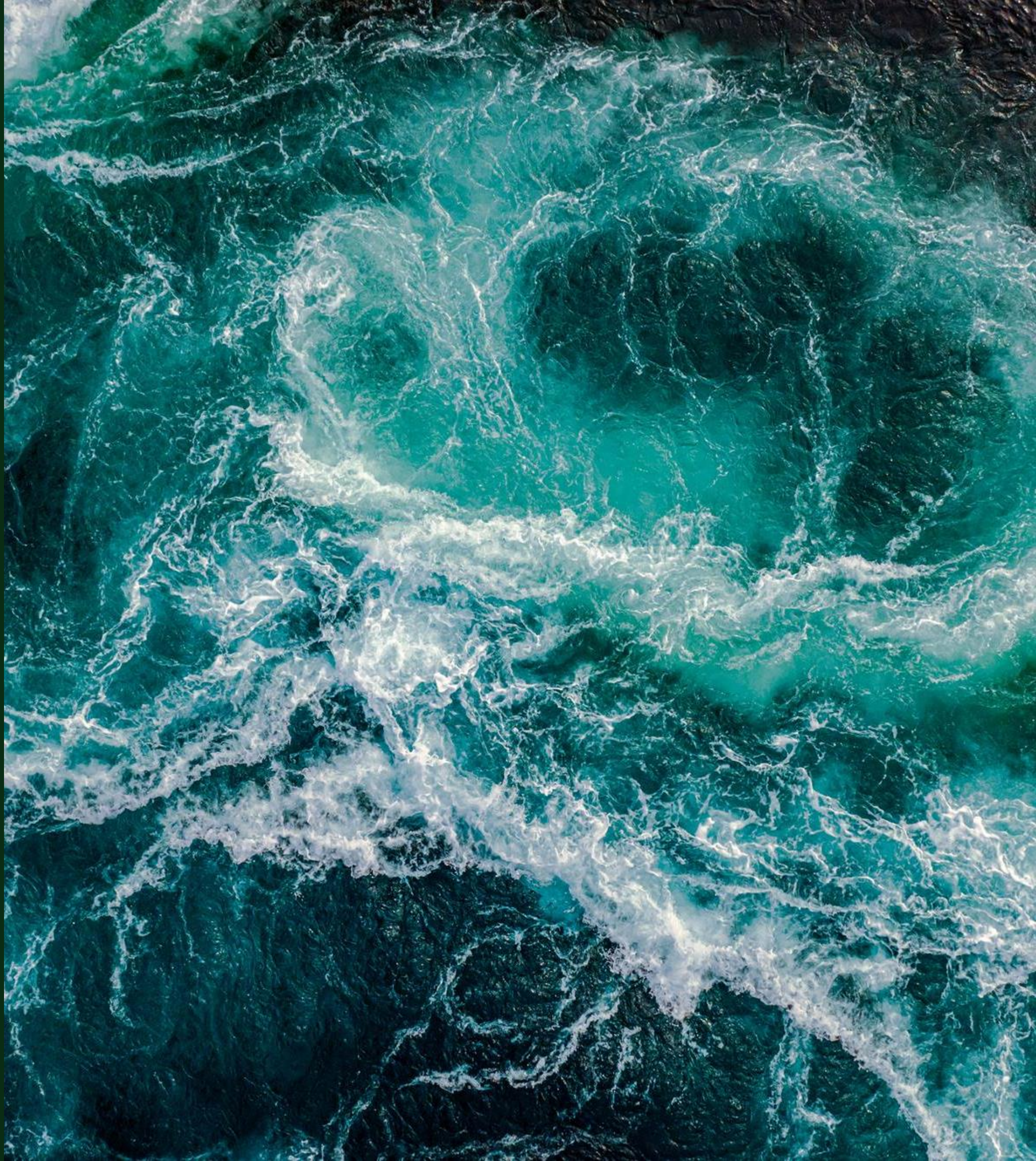
Absolute LCoE Study – Compiled Results



Sustainability is our business

Delivered LCoE Cases

ERM has delivered four sets of LCoE results to the Government of Jersey, this slide deck summarises the results.

A

Original Scenarios

These represent the initial LCoE configurations assessed across four grid connection options. Dual connection cases assume a 340 MW export to Jersey via a 132 kV cable and the development of a new onshore substation (OnSS). UK connection scenarios incorporate TNUoS charges, while the French connection scenario excludes TURPE charges.

B

HVDC French Connection Scenario

Following information from RTE, this scenario models the French grid connection using HVDC technology.

C

Benchmark Projects

To contextualize the Jersey project's LCoE results, three offshore wind projects; Saint Brieuc, Hornsea 4, and East Anglia 2 were selected as benchmarks.

D

Jersey Power Landing Configuration Assessment

This comparative analysis evaluates two offshore power landing strategies for Jersey. The first mirrors the original scenario with a 340 MW export via a 132 kV cable and a new OnSS. The alternative considers a reduced 100 MW export via a 90 kV cable, leveraging existing infrastructure to potentially lower capital expenditure.

LCoE Assessment

Across all LCoE analyses the following remains consistent.

Key Universal Assumptions

The purpose of this analysis is to estimate range of LCoEs at the project location established in the constraints analysis work package to support the Government of Jersey's offshore wind project. The project has been evaluated with a range of interconnection points to Jersey, UK, and France.

The project has been assessed in isolation, excluding the role that constrained inputs (e.g. ports) may have across other projects in the region.

LCoE figures have been obtained for the project using ERM's global offshore wind model – known as LENS. ERM has presented LCoE in 2025 GBP terms, with adjustments made to key site-specific drivers.

LCoE Formula

$$LCoE = NPV\left(\frac{Sum\ of\ lifetime\ costs}{Sum\ of\ lifetime\ energy}\right)$$

$$LCoE = NPV\left(\frac{DevEx, CapEx, OpEx, AbEx}{Lifetime\ generation}\right)$$

LCoE Assessment Inputs

ERM have assumed the following baseline inputs for all project scenarios:

Input	All LCOE Scenarios
Project Size	1,000 MW
Project Life	30 years
COD Year	2040

All costs are quoted in real 2025 GBP. This enables effective comparison with offshore wind costs today and excludes the need for inflation assumptions to underpin the results. For clarity, the Government of Jersey should apply its own escalation assumptions to our real 2025 costs.

LCoE Project Inputs: Initial Scenarios

A

The original LCoE assessment includes four grid connection configurations, with dual connection scenarios assuming a 340 MW export to Jersey via a 132 kV cable and the development of a new onshore substation (OnSS). UK connection cases incorporate TNUoS charges, while the French connection scenario excludes TURPE charges.

Site Inputs Table

Parameter	Scenario 1 France-only Connection	Scenario 2 UK-only Connection	Scenario 3 Jersey and France Connection	Scenario 4 Jersey and UK Connection
original Capacity (MW)	1,000	1,000	1,000	1,000
Average Depth (m)	45.1	45.1	45.1	45.1
Foundation Concept	Jackets	Jackets	Jackets	Jackets
Construction Port	Brest	Brest	Brest	Brest
Port Distance (nm)	130.0	130.0	130.0	130.0
Onshore Connection Point	Doberie, Normandy	Exeter	St Helier (300 MW) Doberie, Normandy (1000 MW)	St Helier (300 MW) Exeter (1000 MW)
Offshore Cable Distance (km)	50	198.9	27.5 to Jersey 50 to France	27.5 to Jersey 198.9
Onshore Cable Distance (km)	13.9	23.8	0.5 to Jersey 13.9 to France	0.5 to Jersey 23.8 to UK
Transmission Concept	HVAC	HVDC	HVAC	HVAC to Jersey / HVDC to UK

LCoE Project Inputs: HVDC to France

B

Following information from RTE, this scenario models the French grid connection using HVDC technology.

