Landing power in Jersey

Sustainability is our business

Contents

1. Executive Summary

Executive Summary

Context

Jersey currently imports nearly all of its electricity from France via undersea cables, relying on external sources for supply security and price stability. Growing interest in offshore wind development in nearby waters has raised a strategic question: should Jersey land power from a future offshore wind farm, or solely export the energy to either France or the UK?

This report evaluates the pros and cons of these two scenarios:

Scenario A: Power is landed in Jersey and exported internationally.
Scenario B: Power is exclusively exported to either France or the UK.

Approach & Recommendation

Our analyses focuses on four primary dimensions:

- **Cost of electricity**: Long-term electricity costs under each scenario, including potential benefits or burdens on Jersey electricity consumers and grid.
- **Technical Complexity**: Infrastructure and permitting challenges, such as the complexities of a dual connection scenario. A new substation, while not appearing as necessary to land power at present, has also been considered in case this position changes.
- **Market Attractiveness**: How each option affects the project's appeal to offshore wind developers, particularly for future competitive bids.
- **Sociopolitical Impact**: Implications for energy independence, public perception, and long-term reliability – all growing public priorities.

This report aims to inform policy and investment decisions by clearly outlining the trade-offs between these two strategic paths. The analyses undertaken and presented here points to a solution which avoids landing power into Jersey, as this approach offers lower cost, reduced technical complexity, and a more attractive proposition for developers. It is however, recommended that the option of landing or not landing power in Jersey is maintained to developers at the seabed auction stage.

2. Overview of scenarios so far

Overview of LCoE Scenarios

ERM ran analysis on a variety of connection scenarios to compare the cost viability of each

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
Base Case Capacity (MW)	1,000			
Average Depth (m)	45.1			
Foundation Concept	Jackets			
Construction Port	Brest			
Port Distance (nm)	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 Energy Yield Results

Energy yield results according to the results 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
Modelled 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**

*Considers Saint Brieuc and optimised Roches Douvres French offshore wind development

LCoE Results

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

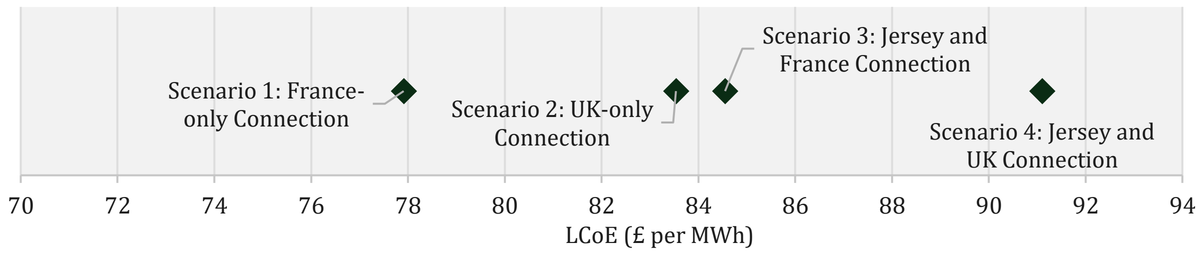
LCoE Results

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 100 MW France 1 GW	Jersey 100 MW UK 1 GW
Wake Scenario	Intermediate A			
LCoE (£/MWh)	77.9	83.5	84.6	91.1
DevEx (£k/MW)	147	191	196	255
CapEx (£k/MW)	3,414	3,735	3,681	4,010
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 associated electrical 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 2, with a UK only connection has a 7.2% premium over the best scenario. This result is driven by the less complex project design.

Scenarios with split connection between Jersey and France or the UK have higher LCoEs results. Scenario 3, with a Jersey and France connection, has an 8.5% premium over Scenario 1. Scenario 4, with connections to both the UK and Jersey, has a 16.9% premium over Scenario 1. These increased costs are due to longer transmission distances, leading to higher export cable expenses and transmission losses.

The LCoE results presented here have been used to inform the electricity price analysis presented later in this report.

*Considers Saint Brieuc and optimised Roches Douvres French offshore wind development

Summary of Strategic Options Appraisal Scenarios

ERM compared a range of factors to assess the overall pros and cons of each connection scenario. All scoring was carried out on a 1-5 scale; a score of 3.0 is considered the "baseline".

Key takeaways

- Scores and ranks shown here reflect the assessment of the scenarios based on weights informed by a prioritisation survey carried out by ERM.
- Using current assumptions, in some cases scenarios scored the same due to perceived **trade-offs.**
- The weights of each category & criteria had a high impact on the results; weights should be **iteratively adjusted** to account for evolving priorities.

	1bi	1cii	2bi	2cii	3bii	3cii
Geography	France		UK		France & UK	
Jersey Connection?	No Jersey	Jersey	No Jersey	Jersey	No Jersey	Jersey
Rank based on LCOE	1	3	2	4	5	6
LCOE vs. lowest scenario	Baseline	+ 9%	+ 7%	+ 17%	+ up to 37%	+ up to 45%
Project Costs	4.2	3.4	4.2	3.2	1.7	1.3
Public Costs	3.0	1.0	3.0	1.0	3.0	1.0
Economic Benefits	3.1	3.6	2.5	3.5	2.3	3.3
Public Effects	3.6	3.3	3.9	3.6	3.8	3.4
Geopolitical Factors	3.2	3.4	3.0	2.7	2.0	2.0
Project Success Potential	4.0	3.7	4.0	3.8	3.2	3.0
Appraisal Score	3.53	3.41	3.41	3.28	2.65	2.67
Overall Rank*	1	3	2	4	5	6

3. Scenario discussion

Scenarios 3 & 4: Power Landed in Jersey - Overview

Pros and Cons overview of landing power in Jersey

Topic	Pros	Cons
Cost	• Diversifies Jersey's energy supply, creating a potential buffer against price increases and supply disruptions from imports.	• Higher average costs to build OSW with a Jersey connection • Average LCOE of **£87.9**/MWh (combined 3 & 4 scenarios) vs **£80.7/MWh** (1 & 2) • Future import contract negotiations with EDF/IPP likely complicated. Jersey Electricity (JE) would have to negotiate a contract for a lower volume and more intermittent demand, raising costs. • Until there is greater clarity on project finances and design, how the power purchased from the wind farm would impact electricity prices in Jersey is uncertain. Landing power in Jersey is likely to increase the price consumers pay for electricity in Jersey, however the magnitude of this is currently unclear. ERM analysis has concluded the cost of power to Jersey electricity could be in the region of ~50% depending on connection scenarios which may be passed onto consumers.
Technical Complexity		• Could require a new onshore substation or multiple smaller cable connection points, all options result in complex integration with limited grid capacity. • An interconnector system between Jersey, the wind farm and the exporting market would significantly increase cost, design complexities, permitting and coordination burden. • Complex regulatory environment involving multiple jurisdictions.
Market Attractiveness	• Potentially attractive to local Jersey developers	• Added complexity and cost likely to deter bidders or reduce competitiveness of project. • International developers will compare a Jersey auction with other markets.
Sociopolitical Impact	• Aligns with public interest in energy resilience and local control. • May offer symbolic and reputational benefits as a clean energy participant/provider. • May result in expanded local capabilities for JE (grid balancing).	• Risk of backlash if project disrupts coastal areas or is perceived as raising bills. • Long/expensive permitting timelines and potential political contention over infrastructure location if additional onshore works are required. • Local involvement may raise expectations of benefits (jobs, investment) that may not materialise at a meaningful scale.

Note: For the purposes of this analysis, we have combined the France and UK scenarios to isolate the connection to Jersey as the primary factor of difference

Scenarios 1 & 2: Power not Landed in Jersey - Overview

Pros and Cons overview of not landing power in Jersey

Topic	Pros	Cons
Cost	• Lower average costs to build (relative to power landed in Jersey) would result in lower costs passed on to JE customers - as developers may be able to deliver lower-cost bids. ○ Average LCOE of **£80.7/MWh** (combined 1 & 2 scenarios) vs **£87.9**/MWh (combined 3 & 4) of landing in Jersey scenarios. • Avoids major onshore infrastructure costs which may be borne by Jersey. • Could potentially leverage power to France as part of contract negotiation with EDF/French IPP. • Mitigates uncertainty of cost of electricity from Jersey wind farm.	• Less control of energy supply if power not landed in Jersey, maintain stronger dependence on foreign electricity and exposure to price fluctuation.
Technical Complexity	• No requirement for new onshore electrical infrastructure and relevant permitting, reducing risk and coordination effort, though may still need an O&M base in Jersey. • Simplifies project design and grid integration from developer perspective – avoids complication of dual landfall and associated electrical design considerations.	• Still requires some level of permitting and regulation from Jersey.
Market Attractiveness	• Simpler, more conventional design and fewer permitting jurisdictions may attract more competitive developer interest. • Larger, better-integrated grids (France/UK) offer developers more offtake certainty and flexibility; ability to negotiate PPA for full ~1 GW project.	• Some developers may be cautious of expected pushback from stakeholders.
Sociopolitical Impact	• Avoids risk of public opposition tied to onshore construction or perceived ratepayer exposure.	• May be seen as a missed opportunity to enhance energy independence, although some gains may be perceived on this front. • Visual impact with possibly little financial gain if the auction doesn't generate anticipated revenues. • Visual impact with no power being landed could increase pushback.

