmt - Resources & travel (continued)

Cost overview	Supplier	Contract/ variation number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Contingency

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR2	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

E. Submarine cable supply and installation costs verification work

Supply of cable

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Supply of cable (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
Total							

Appendices

E. Submarine cable supply and installation costs verification work (continued)

Cable installation

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Cable installation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
[redacted]							[redacted]
						[redacted]	
[redacted]			[redacted]				[redacted]
[redacted]						[redacted]	
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
[redacted]							
[redacted]			[redacted]				[redacted]
		[redacted]					
Total			[redacted]				

Offshore site preparation

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
[redacted]							
[redacted]							

Appendices

E. Submarine cable supply and installation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							

E. Submarine cable supply and installation costs verification work (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
Total			[redacted]				

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
Total			[redacted]				

E. Submarine cable supply and installation costs verification work (continued)

Contingency

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR3	Documentation seen	Cost verified
[redacted]							
						[redacted]	
Total			[redacted]				

F. Land cable supply and installation costs verification work

Supply of cable

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verified
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							
[redacted]							
[redacted]							[redacted]
						[redacted]	
Total			[redacted]				

F. Land cable supply and installation costs verification work (continued)

Installation of cable

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

F. Land cable supply and installation costs verification work (continued)

HDD Landfall

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

F. Land cable supply and installation costs verification work (continued)

Land And Crossing Agreements

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verified
[redacted]							
[redacted]							[redacted]
						[redacted]	
[redacted]							
[redacted]							
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
[redacted]							
[redacted]							[redacted]
						[redacted]	
[redacted]							[redacted]
						[redacted]	
Total			[redacted]				

F. Land cable supply and installation costs verification work (continued)

Consents & environmental planning

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

F. Land cable supply and installation costs verification work (continued)

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verifed
[redacted]							
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
						[redacted]	
Total			[redacted]				

Contingency

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR4	Documentation seen	Cost verifed
[redacted]							[redacted]
						[redacted]	
Total			[redacted]				

G. Onshore substation costs

Civils

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Civils (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Civils (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Onshore Site Preparation

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Onshore Site Preparation (continued)

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Electrical components

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Electrical components (continued)

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Electrical components (continued)

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							

G. Onshore substation costs (continued)

Electrical components (continued)

Contract Overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

G. Onshore substation costs (continued)

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR5	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Contingency

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	Documentation seen	Cost verifed
[redacted]						
[redacted]						
Total			[redacted]			

H. Reactive substation costs

Design

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

H. Reactive substation costs (continued)

Supply of piles / jackets

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verified
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Supply of topsides

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verified
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
						[redacted]	
						[redacted]	
[redacted]							[redacted]
[redacted]							[redacted]
						[redacted]	
						[redacted]	
[redacted]							[redacted]
						[redacted]	
						[redacted]	
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]

H. Reactive substation costs (continued)

Supply of topsides (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

H. Reactive substation costs (continued)

Installation of piles / jackets / topsides

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verified
M[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							
[redacted]							
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							
[redacted]							[redacted]
				[redacted]			
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
[redacted]							[redacted]
						[redacted]	
						[redacted]	
						[redacted]	
Total			[redacted]			[redacted]	

H. Reactive substation costs (continued)

Offshore site preparation

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Offshore site preparation (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

H. Reactive substation costs (continued)

Electrical

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							

H. Reactive substation costs (continued)

Electrical (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							

H. Reactive substation costs (continued)

Category specific project mgmt - Resources & travel (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Contingency

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR6	Documentation seen	Cost verifed
[redacted]							
[redacted]							
Total			[redacted]				

I. Connection costs

Grid connection modification

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR7	Documentation seen	Cost verifed
[redacted]							

I. Connection costs (continued)

Grid connection modification (continued)

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR7	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR7	Documentation seen	Cost verifed
[redacted]							
Total			[redacted]				

J. Transaction costs

OFTO Transaction costs

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR9	Documentation seen	Cost verifed
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
[redacted]							
Total			[redacted]				

Category specific project mgmt - Resources & travel

Cost overview	Supplier	Contract number	£	% Allocation to OFTO	% Allocation to CR9	Documentation seen	Cost verifed
[redacted]							
[redacted]							
Total			[redacted]