Site Inputs Table

Parameter	Scenario 1 France-only Connection	Scenario 2 UK-only Connection	Scenario 3 Jersey and France Connection	Scenario 4 Jersey and UK Connection
original Capacity (MW)	1,000	1,000	1,000	1,000
Average Depth (m)	45.1	45.1	45.1	45.1
Foundation Concept	Jackets	Jackets	Jackets	Jackets
Construction Port	Brest	Brest	Brest	Brest
Port Distance (nm)	130.0	130.0	130.0	130.0
Onshore Connection Point	Doberie, Normandy	Exeter	St Helier (340 MW) Doberie, Normandy (1000 MW)	St Helier (340 MW) Exeter (1000 MW)
Offshore Cable Distance (km)	50	198.9	27.5 to Jersey 50 to France	27.5 to Jersey 198.9 to France
Onshore Cable Distance (km)	13.9	23.8	0.5 to Jersey 13.9 to France	0.5 to Jersey 23.8 to UK
Transmission Concept	**HVDC**	HVDC	HVAC to Jersey / **HVDC** to France	HVAC to Jersey / HVDC to UK

LCoE Inputs Summary: Benchmark Projects

C

To contextualize the Jersey project's LCoE results, three offshore wind projects; Saint Brieuc, Hornsea 4, and East Anglia 2 were selected as benchmarks.

Site Inputs Table

Parameter	Saint Brieuc	Hornsea 4	East Anglia 2
Capacity (MW)	496	2,400	960
Turbine Capacity (MW)	8	15.5	15.5
Number of Turbines	62	155	62
Project Status	Operational	Consent Authorised	Consent Authorised
Average Depth (m)	36.0	45.5	43.4
Foundation Concept	Jackets & Piles	Jackets & Piles	Jackets & Piles
Construction Port	Brest	Able Seaton	Peel Port Great Yarmouth
Port Distance (nm)	123.9	98.2	33.1
Onshore Connection Point	Doberie Substation	Creyke Beck Substation	Thorpeness
Offshore Cable Distance (km)	32.9	106.2	50.9
Onshore Cable Distance (km)	14.9	32.1	1.3
Transmission Concept	HVAC	HVDC	HVAC

LCoE Project Inputs Summary: Alternative configurations

D

The original LCoE Scenarios 3 and 4 assumed 340 MW of offshore wind power transmitted to Jersey via a conventional 132 kV HVAC export system and a newly built onshore substation. In contrast, the revised Scenarios 3 and 4 now consider a reduced capacity of 100 MW delivered through a 90 kV HVAC cable, connecting to existing onshore infrastructure.

Site Inputs Table

Parameter	Scenario 1 France-only Connection	Scenario 2 UK-only Connection	Scenario 3 Jersey and France Connection	Scenario 4 Jersey and UK Connection
original Capacity (MW)	1,000	1,000	1,000	1,000
Average Depth (m)	45.1	45.1	45.1	45.1
Foundation Concept	Jackets	Jackets	Jackets	Jackets
Construction Port	Brest	Brest	Brest	Brest
Port Distance (nm)	130.0	130.0	130.0	130.0
Onshore Connection Point	Doberie, Normandy	Exeter	Western Primary (100 MW) Doberie, Normandy (900 MW)	Western Primary (100 MW) Exeter (900 MW)
Offshore Cable Distance (km)	50	198.9	22.3 to Jersey 50 to France	22.3 to Jersey 198.9 to UK
Onshore Cable Distance (km)	13.9	23.8	2.3 to Jersey 13.9 to France	2.3 to Jersey 23.8 to UK
Transmission Concept	HVDC	HVDC	90 kV HVAC to Jersey / HVDC to France	90 kV HVAC to Jersey / HVDC to UK

LCoE Methodology

ERM's global LCoE forecasting model has been utilised for this analysis. The underlying cost methodology is described below.

ERM's Cost and LCoE Forecasting Model

ERM's LCoE model is a cost forecasting tool that generates robust technical LCoE estimates for offshore wind globally. The model is underpinned by a series of cost baselines constructed using high-confidence data from 30+ offshore wind farms from Europe, APAC, and the Americas.

The tool synthesises a series of market forecasts and site-level costing algorithms to produce a detailed cost and yield profile for each project scenario. Forward cost projections account for the market and technology landscape at COD (Commercial Operations Date), and each project is individually adjusted based on site conditions with a series of package-level cost algorithms.

The resultant cost profile is paired with a wind yield estimate carried out by ERM's wind resource team for each project site.

This LCoE assessment leverages the full power of this tool to create a LCoE score and ranking. The assessment considers technical cost parameters for the , including:

- Project nameplate capacity
- Turbine nameplate capacity and rotor diameter
- Forecasted COD year and project lifespan
- Water depths
- Transmission route length (high voltage cables)
- Port transit distances

ERM LCoE Workflow

1. **Definition of baseline** DevEx, CapEx, and OpEx figures in 2025 based on currently available information from Europe, the US, and APAC.
2. **Market-specific considerations,** including package-level cost adjustments, component shipping, local supply chain, and transmission scope.
3. **Future Forecast** to define expected baseline costs through COD 2032, including technology evolution and regional supply chain development.
4. **Site-specific cost adjustments** based on site conditions and project design parameters.
5. **Addition of yield** estimates, from ERM yield team. The cost model is then aligned to create a forecast of profiled lifetime costs.
6. **Sensitivity Modelling** based on key project uncertainties, alternative site constraints, and stress-tests for key design decisions.

LCoE Exclusions and Limitations

Key scope limitations and exclusions from the cost forecasting.

Limitations

In addition to the commentary included throughout this deck, we note the following key exclusions and assumptions that underpin our cost numbers:

- CapEx estimates cover assets from the offshore WTGs to the onshore substation, excluding interconnection fees and grid upgrade costs (except for TNUoS which is included for UK connection cases).
- Costs include typical developer-investments in local facilities, though are not intended to cover major one-off supply chain contributions such as a dedicated local OSW construction port. We assume no trade restrictions, and likewise, no additional costs have been added due to environmental, socio-economical, permitting, or other macroscopic/development restrictions. Steel tariffs or other raw material restrictions have not been considered.
- Costs are based on recent historical average commodities pricing, informed by recent quotes in the market but excluding temporary short-term spikes. ERM has not applied any future price forecasts for raw materials markets up to COD 2040.

CapEx Packages and Exclusions

Packages Included		Packages Excluded
Generation Assets	Transmission Assets	
Turbines	Offshore Substation Topside	Seabed Acquisition/Lease Costs
Foundations	Offshore Substation Foundation	Onshore Grid Upgrades
Transport and installation (T&I)	Offshore Export Cable	Major Supply Chain investments
Array Cables	Onshore Substation	
Auxiliary Project Costs	Auxiliary Project Costs	
Project Management	Project Management	
Contingency	Contingency	
Insurance	Insurance	

LCoE Assumptions

LCoE values are sensitive to the following key general assumptions.