Note: For the purposes of this analysis, we have combined the France and UK scenarios to isolate the connection to Jersey as the primary factor of difference

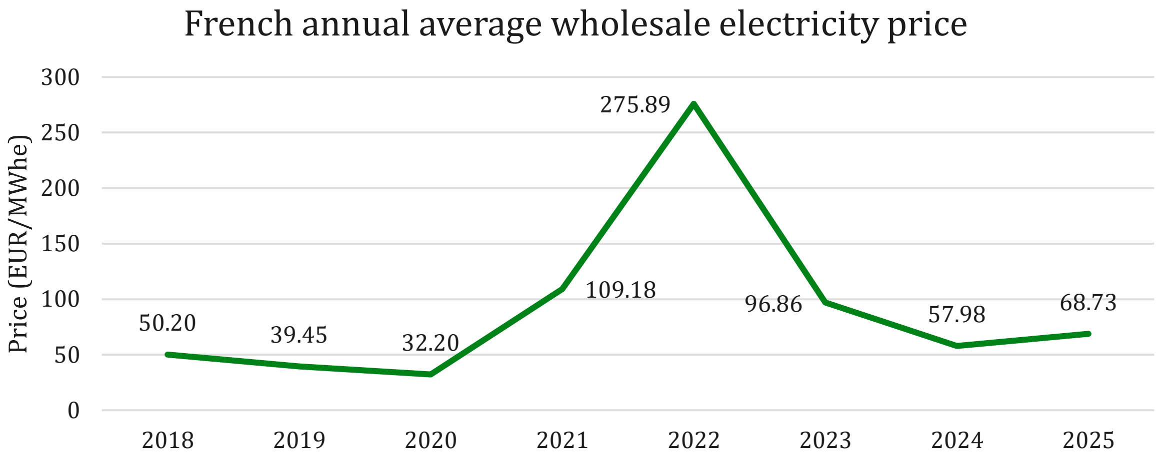
Cost Drivers – Electricity Markets

Landing power in Jersey could increase electricity price stability by reducing exposure to foreign markets

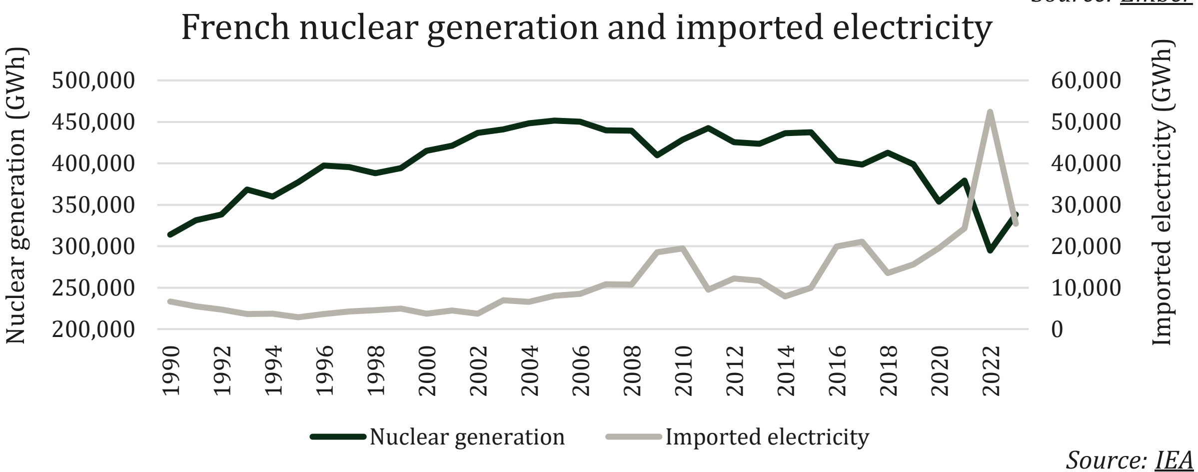
Landing power from the offshore wind farm in Jersey would help to diversify Jersey's energy supply, creating a potential buffer against price increases and supply disruptions from imports.

French electricity prices increased sharply from 2021 and peaked in 2022, as fossil fuel prices increased owing to supply issues. In addition, a large share of France's nuclear portfolio was taken offline for maintenance, increasing the country's reliance on imported electricity. French wholesale electricity prices have approximately doubled since 2020 owing to this and other factors. Combined with geopolitical pressures such as Brexit, the ongoing conflict in Ukraine and the Trump administration means the price of electricity imported from France when future import contracts are negotiated with JE is likely to increase. Longer term, there is indication that this trend will continue if Jersey continues to rely on imported power.

Decoupling the reliance of electricity in Jersey from foreign imports and external market pressures could lead to more stable electricity prices in Jersey. Whilst the current import contract JE holds with EDF is a long-term agreement, there is potential to negotiate a longer term (up to ~20 years) agreement with an offshore wind developer in Jersey. Whilst the price may not be lower than solely importing from France this would bring longer term price confidence. There are however potential negative implications of this. Due to the intermittency of offshore wind, electricity would still need to be imported from France, likely at a higher price due to reduced negotiation position than if no power was landed in Jersey.



Source: Ember



Source: IEA

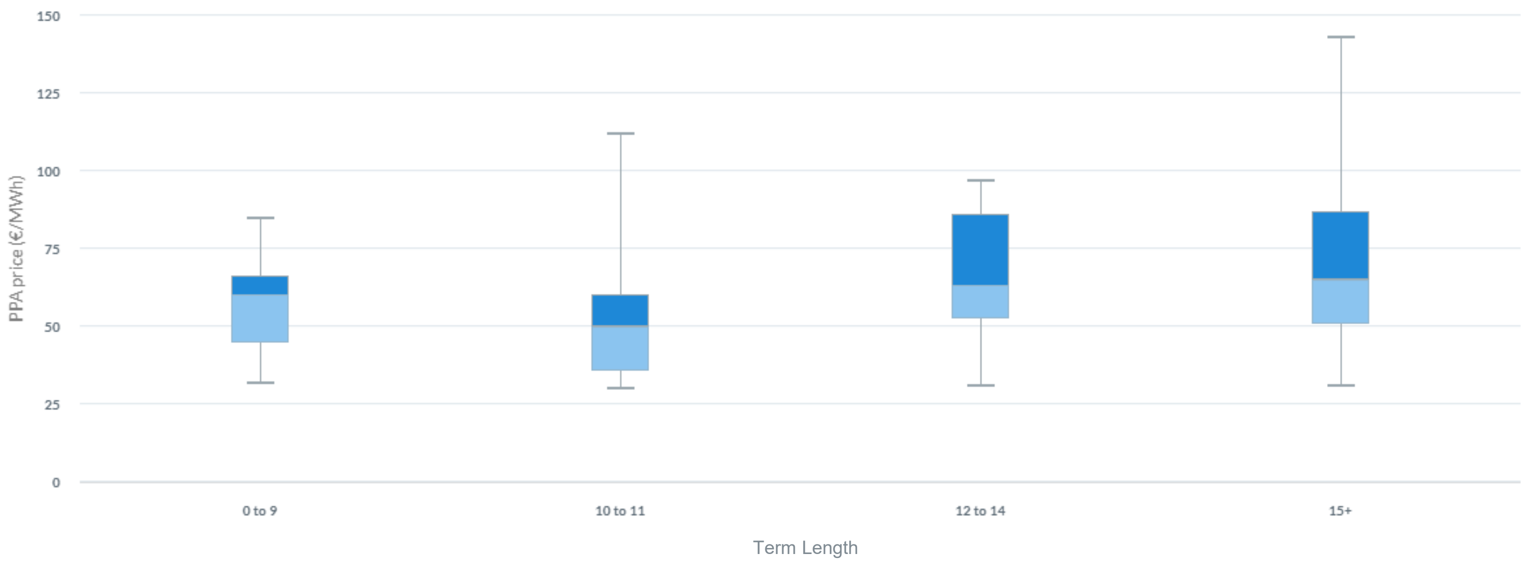
Cost Drivers – PPA Term Lengths

Longer PPA terms can drive lower electricity prices for Jersey. With current market conditions offshore wind developers are prioritising long-term PPAs/CfDs to increase investor confidence.