Parameter	Description
Project capacity	Based on the offshore wind proposition the capacity of the project has been set at 1,000 MW.
WACC (discount rate)	The original assumes a Nominal Weighted Average Cost of Capital (WACC) of 5.1% for all time periods. This WACC assumes an 8.5% cost of equity, 75% leverage, a 20% local tax rate, and a 5% cost of debt (based on a 2% spread above the 3% EURIBOR forward curve value for 2035, when this project would raise capital). This study does not differentiate the cost of capital between different interconnection cases. In reality, financing costs may be impacted by the lending rates for the country whose currency the project is repaid in.
Water depth	ERM's GIS team has measured mean water depth for the representative site areas based on bathymetry data.
Construction port	Brest has been selected as construction base for the optimised site area based on the sister-constraints analysis study. Other options include Le Havre and Cherbourg, however changing this selection is not expected to significantly impact the final LCoE calculation.
Foundation concept	The costs were modelled using jackets foundations, please see slide 12 to 14 for further detail.
Installation vessels	Costs assume that European construction vessels will be mobilised for use.
Export cable length	ERM's GIS team has measured the onshore and offshore distances. Distances are measured from project centre-point to landfall and from landfall to onshore connection point. Approximate routes have been used for this analysis.
Developer Transmission Scope	These LCOEs assume the OSW project is responsible for all substation and transmission systems costs and electrical losses to the point of onshore interconnection. Effectively this means that the Jersey cases are the "delivered cost" of energy to each location, excluding local transmission ownership structures. This differs from projects developed in the UK or France: in the UK, the developer builds the transmission infrastructure but then sells it back to an offshore grid operator after COD, and in France, it is typical for the local grid operator to build the offshore transmission infrastructure out to the offshore project site (so the developer is only responsible for the generation assets). It is possible that a Jersey site connected to these markets would be able to opt into these grid systems, but the assumptions in this LCOE report represent ERM's original expectations (due to precedent from cross-boarder interconnectors) and provide the most complete technical LCOE comparison.
Transmission concept	Transmission concept was based on the lowest-LCOE topology: HVAC for interconnection to France and Jersey, and HVDC for connection to the UK. The economic breakeven point between HVAC and HVDC is dependent on transmission distance and project size, with larger projects favouring HVDC. Other factors such as cable landfall characteristics, supply chain constraints which are very acute for DC, transmission loss metering, also impact the transmission concept chosen for a project. Typically, this breakeven point is as low as 50km export cable distance for large projects (at least 1.2 GW) and up to 120 km (for projects less than 800 MW). Note as part of Case B a HVDC connection to France was utlised.
Turbine size	20 MW WTGs with 272.5 m rotor diameter (RD) and 175.5 m hub height has been assumed for all sites.
COD year & project lifetime	2040 COD and a 30-year project lifetime has been assumed.

Energy Yield Results

LCoE Wind Resource and EYA

Below is a summary of the assumptions and approach used to provide an estimate of the wind resource and net capacity factor potential for the site in each of the cases. The energy yield estimates were then used as input into the LCoE model.

Wind Resource and Energy Yield Analysis

To estimate net capacity factors, ERM has taken the following steps:

- ERM has created an initial gridded layout for the site considering industry best practices and the site wind resource.
- ERM's modelled layouts utilize a power density of about 5 MW/km^2.
- A long-term time series of the site representative EMD-WRF mesoscale mode data was extrapolated and scaled to the long-term hub-height wind speed at 175.5 m informed by a combination of mesoscale model data sets, including EMD-WRF, Con-Wx, NORA3, the Global Wind Atlas, and ERM's experience.
- A generic 20 MW power and thrust curve was estimated considering a rotor diameter (RD) of 272.5 m and hub height (HH) of 175.5 m.
- The wind regime, power and thrust curve, initial layouts, and maps covering the sites were input to the Openwind model in order to estimate the energy yield for each site, including internal wake and blockage losses.
- Typical technical losses were then applied in order to determine a P50 energy yield and capacity factor estimate for each project.

ERM notes that these values are considered high-level and would require further analysis to provide more accurate, site-specific estimates for each site.

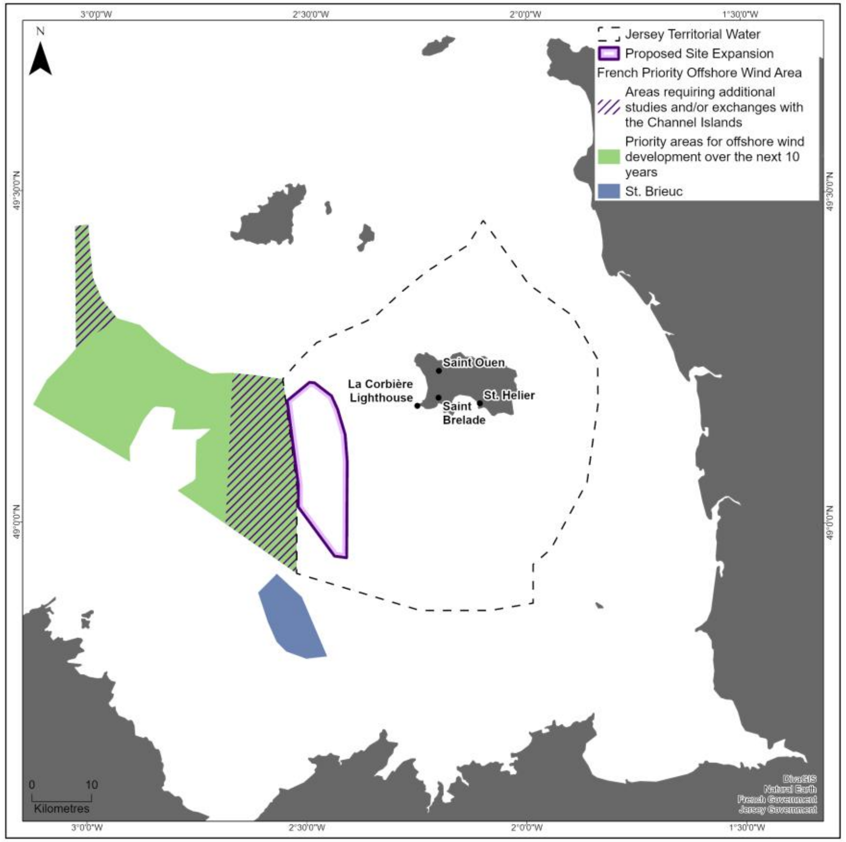
Energy Yield Assumptions

Parameter	Assumption Made
Mean wind speed	Wind resource estimated using the four wind speed data sources, with a wind distribution derived using the scaled EMD-WRF time series for a long-term period (approximately 25 years).
Turbine used	20 MW with 275.5 m rotor diameter – ERM's estimated power curve is based on industry knowledge and our internal power curve database.
Air density correction	ERM has derived the power curve for an air density 1.225 kg/m^3 and estimated an approximate air density correction to the gross energy yield for wind development area.
Internal wakes	For each site, modelled using the Openwind Deep Array Wake Model (DAWM) and site wind resource.
External wakes	External wakes effect losses from the operational Saint Brieuc wind farm and future wake effects from the proposed development of the Roches Douvres are included in the energy yield analysis. Results have been provided considering three potential WTG layout scenarios for Roches Douvres.
Blockage effects	Nominal value assigned based on level of wake effects in that region.
Losses	Based on ERM expert knowledge, with site specific considerations for foundation type (fixed vs. floating), wind speed hysteresis, and electrical transmission.

Wake Scenarios

ERM has considered four different wake scenarios based on the development of neighbouring offshore wind farms.

In 2023/2024, a national public debate was held in France to identify priority areas for offshore wind development. One of the areas identified is Roches Douvres, located west of the Jersey zone, as shown below.

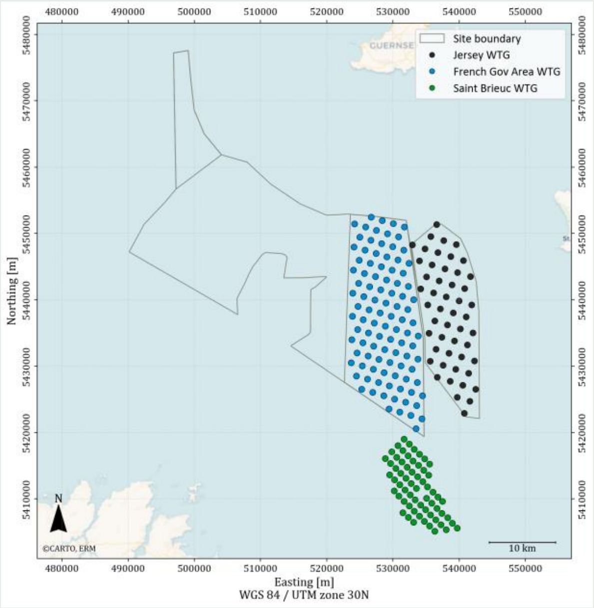


Upside Case

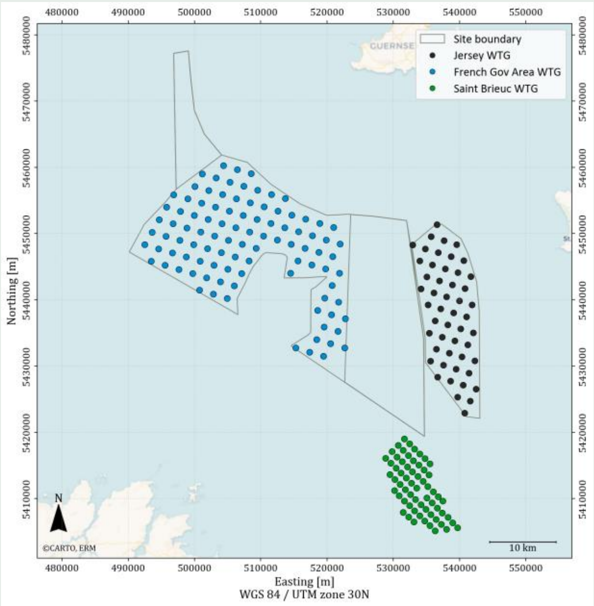
The upside scenario assumes that the Roches Douvres area is not developed.

Consequently, the only wakes affecting the optimised site area would be from Saint-Brieuc.

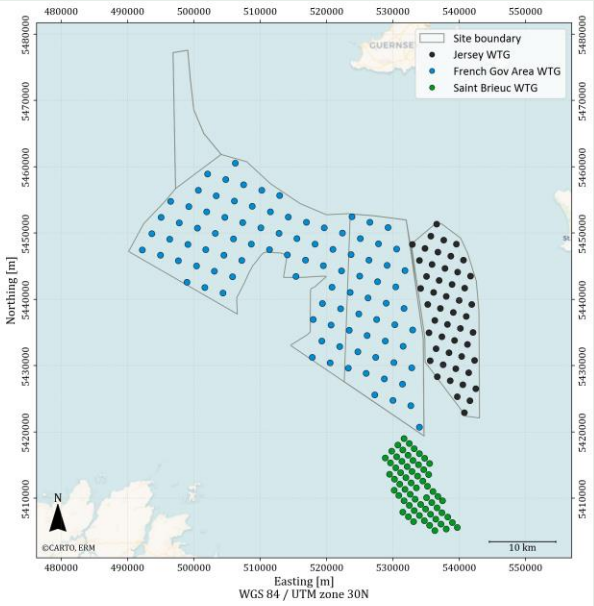
Conservative Case



Intermediate A Case (assumed most likely)



Intermediate B Case



LCoE Energy Yield Results

A

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Scenario 1: France-only Connection

Wake Scenario	Upside	Conservative	Intermediate A (LCoE Scenarios)	Intermediate B
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*90.7*	*85.1*	*88.8*	*86.2*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*97.0*	*97.0*	*97.0*	*97.0*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	**81.3**	**76.3**	**79.6**	**77.3**
P50 Net Energy (GWh/yr)	**3,677**	**3,449**	**3,601**	**3,495**
P50 Net Capacity Factor (%)	**41.9**	**39.3**	**41.1**	**39.9**

LCoE Energy Yield Results

A

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Scenario 2: UK-only Connection

Wake Scenario	Upside	Conservative	Intermediate A (LCoE Scenarios)	Intermediate B
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*90.7*	*85.1*	*88.8*	*86.2*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*95.7*	*95.7*	*95.7*	*95.7*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	**80.2**	**75.2**	**78.5**	**76.2**
P50 Net Energy (GWh/yr)	**3,627**	**3,403**	**3,552**	**3,448**
P50 Net Capacity Factor (%)	**41.4**	**38.8**	**40.5**	**39.3**

LCoE Energy Yield Results

A

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Scenario 3: Jersey and France Connection

Wake Scenario	Upside	Conservative	Intermediate A (LCoE Scenarios)	Intermediate B
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*90.7*	*85.1*	*88.8*	*86.2*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*97.0*	*97.0*	*97.0*	*97.0*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	**81.3**	**76.3**	**79.6**	**77.3**
P50 Net Energy (GWh/yr)	**3,676**	**3,449**	**3,600**	**3,495**
P50 Net Capacity Factor (%)	**41.9**	**39.3**	**41.1**	**39.9**

LCoE Energy Yield Results

A

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Scenario 4: Jersey and UK Connection

Wake Scenario	Upside	Conservative	Intermediate A (LCoE Scenarios)	Intermediate B
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*90.7*	*85.1*	*88.8*	*86.2*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*96.0*	*96.0*	*96.0*	*96.0*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	**80.5**	**75.5**	**78.8**	**76.5**
P50 Net Energy (GWh/yr)	**3,640**	**3,415**	**3,565**	**3,461**
P50 Net Capacity Factor (%)	**41.5**	**39.0**	**40.7**	**39.5**

LCoE Energy Yield Results

B

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Intermediate A Wake Scenario*

Wake Scenario	Scenario 1 France-only Connection	Scenario 2 UK-only Connection	Scenario 3 Jersey and France Connection	Scenario 4 Jersey and UK Connection
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*88.8*	*88.8*	*88.8*	*88.8*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*96.6*	*95.7*	*96.6*	*96.0*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	**79.3**	**78.5**	**79.3**	**78.8**
P50 Net Energy (GWh/yr)	**3,587**	**3,552**	**3,587**	**3,565**
P50 Net Capacity Factor (%)	**40.9**	**40.5**	**40.9**	**40.7**

*Wake Scenario considers Saint Brieuc and optimised Roches Douvres French offshore wind development

LCoE Energy Yield Results

C

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results – Benchmark Projects

Wake Scenario	Saint Brieuc	Hornsea 4	East Anglia 2
Installed Capacity (MW)	496	2,496	961
Number of WTGs	62	161	62
Modeled Density (MW/km^2)	5	5	5
Average WTG hub height wind speed (m/s)	8.88	10.5	9.9
Gross Energy (GWh/yr)	2,146	13,356	4,904
WTG Interaction (%)	*88.8*	*89.0*	*89.1*
Availability (%)	*95.8*	*95.3*	*95.3*
Electrical (%)	*98.5*	*98.5*	*98.5*
WTG Performance (%)	*96.3*	*96.4*	*96.4*
Environmental (%)	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*
Other (%)	*99.9*	*99.9*	*99.9*
Overall Efficiency (%)	**80.6**	**80.5**	**80.6**
P50 Net Energy (GWh/yr)	**1,730**	**10,750**	**3,951**
P50 Net Capacity Factor (%)	**39.8**	**49.1**	**46.9**

LCoE Energy Yield Results

D

Energy yield results according to the methodology outlined in the previous slide are shown here and are inputs to the LCoE calculations.

Energy Yield Results - Intermediate A Wake Scenario*

Wake Scenario	Scenario 1 France-only Connection	Scenario 2 UK-only Connection	Scenario 3 Jersey and France Connection	Scenario 4 Jersey and UK Connection
Installed Capacity (MW)	1,000	1,000	1,000	1,000
Number of WTGs	50	50	50	50
Modeled Density (MW/km^2)	5	5	5	5
Average WTG hub height wind speed (m/s)	9.23	9.23	9.23	9.23
Gross Energy (GWh/yr)	4,523	4,523	4,523	4,523
WTG Interaction (%)	*88.8*	*88.8*	*88.8*	*88.8*
Availability (%)	*95.8*	*95.8*	*95.8*	*95.8*
Electrical (%)	*96.6*	*95.7*	*96.6*	*96.0*
WTG Performance (%)	*96.5*	*96.5*	*96.5*	*96.5*
Environmental (%)	*100.0*	*100.0*	*100.0*	*100.0*
Curtailment (%)	*100.0*	*100.0*	*100.0*	*100.0*
Other (%)	*100.0*	*100.0*	*100.0*	*100.0*
Overall Efficiency (%)	79.3	78.5	79.3	78.8
P50 Net Energy (GWh/yr)	**3,587.3**	**3,552.3**	**3,586.7**	**3,565.1**
P50 Net Capacity Factor (%)	**40.9**	**40.5**	**40.9**	**40.7**

*Wake Scenario considers Saint Brieuc and optimised Roches Douvres French offshore wind development

LCoE Results & Drivers

Original Scenarios

A

LCoE scores for the four scenarios have been assessed. Scenario 1 (France-only connection) presents the lowest LCoE and Scenario 4 (UK and Jersey shared connection) demonstrated the highest LCOE.