Key Insights:

- Longer PPAs (15 – 20 yrs) offer price stability and financing benefits for suppliers
- Shorter PPAs (5 – 10 yrs) often carry **£1.5–2.5/MWh premiums**, due to:
  - Revenue uncertainty
  - Higher refinancing and renegotiation costs
  - Lower supplier appetite

LevelTen: Term Length Impact on PPA Prices



BNEF and LevelTen data shows shorter PPAs are 2-5% more expensive on average.

In a future where EDF/a French IPP only supplies a smaller, less consistent share of Jersey's power, contract durations may shorten, increasing import prices and volatility for JE customers.

Importing power to Jersey could allow JE the opportunity to negotiate a longer-term contract, adding price stability. This PPA term could be negotiated as part of the seabed leasing process.

Cost Drivers – Import Contract Negotiations

If Jersey no longer sources the majority of its power from EDF or a French IPP, future contract terms could worsen – increasing the per-MWh cost of imported electricity.

PPA Price Drivers if Jersey Imports Less from EDF:

- **Loss of Volume Leverage:** Jersey's shift from near full to partial offtake reduces EDF's/IPP's incentive to offer favorable terms.
- **Higher Variability Costs:** Offshore wind adds import unpredictability, increasing EDF's/IPP's balancing and firming risk.
- **Partial-Load Premiums:** Lower volume and intermittency typically result in £10–20/MWh price uplifts.
- **Shorter Contract Terms:** Reduced supplier role may lead EDF/IPP to offer shorter, costlier PPAs.
- **Premium for Firming Role:** Acting as backup during wind lulls is a high-flexibility service, often priced 20-30% higher.

Role	Price*	Notes
Full-load Supply (EDF today)	~ £80/MWh	Current arrangement: long-term, high-volume, predictable
Partial Supply PPA	+10 – 25%	EDF supplied intermittent, reduced load; less volume certainty
Firming/Backstop Only	+20 – 30%	EDF only supplies when wind is unavailable; flexible, high-risk role

*Estimates are consistent with industry benchmarks and price signals from European auction and corporate PPA markets. Actual price impact would depend on contract term, timing, and EDF's strategy.

Sources: Lazard LCOE+; LevelTen PPA Index, Bloomberg NEF, Microsoft Sustainability Reports

Corporate Case Study: Microsoft 24/7 RE Strategy

- Microsoft shifted to hourly-matched clean power procurement for key facilities.
- To manage wind/solar variability, they layer firming/backstop contracts from grid or third parties.
- This strategy increased PPA cost per MWh due to:
  - Premiums for flexibility
  - Added balancing and forecasting complexity
  - Need for short-duration, high-responsiveness power

Result: Firming premiums of **£15–25/MWh** (20 – 30%), but from a corporate with immense buying power and competing suppliers

BNEF & LevelTen Commentary on EU PPA Price Premiums

Market analysis supports a **10–30% cost premium** for contracts with lower volume certainty, intermittency, or firming obligations. This includes:

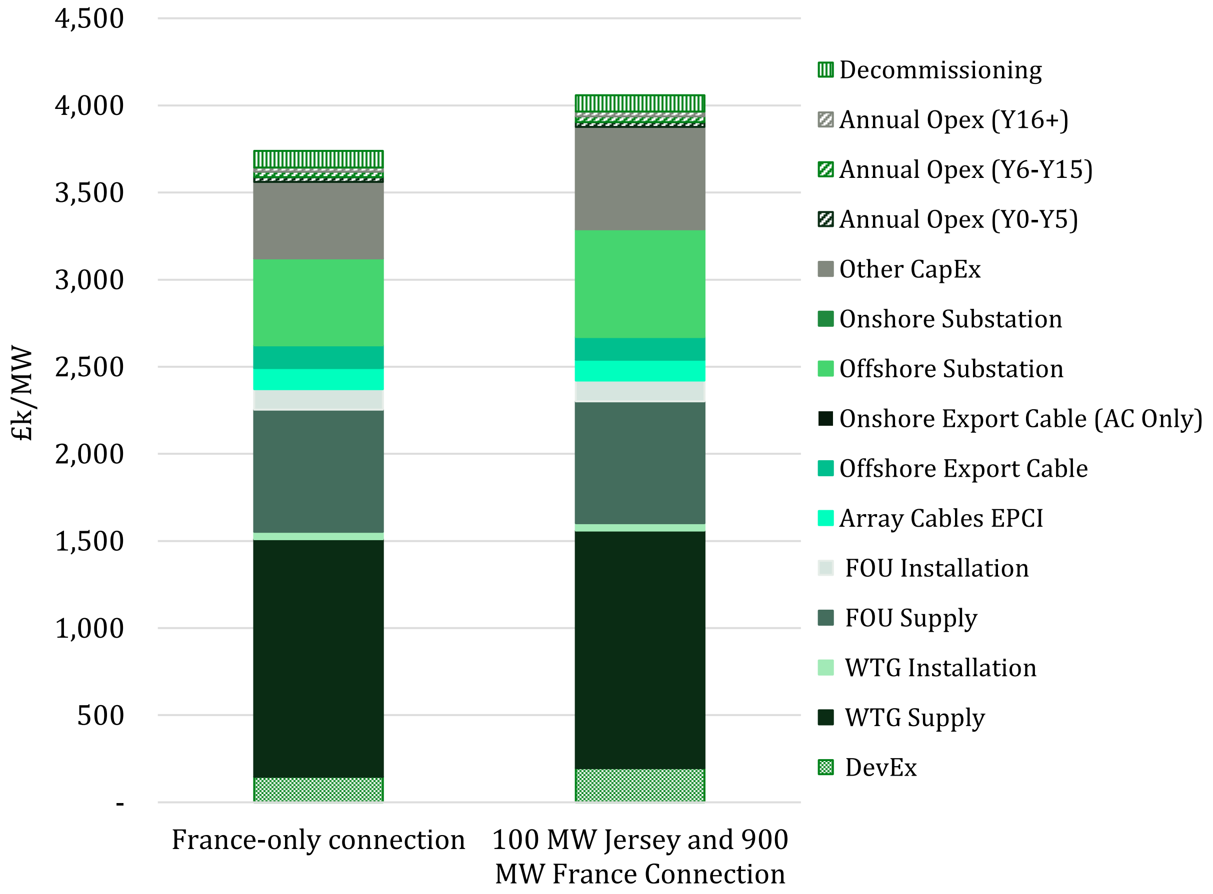
- €1.5–3.5/MWh for baseload vs as-produced
- €1.5–2.5/MWh for longer terms
- €4–6/MWh for low-volume or buyer-specific risk
- Up to €15–20/MWh for full 24/7 firming arrangements.

Based on a ~ €75/MWh market baseline, this could result in premiums between **10-30%.**

Impacts to Jersey may be even higher, given limited transmission availability and the intermittency of required supply.

Cost Drivers – Development Costs

An OSW system connected to Jersey would incur significantly higher costs to develop than one connected to only France/UK – potentially resulting in a less attractive proposition to developers.



Cost Drivers:

- **New Onshore Substation**: Jersey *may* require a purpose-built high-voltage substation to receive offshore wind power, adding significant upfront capital cost to either the developer or JE. Further investigation is required to confirm if current substation infrastructure could negate this additional cost, as this appears feasible at present.
- **Grid Reinforcement**: The existing local network is sized for imports, not large-scale generation meaning upgrades may be required to safely integrate offshore wind.
- **Landfall Infrastructure**: Cable landing involves civil works (e.g. trenching or drilling) and coastal permitting, which add cost and complexity.
- **Dual Connection Design**: Serving both Jersey and mainland grids requires more cabling, switching infrastructure, and operational coordination.
- **Jurisdictional Complexity**: Navigating Jersey's standalone permitting and regulatory processes increases legal, consulting, and developer overhead.
- **Limited Economies of Scale**: If funded by Jersey, high infrastructure costs are spread across a small consumer base, increasing per-MWh costs.
- **Logistical Challenges**: Limited access to large-scale construction capacity, marine staging, and heavy equipment in Jersey adds a cost premium.
- **Import Contract Complexity**: JE would likely face more difficult negotiations with EDF/IPP for a variable supply profile, potentially leading to less favourable terms and higher prices.
- **Electricity Price Uncertainty:** With the project not expected online until ~2040, it is unclear what the overall impact on electricity prices in Jersey will be. Future PPA prices, EDF/IPP contract terms, material costs, and broader market conditions could all shift significantly over time.

Cost Drivers – Tax Implications

This slide is intended for informational purposes only and **does not constitute tax advice**. The analysis presented is based exclusively on publicly available information on the prevailing taxation regimes in the jurisdictions referenced.