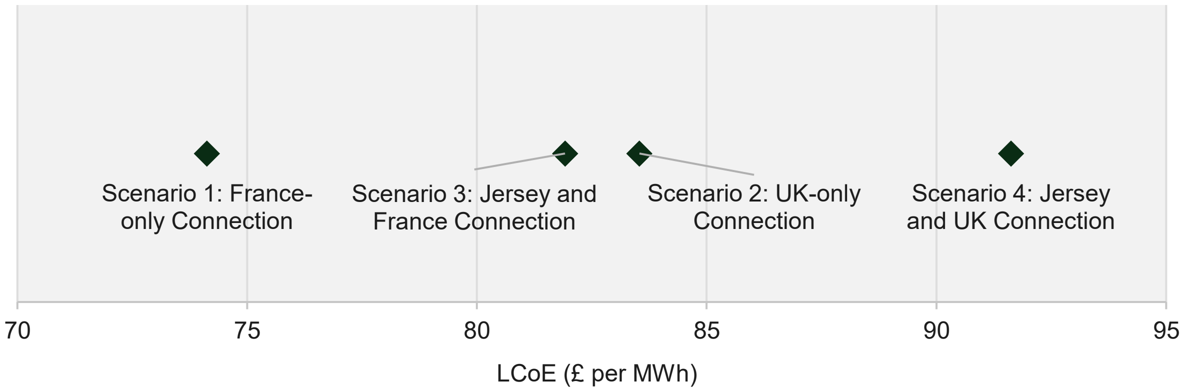
LCoE Results

The European offshore wind market has faced macroeconomic volatility (namely inflation and interest rate hikes) and industry-specific supply chain pressure over the past several years. This analysis aims to present a baseline view of costs in light of these pressures, leveraging current market estimates of capital costs and assuming that supply chain disruptions subside by the mid-2030s when this project is executed. **Changes in the macroeconomic environment will impact the final LCOE over the coming years but are not expected to undermine the overall conclusions in this study.**

Scenario	1	2	3	4
Connection point	France 1 GW	UK 1 GW	Jersey 340 MW France 1 GW	Jersey 340 MW UK 1 GW
Wake Scenario	Intermediate A			
LCoE (£/MWh)	74.1	83.5	81.9	91.6
DevEx (£k/MW)	147	191	172	223
CapEx (£k/MW)	3,268	3,735	3,594	4,071
Lifetime Average OpEx (£k/MW)	29	21	30	25

Notably, these are nominal LCoEs quoted in 2025 GBP. Nominal LCoEs represent the fixed-lifetime nominal GBP value at the corresponding discount rate (WACC). The actual Capex, OpEx, and LCOE will be subject to inflationary pressures and the local interest rate environment at the time the project reaches financial close.

LCoE Ranking



The connection point and therefore transmission infrastructure are the only variables, all other inputs are consistent across scenarios. Scenario 1, which connects solely to France, presents the lowest LCoE among the four scenarios assessed. Scenario 3, with split connection between Jersey and France ranks second, a 10% premium over the best scenario. This result is driven by the relatively lower cost of HVAC and shorter subsea transmission routes.

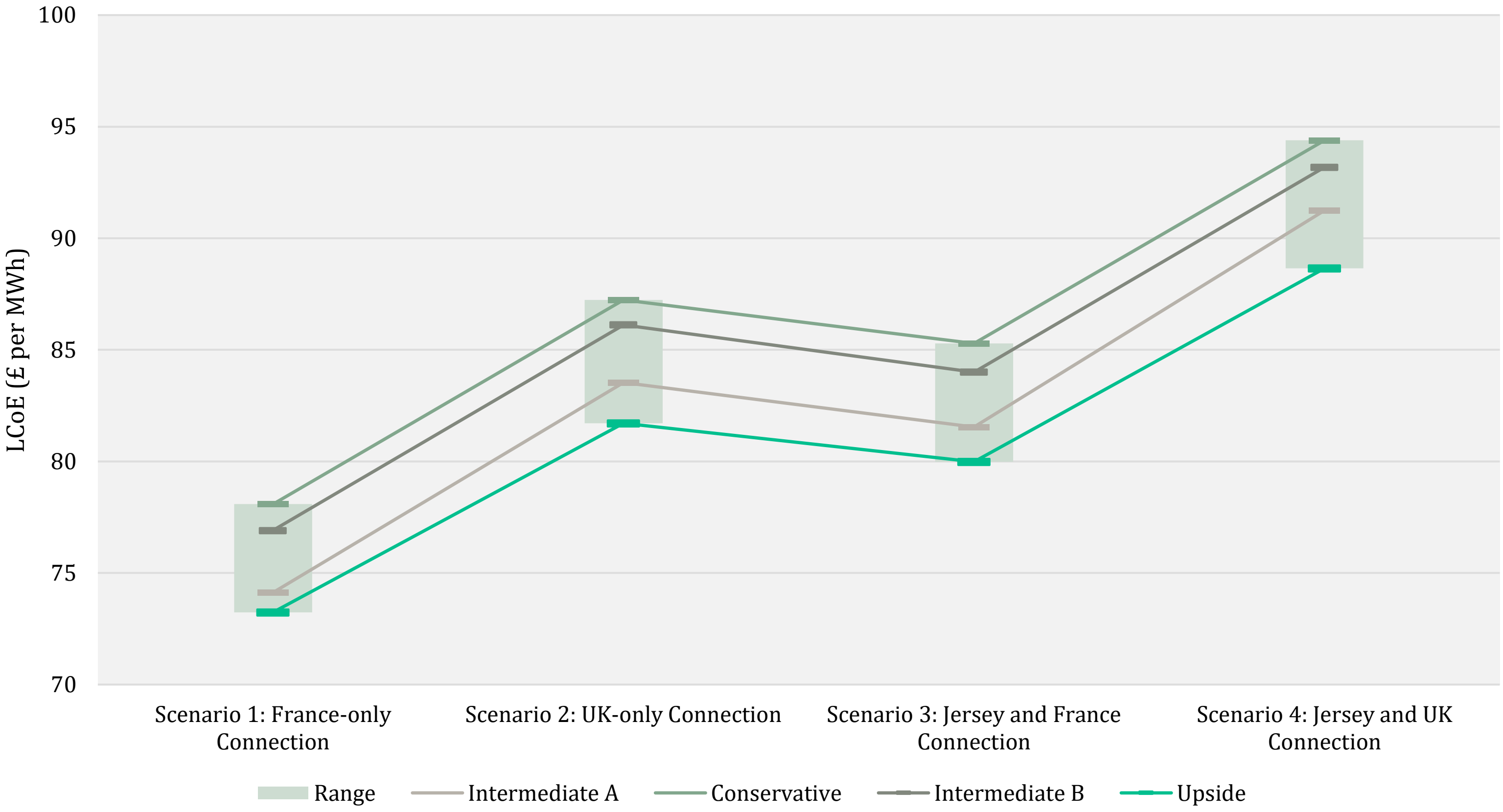
Scenarios with a connection point in the UK have higher LCoEs, but notably, the UK has historically seen higher electricity prices than France and so may have a higher willingness to pay. Scenario 2, solely connected to the UK, has a 13% premium over Scenario 1. Scenario 4, with connections to both the UK and Jersey, has a 24% premium over Scenario 1. These increased costs are due to longer transmission distances, leading to higher export cable expenses, HVDC equipment costs and transmission losses.

Original Scenarios Wake Sensitivity

A

The following chart demonstrates the LCoE ranges across the wake and interconnection scenarios.

LCoE Wake Sensitivity Results



Key Findings

This sensitivity case compares the four scenarios across four different wake cases detailed on slide 17.

The level of expected neighbouring wake losses does not impact the ranking and relative competitiveness of the four interconnection scenarios assessed as part of this study.

The Upside Case yields the lowest LCoE due to the Roches Douvres area not being considered and therefore having the least impact on the generation and subsequently the Conservative case with the most extreme wake effects has the highest LCoE.

The level of neighbouring buildout in the French development area, Roches Douvres, could result in a 6% reduction in NCF from the Upside Case and in turn the LCOE. The actual impact of Roches Douvres will be dependent on the WTG layout configuration which may result in higher or lower wakes than modelled in this study.

The study has assumed the Intermediate A Case as the most appropriate wake scenario for this assessment. The LCoE in the Upside Case is reduced by 1% to 3% compared to the Intermediate A Case across all scenarios. The NCF is considered to be reasonable for all interconnection Scenarios.

HVDC French Connection Scenario

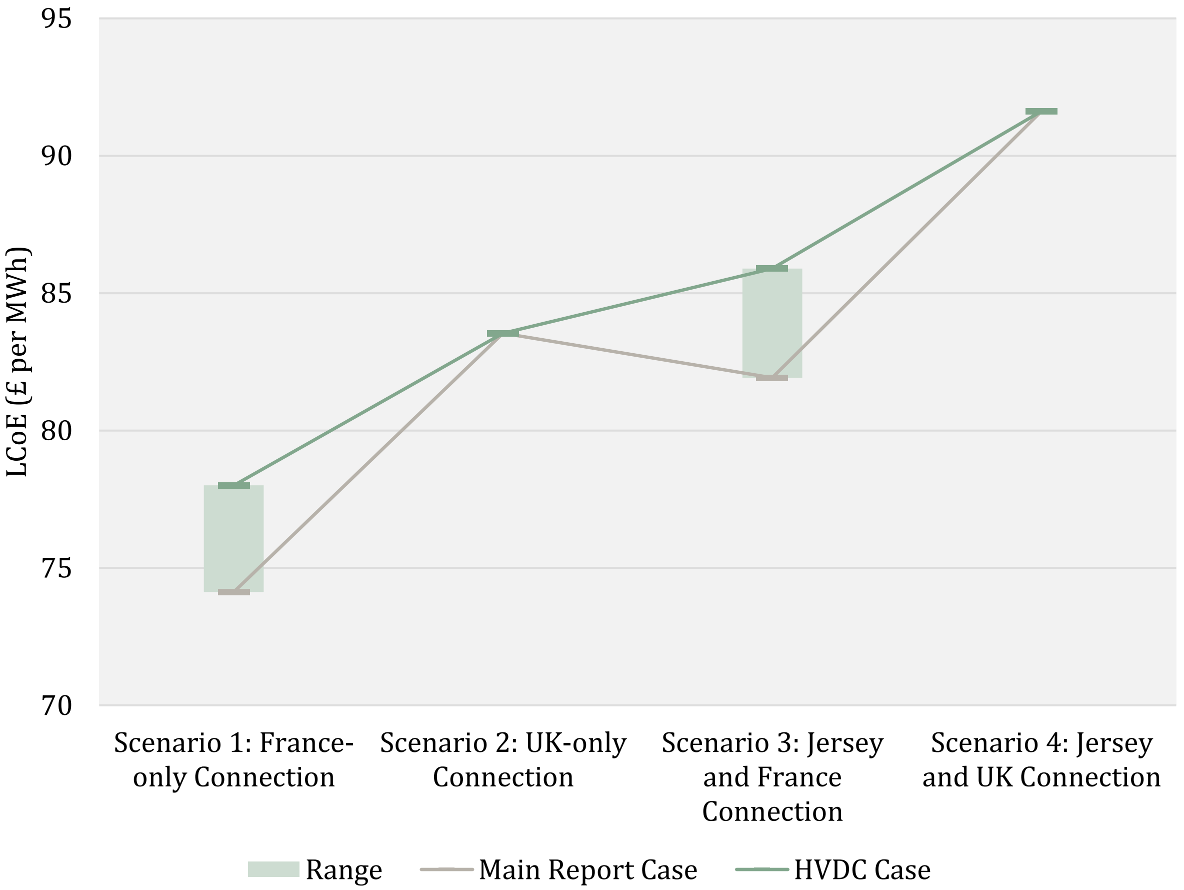
B

ERM has conducted a sensitivity analysis on the LCoE scenarios, assuming an HVDC transmission concept for any French interconnection, in contrast to the scenario A which assumes an HVAC connection. No other parameters have been altered.

LCoE Results

	Scenario	1	2	3	4
	Connection point	France 1 GW	UK 1 GW	Jersey 340 MW France 1 GW	Jersey 340 MW UK 1 GW
LCoE (£/MWh)	original Scenario	74.1	83.5	81.9	91.6
	HVDC Case	77.9	83.5	85.9	91.6

LCoE Results for Sensitivity Cases

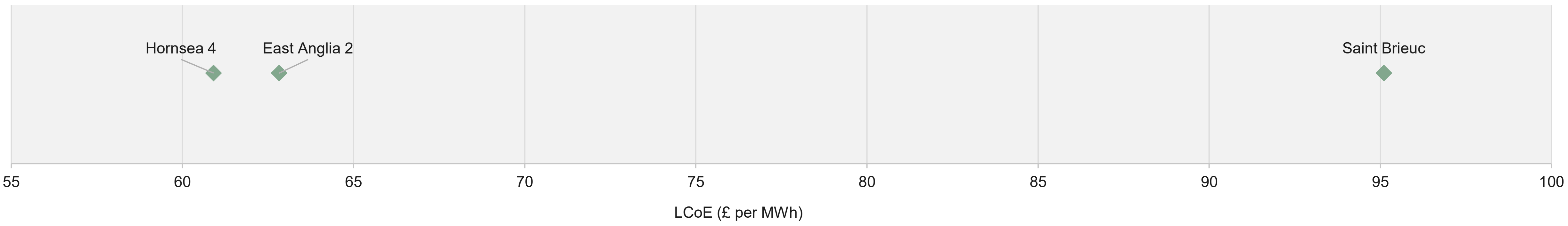


Benchmarking Results

C

The absolute LCoE for Saint Brieuc, Hornsea 4 and East Anglia 2 has been assessed. The strike price of the two UK projects is around £25/ MWh above the LCoE and for Saint Brieuc it is about £50/MWh above the LCoE.

Benchmarking Results



Subsidy Awards

Project	Strike Price £ per MWh, real 2025	Year Awarded	Detail
Saint Brieuc	145.46	2019	Saint Brieuc received a fixed feed-in-tariff in France's first tender round in 2012 which was later renegotiated in 2018-2019 to be EUR 155/MWh from around EUR 200/MWh.
Hornsea 4	84.97	2024	Hornsea 4 was awarded a 15-year CfD in the UK's Allocation Round 6 (AR6). However, Ørsted discontinued the development of the project earlier in 2025, reportedly due to rising supply chain costs, higher interest rates and increased construction and delivery risks. ERM's LCoE results assume that development of Hornsea 4 went ahead as planned and commercial constraints have not been incorporated.
East Anglia 2	84.97	2024	East Anglia 2 was awarded a 15-year CfD in AR6.

LCoE Results: Alternative Power Landing Configuration

D

ERM has conducted a comparative assessment of two offshore power landing configurations for Jersey.

LCoE Results

Scenario		1*	2*	3	4
Connection point		*France HVDC*	*UK HVDC*	Jersey HVAC and France HVDC	Jersey HVAC and UK HVDC
LCoE (£/MWh)	340 MW to Jersey via 132 kV cable, incl. OnSS	*77.9*	*83.5*	85.9	91.6
LCoE (£/MWh)	100 MW to Jersey via 90 kV cable, no OnSS	*77.9*	*83.5*	84.6	91.1

*Scenarios 1 and 2 are here f for comparison purposes, no changes have been made to the LCoE in this case.