Impact of Jersey Tax regime on offshore wind costs

Corporation tax in Jersey

In general, Jersey has a "zero/ten" tax regime, which typically provides a 0% corporate income tax rate for businesses that are tax residents on the island. A business is considered a tax resident if it is either incorporated in Jersey or if its central management and control are located there. However, a key exception to this rule applies to companies that are incorporated in Jersey but are demonstrably managed and controlled in another country where they are also a tax resident. If that country's highest corporate tax rate is at least 20%, the company will not be subject to Jersey's tax residency rules, and its profits will be taxed in the foreign jurisdiction.

Moreover, the Jersey Government imposes a 20% corporate income tax on utilities such as JE, Jersey Gas, Jersey Water, and telecom companies in the island. The government does not have a specific term referring to utilities, but it is generally understood that utilities provide essential public services to residents.

Taxation regime on electricity exchange

Existing electricity imports from France to Jersey are **not** subject to excise tax or other customs duty by the Jersey Government. Customs and excise duties are only imposed on alcohol products, tobacco, fuel, and vehicle emissions duty.

For France, no customs duties are imposed on imported electricity from within the EU due to the single electricity market. This also includes imported electricity from the UK due to the UK-EU Trade & Cooperation Agreement (TCA).

Moreover, the electricity exchange between the UK and EU is subject to zero tariffs and zero quotas provided that it meets the rules of origin – where electricity is generated **within the UK or EU**, it is not subject to any tariffs or quotas – as prescribed in the TCA.

Taxation and lease fees on offshore wind projects in the UK

In the UK, offshore wind developers are subject to corporation tax in the same way as other businesses. The amount of tax payable depends on the company's profits. However, due to the substantial capital investment required for offshore wind projects, particularly in assets such as turbines, platforms, and subsea cables, developers can claim capital allowances. These allowances enable companies to deduct a portion of the cost of qualifying assets from their taxable profits, effectively reducing their corporation tax liability.

The Electricity Generator Levy (EGL) is a temporary specific tax for offshore wind and other low-carbon generators, levied at a rate of 45% on exceptional revenues that exceed a set benchmark price. In addition to the EGL, developers face business rates, but the rules differ by location. In England and Wales, business rates apply only to the onshore components of an offshore wind farm, such as substations and landing cables. In Scotland, the situation is different – offshore wind farms are not entirely exempt but are eligible for specific relief from non-domestic rates.

Offshore wind developers pay The Crown Estate (TCE) and Crown Estate Scotland (CES) for commercial seabed leases. TCE and CES use a two-stage payment model: first, developers pay substantial "option fees," during TCE or CES leasing rounds (e.g. TCE Round 4 or CES ScotWind leasing round). Once the wind farm is operational, developers pay ongoing rent/revenue share based on the energy generated. The revenue collected by TCE goes to the UK Treasury, while CES's revenue is directed to the Scottish Government.

Cost Drivers – Tax Implications

This slide is intended for informational purposes only and **does not constitute tax advice**. The analysis presented is based exclusively on publicly available information on the prevailing taxation regimes in the jurisdictions referenced.

Impact of Jersey Tax regime on offshore wind costs (continued)

Taxation and lease fees on offshore wind projects in France

In France, the taxation regime for the offshore wind sector is primarily governed by the *"Taxe sur les éoliennes maritimes"* (offshore wind turbine tax) as outlined in Article 1519B of the French General Tax Code and the *"Redevance d'occupation du domaine public maritime"* (maritime public domain occupation fee/seabed lease fees).

Offshore wind turbine tax is a specific fixed annual tax imposed on offshore wind farms – which is not taxed on the wind farm's revenue, but it is calculated based on the installed capacity of the offshore wind farm in MW. The annual rate is adjusted every year – with 2024 rate is set at **€19,890 per MW**. Revenue from this taxation is allocated to a national fund specific to community development of host communities of the offshore wind farms.

Despite having a one-stage auction framework, France requires winning developers to also pay the maritime public domain occupation fee annually. This fee has both fixed and variable components – the fixed component is based on the offshore wind farm's physical infrastructure such as fees on per turbine mast and per linear meter of the cable connection. The variable component is directly tied to the operational performance once the offshore wind farm is in commercial operations – typically calculated based on the project's installed capacity in MW.

In addition to offshore wind-specific levies, developers are also subject to other general business taxes including the *"Imposition Forfaitaire sur les Entreprises de Réseaux,"* a fixed tax for on-network companies, which applies to the offshore wind farm electrical connection infrastructure that it owns; and standard corporate income taxation on the developer's profits.

Next steps for the Government of Jersey

There is a need for the Government of Jersey to explore developing a specific tax framework for offshore wind to ensure that the government will benefit from the income generated by the offshore wind farm operator – factoring in that most of the electricity output of the offshore wind farm will be exported outside of Jersey as the island's demand is far less than the potential output of the offshore wind farm. In addition, the current understanding of "utility" might not be fit for an offshore wind farm, as it does not directly provide essential public service to the residents of the island.

Moreover, as the UK-EU Trade & Cooperation Agreement is clear that electricity exchange is not subject to any tariffs or quotas as long as the electricity is generated either in the UK or EU under its rules of origin, the Government of Jersey should seem to explore discussions with potential export markets, particularly the UK and France to determine how electricity tariffs would operate on the exported electricity of the Jersey offshore wind farm.

As it stands, Jersey appears not to be covered under the Energy section (Title VIII) of the UK-EU Trade & Cooperation Agreement; and the only participation of the Channel Islands, including Jersey, under the new agreement is specific to fisheries and trade in goods. Note that under EU law, energy is considered as a service.

Summary of Cost Drivers

Landing power in Jersey offers potential price stability via a long-term PPA with the developer, but also risks increasing per-MWh costs due to higher offshore wind costs, EDF/IPP premiums and intermittency-driven import needs.

Electricity Market Exposure

Although a long-term PPA offers some price stability, **offshore wind costs are likely to exceed current prices** if power is landed in Jersey, and intermittency would still require imports at potentially higher EDF/IPP rates — **driving up costs in either case**.

PPA Term Lengths

Longer PPAs (15–20 yrs) typically offer more competitive pricing; **shorter terms (5–10 yrs) carry £1.5–2.5/MWh premiums** (2–5% higher) due to revenue uncertainty, lower supplier appetite, and refinancing needs.

PPA/Import Contract Negotiation Impacts

Loss of volume leverage, higher variability costs, and partial-load premiums could **increase EDF/IPP import prices by 10–25%,** with firming-only roles commanding 20–30% premiums.

Developer Costs

A Jersey connection could add substantial upfront costs for the offshore wind developer: potentially a new onshore substation, grid reinforcement, dual-connection infrastructure, and logistical challenges, raising £/MWcosts compared to France-only export.

Tax Implications

Landing power in Jersey could provide tax revenue, however further discussions with France/UK are required to investigate the implications of tax on the finances of the project.

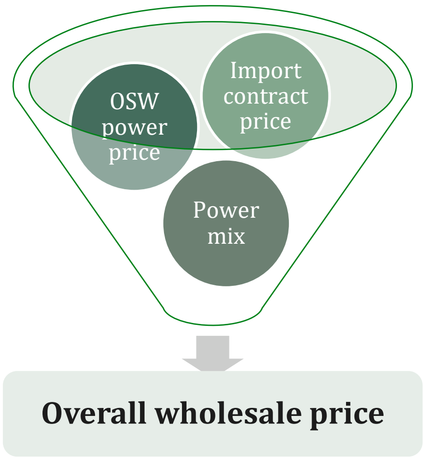
Wholesale Electricity Price Modelling

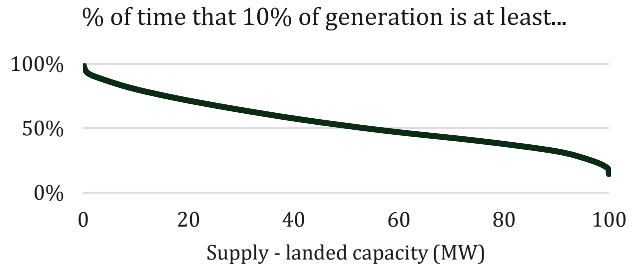
Method & Limitations

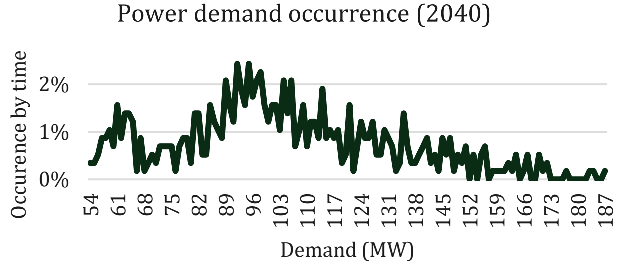
To calculate an overall wholesale electricity price (i.e. the average cost of electricity to JE) for each scenario, all that is required is the cost and amount of electricity bought from each source. For this analysis, the sources have been simplified to be a Jersey OSW farm and imported power from France. ERM notes that some electricity was generated in Jersey as per the most recent JE annual report, however as the cost of this to JE is unknown and the amount only represented 5.5% of 2024 consumption, this has been excluded from the analysis. A projection of 900 GWh of electricity consumption has been used, suggested by JE as a suitable estimate for 2040.