ERM has conducted a comparative assessment of two offshore power landing configurations for Jersey. The first involves landing 340 MW with the construction of a new onshore substation (OnSS), while the second considers landing 100 MW via a 90 kV export cable and connecting to existing infrastructure. Initial LCoE modelling indicates that the second configuration results in a lower LCoE than the first, primarily due to the avoidance of new onshore infrastructure. However, both scenarios with power landing in Jersey remain less cost-effective than landing power solely in France or the UK. Scenario 3, landing power in Jersey and France is 8.4% higher in LCoE than landing power solely in France.

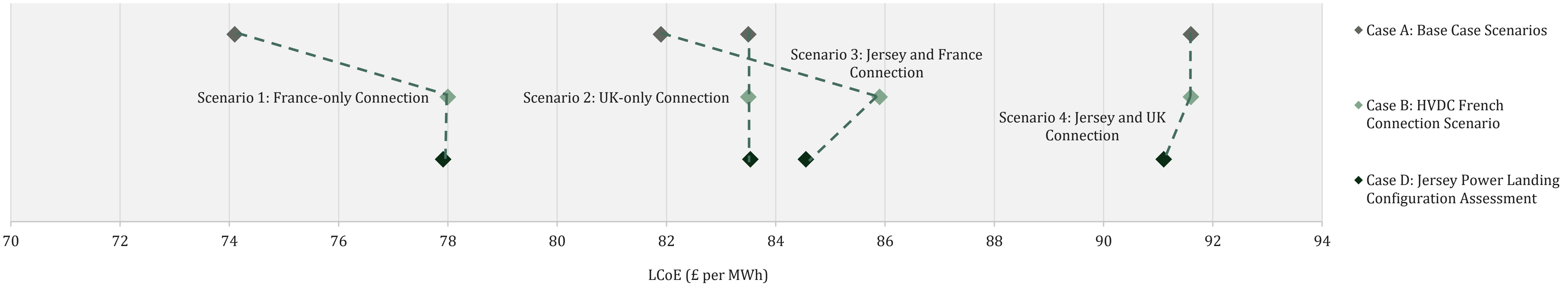
It is important to note that the use of **a 90 kV export cable is highly unconventional for offshore wind applications**, where voltages of 66kV or 132 kV are standard. This deviation from industry norms introduces several technical and commercial risks. Developers may be cautious about adopting such a bespoke solution, which could reduce bidding appetite. The limited availability of 90 kV subsea cables may lead to supply chain constraints, longer lead times, and cost premiums. Additionally, a greater quantity of spare cable would likely be required to mitigate operational risks, further increasing total expenditure. The non-standard configuration may also complicate financing, as lenders typically favour proven technologies with established performance records, and may view this setup as less bankable.

ERM notes, the analysis does not currently account for the premium associated with land acquisition in Jersey, which would likely increase the LCoE of the first configuration, involving a new OnSS.

Compiled Results

The LCoE results for each of the cases involving Jersey are presented in the graph below.

Compiled Results



Name	Case A: Original Scenarios	Case B: HVDC French Connection Scenario	Case D: Jersey Power Landing Configuration Assessment
Scenario 1: France-only Connection	74.1	77.9	77.9
Scenario 2: UK-only Connection	83.5	83.5	83.5
Scenario 3: Jersey and France Connection	81.9	85.9	84.6
Scenario 4: Jersey and UK Connection	91.6	91.6	91.1

ERM Commentary

Across all evaluated cases, Scenario 1, which connects to France only, yields the lowest LCoE. When the transmission concept is changed from HVAC to HVDC, the LCoE increases by 5.1%.

Scenario 2, which connects to the UK only, is unchanged in all cases and exhibits an LCoE that is 7.1% higher than Scenario 1 France-only with HVDC.

Scenario 4, which includes connections to both the UK and Jersey, results in the highest LCoE across all scenarios. This configuration is therefore the least attractive due to the complexity and expense of multi-point grid integration.

LCoE Key Drivers

To better understand what influences LCoE, the table below describes the key LCoE drivers.

Key LCoE Drivers Considered in ERM's Model

Factor	Description
Economies of scale	Greater economies of scale (i.e. larger project capacities) help reduce costs through greater purchasing power, dilution of fixed project and industry-setup costs, and efficiencies gained across construction and O&M. Larger buildout plans for a market (i.e. higher-deployment scenarios) help dilute fixed industry-setup costs.
Supply chain	Access to an adequate and capable supply chain is an important factor in reducing LCoE, in particular, the ability to create a market of suppliers to reduce costs by maximising the competition between suppliers and building factory throughput.
Optimisation of site conditions	High wind speeds, lower water depths, and favourable ground conditions all contribute to reducing LCoE significantly; in addition, a developer's experience with certain site conditions will also impact their ability to optimise project LCoE.
Market competition	Competition between developers encourages innovation and adaptation to reduce LCoE, driving cost-pressures and efficiencies down the wider supply chain. In the WTG supply market today, Siemens Gamesa Renewable Energy (SGRE) is the only western OEM offering a WTG model larger than 15 MW. Vestas has released a statement that it will focus on its 15 MW WTG and will not pursue larger models for the foreseeable future[1]. This potential monopoly introduces significant price uncertainty on future 20 MW WTG. If a developer is forced into a sole-source noncompetitive procurement, OEMs may not charge competitive pricing. The introduction of WTG OEMs from outside Europe could also introduce competition and, in turn, cost reductions. This analysis assumes a competitive procurement environment given the 2040 COD.
Technology improvements	Technology improvements such as larger wind turbines, higher-voltage and larger capacity transmission building blocks, improvements in component design, and efficiencies in operation and maintenance will continue to reduce LCoE; developers have a good sense of the future changes in technology.
Increased capacity factor	One of the single biggest forces driving LCoE; improved capacity factors may emerge from greater wind speeds, larger wind turbines, or improvements in turbine power-curves (blade aerofoils and turbine control algorithms). This analysis considers a 20 MW, 272.5 m RD WTG, though exact sizes and performance will vary depending on the evolution of the industry. Improvements to WTGs and layouts may improve NCFs above the values estimated in this study.
Cost of transmission assets	Distance from grid connection is a key determiner of project costs, with transmission representing 25%+ of CapEx.
COD	This cost analysis is based on a project with a COD in 2040, quoted in 2025 GBP. Projects being executed today, such as the now cancelled Hornsea 4, have been subject to significant supply chain and macroeconomic headwinds. The LCoEs for the optimised site area assume that these supply chain and macroeconomic challenges dissipate and that the European offshore wind market stabilizes between now and the mid-late 2030s when this project is contracted and executed.

[1] Wind turbine makers halt race for size to focus on cost, delivery | Reuters

LCoE Conclusions

In each of the Cases analysed for the Jersey Scenarios in this study French only connection is the most competitive option. The attractiveness of each Scenario is likely to depend on the certainty of the route to market/offtake in France and the UK.

Conclusions

The optimised site area has the technical fundamentals to produce offshore wind power that is competitive with offshore wind in France or the UK. ERM flags that the attractiveness of the connection point scenarios to a developer would be driven by the certainty of the route to market/offtake, rather than solely LCoE. Other key conclusions are:

- If an HVDC transmission is assumed to be used in both France and UK scenarios, a larger project (capacity greater than 1.2 GW) would be preferable to optimise project costs.
- The level of neighbouring buildout in the French development area, Roches Douvres, could result in a 6% reduction in NCF from the Upside Case and in turn the LCOE. But the level of expected neighbouring wake losses does not impact the ranking and relative competitiveness of the four interconnection scenarios assessed here.
- Electricity prices are typically higher in the UK compared to France. Additionally, wind energy constitutes a smaller portion of the regional energy mix in southern England compared to other parts of the UK.
- LCOEs include TNUoS fees in the UK but do not include local grid tariffs in France. Southern England currently benefits from favourable TNUoS fees, which are negative up to 2029, according to the latest publication of TNUoS tariffs[1].
- For either the UK or French interconnection cases, it is possible that the project could enter into the local grid regime, whereby:
    - UK: the offshore transmission assets are sold to an offshore transmission operator (OFTO) after COD.
    - French: the local grid operator builds out the offshore transmission infrastructure, and the project developer is only responsible for the generation assets.