To estimate the power mixes for the various scenarios, the amount of electricity that would be sourced from the OSW farm had to be calculated using various differing methods. If no power was to be bought directly from the wind farm, then this was given as zero. In scenarios where JE was given preference on the first 100 MW of generated power, an overall availability of 92.5% was used, as the wind resource from the energy yield analysis showed that at the wind farm would generate no power 5% of the time, 0-100 MW 5% of the time, and at least 100 MW 90% of the time. Assuming an average of 50 MW is generated in the 0-100 MW case yields a weighted average of 92.5 MW available to Jersey. For simplicity, it was assumed that 92.5 MW was always available to Jersey in such a scenario. In cases where 10% of live generation is offered to JE, a power mix was estimated using the probabilities of supply (OSW generation) and Jersey demand, which are based on the wind resource combined with the WTG power curve and Jersey power demand data supplied by JE respectively. The charts in the top right of this slide outline these two variables.

When estimating the power prices for the various scenarios, considerations outlined in the PPA slides above including volume, intermittency and other driving factors such as European power prices were considered. Markups have been applied to the calculated LCoE where applicable based on a LCoE benchmarking exercise carried out by ERM to bring LCoEs up to equivalent strike price/PPA values. The next slide provides the estimated prices.







Scenarios

a. Power landed, preferential capacity ("first dibs")

100 MW of OSW capacity is landed in Jersey, with JE securing preference for the first 100 MW of generation of the wind farm and the excess exported to France.

b. Power landed, non-preferential capacity ("two projects")

100 MW of OSW capacity is landed in Jersey, with no preference; i.e. 10% of the 1 GW wind farm's generation is offered to JE and 90% available to France.

c. Power not landed, power repurchased from EDF ("long way round")

All power exported to France, with JE securing a PPA/contract with preference on either the first 100 MW **or** for 10% of generation from the Jersey OSW farm (two results given).

d. Power not landed, no repurchasing ("do nothing")

All power exported to France; no change in how JE source electricity.

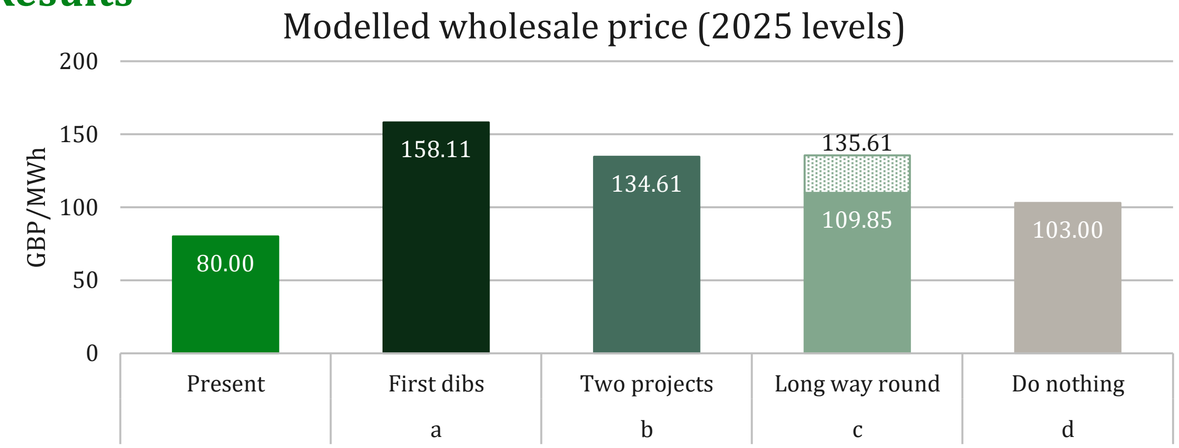
Wholesale Electricity Price Modelling

Assumptions

- All non-OSW electricity imported from France (no on-island generation).
- Any OSW power available to Jersey will be prioritised over the French supply.
- Annual electricity consumption of 900 GWh.
- Power demand profile (duck curve) unchanged from 2024. It has been suggested by JE that the 2024 data used for the analysis is influenced by the current import contract arrangements, and some change is to be expected. The expected changes would likely result in a slightly higher share of OSW in the overall power mix.
- Other assumptions arise from the use of several variables from the previously delivered LCoE analysis, such as WTG characteristics, project capacity, etc.
- **All price modelling carried out is based on future price scenario predictions for both supply from France and for the offshore wind farm. As a result there is a deal of uncertainty associated with the all of the outputs of this analysis.**

Scenario	Inputs
Universal	• Current import contract price of 80 GBP/MWh • 2040 French wholesale price to increase to 70 GBP/MWh (2025 levels) • 900 GWh Jersey electricity consumption
a	• LCoE of 84.60 GBP/MWh • Import contract price of 180 GBP/MWh
b	• LCoE of 84.60 GBP/MWh • Import contract price of 133 GBP/MWh
c	• LCoE of 77.90 GBP/MWh • Import contract price of 103 GBP/MWh (non-OSW power)
d	• Import contract price of 103 GBP/MWh

Results



Note: scenario c has been built out using two different approaches as outlined in the previous slide. The higher price is for the first 100 MW arrangement; the lower price for 10% of generation. The scenarios show relatively extreme cases and price optimisation may be possible by finding a middle ground.

a. Power landed, preferential capacity (“first dibs”)

- 84% OSW in Jersey’s 2040 power mix
- Cost of power to JE up 98% from present and 54% from “do nothing”

b. Power landed, non-preferential capacity (“two projects”)

- 18% OSW in Jersey’s power mix
- Cost of power to JE up 68% from present and 31% from “do nothing”

c. Power not landed, power repurchased from EDF (“long way round”)

- Same power mixes as scenarios a (higher price) and b (lower price)
- Cost of power to JE up 70%/37% from present and 32%/7% from “do nothing”, respectively

d. Power not landed, no repurchasing (“do nothing”)

- Cost of power up 29% from present

Technical Complexity – Transmission

Transmission Infrastructure

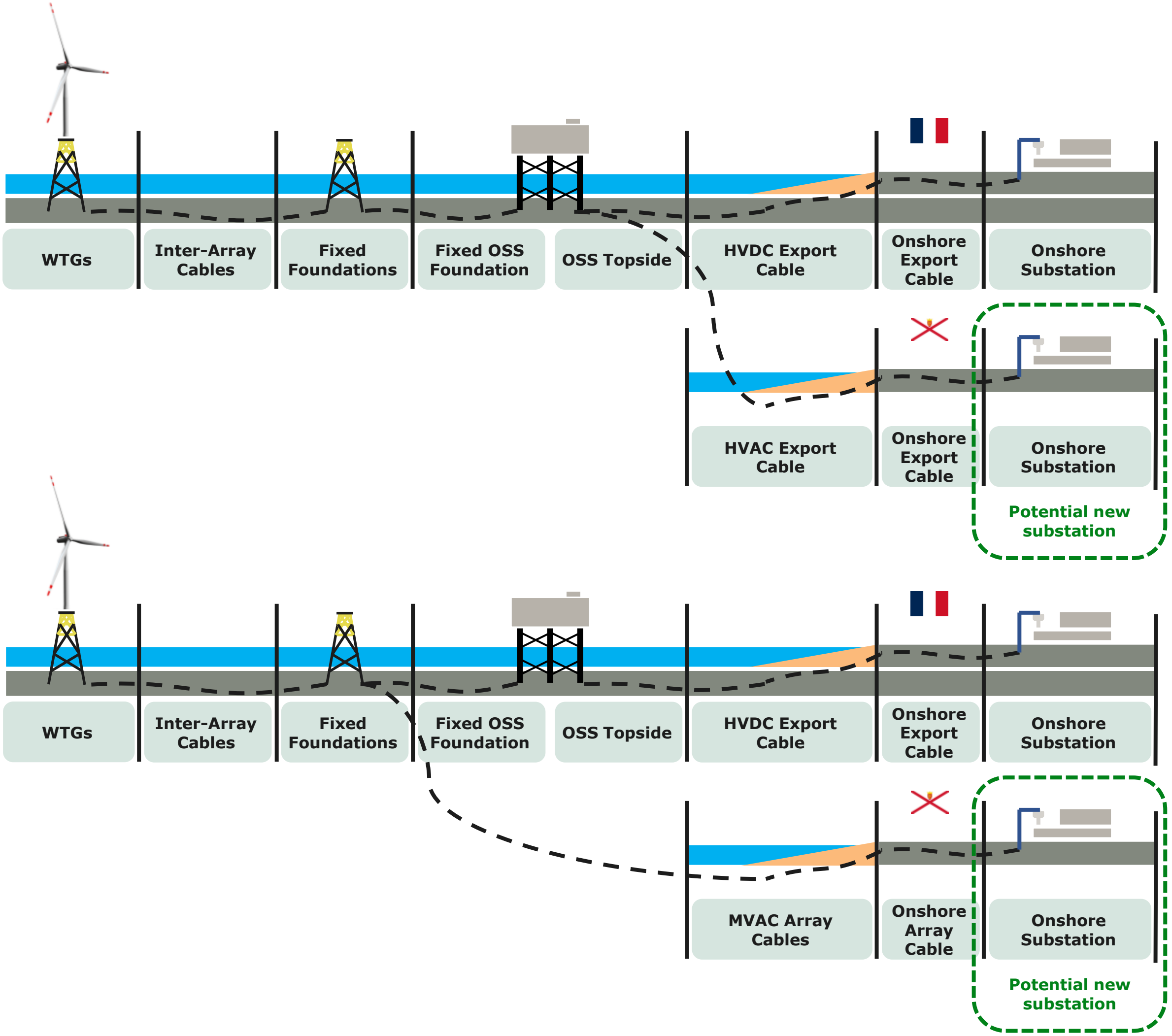
Regardless of the chosen configuration, a dual connection scenario to Jersey and the UK or France will result in project complexity that will increase costs and likely make the project less attractive to developers.

Assuming a DC connection into France and AC delivery into Jersey, certain components will be doubled up, increasing costs, planning/permitting workload and regulatory requirements. The coordination across jurisdictions and private owners/investors is also likely to cause project delays and/or increase costs. From an electrical viewpoint, deciding on power export logic (e.g. first 100 MW to Jersey and excess to France, fixed share to Jersey and France, etc.) and implementing it will incur additional engineering, contractual and asset management complexity.

Similar complexity results from a scenario where array cables are landed in Jersey not via an offshore substation. Regulatory complexity, additional planning/permitting work, coordination issues and duplicated infrastructure persist in this scenario. While array cables may be of a more similar voltage to existing grid infrastructure, and in theory some cost saving may be possible due to fewer offshore infrastructure requirements, electrical transmission losses would be greater between the wind farm and onshore substation owing to the reduced voltage. Significant engineering will also be required across Jersey's transmission system to balance the grid and manage an intermittent power supply vs fluctuations in demand.

Should the offshore wind farm assets be used as an additional interconnector to France, uncertainty remains around the ownership and management of these assets. A possible solution may be an OFTO model similar to the UK, however in this case JE would be liable to compensate the developer for any downtime. This is expected to also be incompatible with bringing array cables to Jersey unless an additional offshore substation (OSS) is built, which defeats the purpose of bringing array cables to shore.

Potential Transmission Infrastructure Scenarios

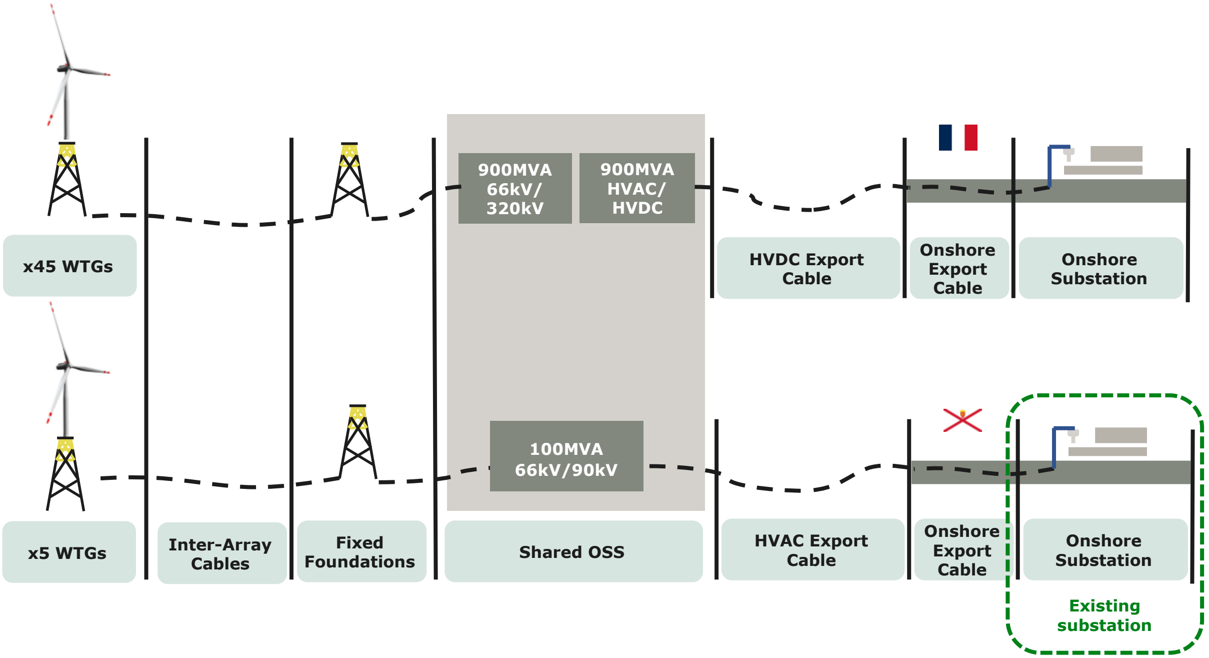


Technical Complexity – Substations

Offshore Substation Configuration

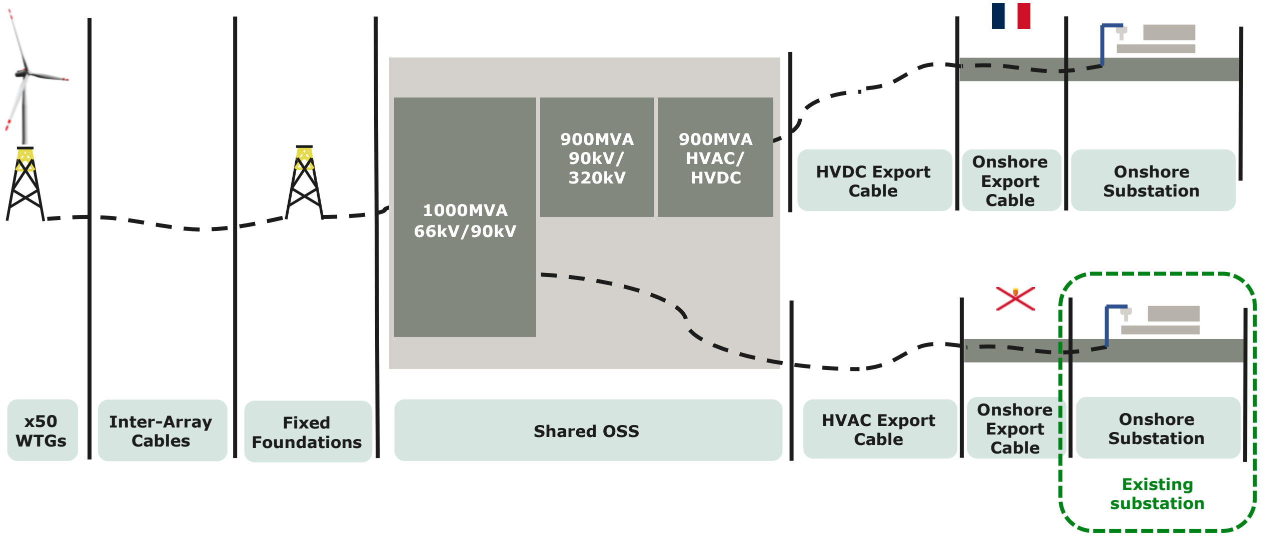
Two offshore electrical export options are considered for exporting 100 MW to Jersey and 900 MW to the France/UK. Both options are presented below, and the most relevant constraints associated with them are outlined in the next slide.

In the first option, five WTGs are connected to a dedicated 100 MVA 66/90 kV transformer for Jersey export, while the remaining 45 WTGs are stepped up from 66 kV to 320 kV and then converted from AC to DC for export to the mainland via the HVDC link.