Benefits and Limitations of LCoE as a Metric

LCoE is a useful but limited metric for energy costs, and its limitations should be considered and evaluated to fully estimate the value of offshore wind energy in Jersey. The following should be noted:

- LCoE values generally exclude wider grid upgrade costs necessary to bring power to load centres. These costs are key for comparing offshore against onshore renewables which are expected to require major transmission links, whereas offshore wind can connect directly to coastal demand.
- LCoE is a time-agnostic measure. Comparing LCoEs alone between renewables sources may undersell the time value of offshore wind in a market, especially one with high solar or wind penetration already. For example, offshore wind often produces energy at morning/evening peaks and at night, times when solar PV struggles without substantial battery storage. Further, OSW’s strengths often complement Solar PV seasonally by producing more electricity in the winter months than the summer ones. Depending on the region, offshore wind can complement onshore wind intermittency as well. These counter-balancing profiles can lead to high “capture prices” for offshore wind on a grid saturated by other clean energy sources.

[1] NESO, Transmission Network Use of System (TNUoS) Charges

Appendix: TURPE Overview

TURPE Overview

TURPE is the regulated tariff mechanism in France that allocates the cost of accessing, operating, and investing in the public electricity transmission and distribution networks, based on user type, voltage level, and network type

What is TURPE?

TURPE (Tarif d'Utilisation des Réseaux Publics d'Électricité) is the regulated tariff in France that covers the cost of using the public electricity transmission and distribution networks. It ensures that the infrastructure needed to transport electricity is properly maintained, developed, and modernised.

TURPE 7 came into effect on 1 August 2025 and will apply for a period of four years. It is set by the Commission de régulation de l'énergie (CRE) and applies to all users of the public electricity networks.

Who Pays TURPE? All users of the grid must pay TURPE, including:

- Consumers pay based on the electricity they withdraw from the grid.
- Producers (including large-scale and decentralised generators) pay based on the electricity they inject into the grid.

This includes connections to the transmission network (operated by RTE), and the distribution network (operated by Enedis or local DSOs). TURPE charges vary depending on the user, network type and connection voltage. The categories of connection voltage are detailed in the table to the right.

Connection Voltage (Un)	Voltage Category
Un ≤ 1kV	LV
1kV < Un ≤ 40 kV	HV-A 1
40kV < Un ≤ 50 kV	HV-A 2
50kV < Un ≤ 130 kV	HV-B 1
130kV < Un ≤ 350 kV	HV-B 2
350kV < Un ≤ 500 kV	HV-B 3

TURPE for Generators

Code	Component Name	Calculation	
CG	Annual Management Component	Fixed annual fee per connection point, based on voltage level and contractual terms.	
CC	Annual Metering Component	Based on the type and number of meters, and whether metering is provided by the grid operator.	
CR	Tariff grouping component for connection points	Applied when multiple connection points are grouped under a single contract; based on administrative grouping.	
CER	Annual component for Reactive Energy	Charged when reactive energy exceeds allowed thresholds, based on kVArh measured.	
CI	Annual Injection Component	Determined by rate set for connection voltage level:	
		HV-B 1 (EUR/MWh)	0
		HT-B 2 (EUR/MWh)	37
		HT-B 3 (EUR/MWh)	37

TURPE = CG + CC + CR + CER + CI

Sources: 1. https://www.services-rte.com/files/live//sites/services-rte/files/documentsLibrary/Understanding_the_tariff_TURPE_6_Consumers_and_Generators__2963_en
2. https://www.enedis.fr/sites/default/files/documents/pdf/enedis-essentiel-turpe6.pdf
3. Deliberation of the Commission de régulation de l'énergie of 4 February 2025 concerning the draft decision on the tariff for use of the public electricity transmission networks (TURPE 7 HTB)

TURPE

The Jersey project presents a unique regulatory challenge because it is located outside French territorial waters and as of TURPE 7, there is no established precedent for how such a project would be treated when seeking connection to the French electricity grid.

Offshore Wind

Offshore wind developers are not charged upfront by RTE for the cost of building the offshore grid connection infrastructure. Instead, RTE builds and owns the offshore connection infrastructure. The costs are recovered through the TURPE tariff paid by all electricity consumers.

RTE is compensated for offshore connection investments through a specific remuneration premium of 0.5% added to the WACC to reflect the higher operational risks of offshore connections.

RTE bears the cost of repairs to offshore connection assets up to a ceiling of €50 million over the TURPE 7 period.

If RTE fails to meet connection deadlines or if there is a malfunction RTE may be liable to compensate offshore wind producers. This compensation is capped at 40% of the total indemnities, with a maximum of €70 million per year.

Interconnectors

Interconnectors are not subject to the standard TURPE charges like consumers or producers. Instead, they are governed by specific access tariffs and regulatory frameworks that reflect their role in facilitating international electricity exchanges. Interconnectors in the core region are required to have a minimum of 70% capacity availability. There is an incentive mechanism whereby there is a bonus or penalty charge per percentage point above or below the 70% target.

The Jersey project

There is currently no established precedent for how an offshore wind project located outside French territorial waters—such as a the Jersey project—would be treated under the TURPE framework when seeking connection to the French transmission grid.

As of now, the regulatory treatment remains uncertain. Key considerations are:

- Whether the project would benefit from the same cost socialisation as French offshore wind farms,
- How ownership and operational responsibilities would be allocated,
- And whether RTE would assume the investment and risk for the connection infrastructure,

Without direct engagement with RTE and potentially the Commission de régulation de l'énergie (CRE), it is not possible to determine how such a project would be treated under current or future regulatory frameworks.

Thank you

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Glossary

Abbreviation	Definition
AIS	Automatic Identification System
AoI	Area of Interest
CapEx	Capital Expenditure
COD	Commercial Operation Date
CPI	Consumer Price Index
DevEx	Development Expenditure
EIA	Environmental Impact Assessment
EEZ	Exclusive Economic Zone
EMODnet	European Marine Observation and Data Network
EPC	Engineering, Procurement and Construction
ERM	Environmental Resources Management
EV	Electric Vehicle
FDI	Foreign Direct Investment
GHG	Greenhouse Gas
GIS	Geospatial Information System
GoJ	The Government of Jersey
GW	Gigawatt
GWA	Global Wind Atlas

Abbreviation	Definition
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IMMA	Important Marine Mammal Area
IPP	Independent Power Producer
IREP	Integrated Renewable Energy Planning
ISO	Independent System Operator
LCoE	Levelized Cost of Energy
LNG	Liquefied Natural Gas
MPA	Marine Protected Area
MSL	Mean Sea Level
MW	Megawatt
NCF	Net Capacity Factor
NDC	Nationally Determined Contribution (under the Paris Agreement)
O&G	Oil and Gas
O&M	Operations and Maintenance
OEM	Original Equipment Manufacturer
OFTO	Offshore Transmission Operator
OpEx	Operational Expenditure

Abbreviation	Definition
OSW	Offshore Wind
PPA	Power Purchase Agreement
RD	Rotor Diameter
RE	Renewable Energy
RPO	Renewable Purchase Obligations
TJ	Terajoule
TL	Transmission Line
TNUoS	Transmission Network Use of System
TW	Terawatt
USD	United States Dollars
VAT	Value-Added Tax
VMS	Vessel Monitoring Service
WACC	Weighted Average Cost of Capital
WTG	Wind Turbine Generator