The second option contemplate that all WTGs first step up to 90 kV through a 1000 MVA 66/90 kV transformer arrangement, allowing up to 100 MW to be exported via the 90 kV cable to Jersey, with the remaining power subsequently stepped up from 90 kV to 320 kV via a HVDC converter transformer and then converted from AC to DC.

A possible alternative is a three-winding HVDC converter transformer (66/90/320 kV), which could replace the two-stage arrangement. This is further discussed in the next slide.



Technical Complexity – Substations

Offshore Substation Configuration

The second option presented above would involve two transformer stages: a 1000 MVA 66/90 kV stage and a 900 MVA 90/320 kV stage. These large-capacity transformers would have significant implications for platform design by significantly increasing weight and size requirements. Having two transformer stages would increase the requirement for other primary equipment and secondary equipment.

A possible alternative is a three-winding HVDC converter transformer (66/90/320 kV), which could replace the two-stage arrangement. However, it would still face the same challenges of weight, space, high short-circuit levels, and complex protection. In addition, such transformers are niche with long lead times and higher procurement risk compared to standard two-stage designs.

This single-hub configuration also increases prospective short-circuit levels at the 90 kV hub and across the offshore collection system. Higher fault currents necessitate switchgear and breakers rated for larger loads. In addition, having the 90 kV AC cable interconnected with the HVDC converter via the 90/320 kV bay introduces potential power quality and dynamic interaction issues. These effects can reduce system stability, and require additional power quality equipment, and coordinated control strategies.

All these factors combine to increase project complexity, raising design, construction and operational risks, complicating procurement and transport, and increasing overall CapEx. The recommended solution from an electrical perspective is to maintain **two independent systems** connecting five WTGs to the 100 MVA 66/90 kV transformer for the Jersey 90 kV cable, and the remaining 45 WTGs to the 900 MVA 66/320 kV HVDC converter transformer feeding the HVDC link.

France – Jersey Interconnector

Should the offshore wind farm assets be used as an additional interconnector to France, the export infrastructure would face major technical, economical and stakeholder complications. Some of the most relevant ones are outlined below.

To act as a full interconnector, the system would need to be designed for reverse power flow, which restricts the choice of converter technology to fully bidirectional HVDC systems at both ends of the HVDC cable. To accommodate the reserve power flow, protection and control schemes would become significantly more complex, increasing the system complexity, which will add risk to the design and operational stages.

Because the AC and DC export systems operate at different voltage levels, a new transformer would be required offshore. Integrating such equipment would not only increase space requirements and weight constraints but also triggers a cascade of primary and secondary system requisites (circuit breakers, disconnectors, more complex busbar configuration, protection and control equipment, among others). These additions further increase cost, system complexity, and operational risk. The requirements for transformers and other equipment would impact lead times, transport logistics, and procurement risk, increasing the overall project CapEx.

The system would also be suboptimal from an efficiency perspective. Losses would be higher due to the extra transformation stage and the length of both AC and DC cables, meaning the design would not be optimised for energy delivery. Furthermore, major components on both offshore and onshore sides would need to be supplied by a single OEM to ensure technical integration and operability, adding procurement constraints and reducing flexibility for stakeholders.

Technical Complexity – Case Studies

Lessons learnt from case studies with similar complexities

Hywind Tampen powering Snore and Gulfalks platforms

The power supply for Snorre and Gulfaks O&G platforms was recently decarbonised with both platforms being powered by offshore wind project Hywind Tampen as well as power from the mainland through a cable. The electrical complexities of this arrangement were significant and resulted in considerable subsidies from Norwegian Government to achieve the objective. In particular, the main complexities were:

- Voltage and frequency synchronicity and standardisation across all power supplies
- Bi-directional power flows and balancing of wind vs mainland electricity
- Grid stability and Black start capabilities requiring back up generators to maintain consistent power during power fluctuations
- Voltage regulation and reactive power support using systems to manage voltage shifts from different power sources
- Transmission and infrastructure upgrades to reinforce the transmission network and manage dual-input and maintain safe separation between sources
- Energy management systems to ensure system stability, ability to continuously deliver power on demand and forecast supply variations
- Strong safety protocols and compliance with electrical standards as well as regulation to manage bi-directional electricity.

Malta Offshore Wind farm

Malta recently launch an auction for a 300-400 MW floating wind farm with the anticipation of landing power from the offshore substation to the existing Delimara power station.

The precise electrical configuration and upgrade requirements of the power station have not been determined. But the current capacity of the power station is 472.8 MW receiving power from 2 CCGT power generation facilities. The addition of 400 MW from an offshore wind farm will require the power station to have upgrades in order to accommodate for additional capacity and power fluctuations.

Reports on the potential required upgrades include:

- Upgrading transformers and switchgear to handle increased input and reverse power flow.
- Curtailment capabilities to handle times when wind output exceeds demand.
- Ensuring grid stability, with voltage and frequency control systems like STATCOMs to counteract renewable intermittency.
- Protection systems to handle bi-directional energy flows without compromising safety.

Technical Complexity – Regulatory

Exporting power to another jurisdiction would incur complexity due to energy market regulations

Based on ERM's understanding of the UK and EU energy market regulations, exporting power would be subject to:

- **REMIT** (Regulation on Energy Market Integrity and Transparency): power producers/importers must comply in order to maintain the integrity of the EU energy market and prevent insider trading. Implications include the disclosure of power plant availability and capacity, registration as a market participant and reporting of produced energy and transactions. The UK has its own version of REMIT.

- **CBAM** (Carbon Border Adjustment Mechanism): CBAM requires the reporting of embedded emissions and carbon intensity for power exporters into the EU using approved methodologies. CBAM will also incur a charge proportional to the carbon intensity of the imported power, making imported power less competitive in the EU market. UK CBAM regulation currently does not apply to imported electricity.

- **Customs regulations**: although no tax is due, electricity imports and exports must be declared. The importer may be required to register for local VAT. National Grid handles customs on behalf of its customers in GB, however it is up to the market participant to cover this if importing into France.

- **Rules of origin**: proof of origin will be required and will likely be set out by a trade agreement such as the EU-UK Trade and Cooperation Agreement (TCA). France uses a Guarantees of Origin (GO) system for green electricity, while the UK has its own Renewable Energy Guarantee of Origin (REGO) scheme.

These regulations would apply to the wind farm owner. Adding in the ability to export power from the Jersey grid to another jurisdiction may incur further regulatory requirements to JE. Note that regulation may be subject to change between now and the commissioning of the Jersey offshore wind farm.

Market Attractiveness

The technical complexity of the project has a major bearing on the offshore wind market attractiveness of Jersey

In the current global offshore wind landscape, developers are highly selective regarding how they allocate resources – often prioritising the markets with clear, streamlined process and stronger financial incentives. If there is complexity in rules and additional costs, these are likely to deter bidders from entering markets and/or reduce competitiveness of projects. There have been recent examples of failed offshore wind auctions in Denmark and Germany, with overly complex and/or outdated auction criteria being primary drivers.

International developers in particular will benchmark a Jersey auction against alternative market opportunities. These comparisons will take into account not only potential returns but also the ease of participation, regulatory clarity, project bankability and future sale potential. If Jersey's terms are perceived as less attractive or more cumbersome than those of competing markets, there is a risk that leading global players may decide not to engage. Local Jersey developers may be attracted if the power is landed in Jersey, however this is not seen as a substitute for the financial strength and technical knowhow that an international developer may bring.

As a new market for the offshore wind industry, in order to minimise auction risk Jersey should look to create an auction framework enables the project to be as simple and economically viable as possible whilst still retaining an acceptable level of benefit to Jersey. Minimising unnecessary complexity enables Jersey to maximise the number of bidders, thereby enhancing competition. Mandating the landing of power in Jersey would increase project complexity for developers and could have adverse impacts on the attractiveness of the Jersey offshore wind market.

Case Study: Malta

Malta recently opened its first offshore wind tender comprising three stages: the Preliminary Qualification Questionnaire (PQQ), followed by the Invitation to Participate in Dialogue (ITPD), and Best and Final Offer (BAFO) as the final stage. Malta concluded the PQQ stage in July 2025. The proposed project scale is a small scale floating project in a new market, making it complex and costly to develop. As a result limited interest was shown. Malta is a prime example of how a complex offshore wind project can struggle to attract significant interest from developers.

There are three companies/consortia that participated and prequalified, including: (1) Code Zero Consortium, led by SEP (Malta) Holding Ltd, with partners Kornelio Energy 1 Ltd, M Demajo (Holdings) Ltd, and NMK Renewables Ltd; (2) Atlas Med Wind, led by GreenIT SpA in Italy, partnered with Seatrans Shipping Ltd, Central European Advisors Ltd, and CI V Transfer Coöperatief UA; and (3) MCKEDRIK Sole Member Ltd, a sole applicant based in Greece. They are mostly local/small developers – CIP have a partnership with GreenIT SpA and are the sole large international developer participating in the market at this stage.

Case Study: Germany

In the past two years, each offshore wind tender in Germany cleared at negative prices. In August 2025, Germany failed to attract any bids for pre-surveyed sites N-10.1 and N-10.2 (2.5 GW in total) from any developers, which is likely due to the lower option value of the sites, weak wind energy yields, tight development timelines, and the use of a sealed-bid auction format. The lack of secured offtake, along with the current auction design, forces developers to bear risks beyond their control without protection, deterring developers from participating and thus lowering the market's attractiveness. The auction has been criticised in the industry for being outdated and not in line with current market conditions and is an example of how developers will not participate in an auction if the terms are not favourable.

Sociopolitical – Stakeholder Engagement

The sociopolitical impact of landing/not landing power in Jersey could be significant

As with every offshore wind project, visual impacts and the repurposing of the marine/onshore area makes stakeholder engagement particularly important. Pushback from fishing, environmental and nearby coastal communities is common but impacts can typically be mitigated. New onshore substations related to an offshore wind project can also evoke opposition. Early communication of potential substation locations, along with renderings can help to identify and resolve issues. The handling of the project now could impact the popularity of current and future government decision makers.

Public consultation responses have generally shown an overwhelmingly supportive standpoint from locals. The support came from different angles, including positive climate action, energy independence, securing access to locally generated renewable energy, and the somewhat unique scenario of having offshore wind farms from another jurisdiction within close proximity. The ability to diversify Jersey's economy and export power was generally seen as important, however energy security and long-term price fixing stood out as the key reasons for support of an offshore wind project.

In a scenario with no power landing in Jersey, it may be difficult to argue that progress has been made on the energy independence front. Jersey would still depend on imported power from France and would therefore continue to have energy prices subject to negotiation.

Positives aspects from this scenario include:

- Job creation and diversification of Jersey's economy
- Low (or no) cost implications on consumers

Overall, the public's appetite for energy independence may need to be tested considering the potential implications on energy bills. **Any future consultation should outline impacts on consumers in both scenarios and aim to establish whether support for an offshore wind project remains in this scenario, if consumers are willing to pay for independence or whether not landing power in Jersey is not a material issue**.

Key questions to this topic were asked in question 3 of the offshore wind consultation, which asked respondents to state their view on the importance of various potential benefits of developing an offshore wind project in Jersey. The topics are as follows:

a) Energy security & long-term price agreements

b) Exporting energy & growing Jersey's economy

c) Creating additional government revenue

d) Access to low carbon energy & reducing other countries' use of fossil fuels

As can be seen, **benefits were bundled together in most cases**. In trying to examine the difference between landing power in Jersey or not, several of these benefits would need to be unbundled. In particular, part d presents two conflicting benefits in the context of this report: **benefits in terms of access to low carbon energy would arise only in a Jersey connection scenario; while if reducing other countries' use of fossil fuels is the priority then a no-Jersey connection scenario would be preferable.** Part d had the highest number of "very important" responses out of all.

Part b had the highest number (9%) of "not at all important" responses, although 74% of respondents expressed it as fairly or very important.

Sociopolitical – Stakeholder Engagement

ERM and representatives from the Government of Jersey recently engaged with a variety of stakeholders regarding offshore wind to update them on the progress of the offshore wind project.

Stakeholder Group	Summary of Discussion
Energy Suppliers (*JE, Island Energy, ATF, SunWorks, Ener.je*)	• Important to be clear on the visual impact and the impact of any onshore infrastructure • Energy Security/Sovereignty – important that we understand the implications – e.g. are we willing to pay more for our power in order to have greater energy sovereignty? • Economic case – discussion included the need for Jersey to move quickly, ring fencing income for community uses, clarity on the costs of landing in Jersey
Environmental Groups (*Societe Jersiaise, Jersey National Park, Jersey Bat Group, British Marine Life Rescue, and Jersey Marine Conservation*)	• Concerned about impact on species in the area – both marine life and birds and bats • Concern about the cumulative impact on wildlife in the area, factoring in the existing St Brieuc development and future Roches Douvres development • General concern about the visual impact
Economy Groups (*Chamber of Commerce, IoD, Jersey Climate Forum and Policy Centre Jersey*)	• Important to have factual information/business case on which to base decisions. Including the total cost to Government through to appointing a developer • Important for government to work closely with arms-length entities – e.g. JE • Perception that energy security (landing in Jersey) was the original driver for the project but recognise that it is now more about an economic case
Fishing Industry Members	• Primary concern of the majority in the room that fishing industry is getting hemmed in on all sides. More lines on the map and restrictions are limiting fishing grounds (e.g. Marine Protected Area) –offshore wind is just one more example of this • Energy security – suggested that full export to France will weaken Jersey's energy security as Jersey will be reliant on France to buy Jersey's electricity as well as supplying Jersey with electricity • Suggested that an economic impact assessment for fishing needs to be conducted early in the process and not left until last

A key point to consider is the trade-off between energy costs and securing energy independence. Jersey stakeholders are likely to be supportive of initiatives which enhance energy independence, but only if it comes at a reasonable cost. If Jersey elects to export all the energy from this project – it should be messaged alongside a detailed explanation of the additional costs borne by a Jersey landing.

4. Conclusions & next steps

Summary of Impacts

When comparing landing offshore wind power in Jersey against not landing power, we see a relatively mixed impact across cost, technical complexity, market attractiveness, and socio-politics. Depending on Jersey's future priorities, there is an argument to be made for either scenario.

Positive Impact
Neutral Impact
Negative Impact

Category	Impact	Power landed in Jersey	Power not landed in Jersey
Cost	Import contract impact	Loss of EDF volume leverage and firming role could raise import prices by 10–30%, however the volume of imported power would be lower	EDF/IPP retains full imports, but still subject to market volatility
Cost	Cost to Jersey electricity consumers	OSW PPA plus firming imports likely higher than current EDF-only rates; likely to increase electricity bills and costs for JE customers	Avoids higher offshore wind costs. Import contract price still likely to rise however degree of increase expected to be lower than landing power alternative.
Cost	Electricity price stability	Longer-term OSW PPA could lock in stable pricing for part of supply	Shorter, potentially more volatile EDF/IPP contracts
Cost	GoJ tax revenue	Local OSW could generate meaningful tax revenues for Jersey, if framework is in place	Less certainty on ability to tax revenues, further investigation recommended
Technical	Transmission infrastructure	Could require a new substation, grid reinforcement, and dual export/landing infrastructure	Avoids Jersey-specific transmission upgrades simplifying project
Market Attractiveness	International developers	Added costs and complexity may reduce competitiveness and interest	More attractive development proposal due to limited complexity and costs
Market Attractiveness	Local developers	Supports local developers, potentially aiding in public perception of the project and capability building	Fewer local participation opportunities due to higher international interest
Sociopolitical	Energy sovereignty	Reduces proportion of imported power, higher sense of energy independence	Little/no impact, potential sense of missed opportunity
Sociopolitical	Energy security	Less negotiating power with EDF/IPP due to reduced supply	Little/no impact
Sociopolitical	Visual impact	Less pushback anticipated from visuals if Jersey also benefit from power generation	Potential pushback from locals if visual impact is not countered by the benefit of power generation
Sociopolitical	Onshore substation	If required, a new onshore substation could cause pushback given land constraints and infrastructure type	No need for new onshore substation or transmission infrastructure

Conclusions

Despite power being landed in Jersey providing some price stability, energy sovereignty, and meaningful tax revenues, the technical complexity, risks of increasing ratepayer electricity costs, and reduced market attractiveness makes *not landing power in Jersey* more viable

Conclusions

- Landing power in Jersey would likely increase electricity costs for consumers due to offshore wind PPA prices and higher EDF/IPP import rates.
- While a longer-term PPA could improve price stability, importing power from the wind farm directly or the "long way round" is likely to increase the cost of power purchased by JE.
- Mandating power landing in Jersey adds significant technical complexity, increases development costs, and reduces market attractiveness, lowering the likelihood of a successful auction.
- Benefits such as energy sovereignty, tax revenue, and local economic gains may exist, but are largely outweighed by cost, complexity, and market risks under current conditions.
- A number of offshore wind auctions have been unsuccessful recently. Jersey should look to create an auction framework which enables the project to be as simple and economically viable as possible whilst still retaining an acceptable level of benefit to Jersey.

Recommendations:

- **ERM recommend that GoJ do not currently mandate that power has to be landed in Jersey as part of the offshore wind auction.**
- Landing power should be kept as an option, but given current market conditions ERM recommend taking steps to ensure the project remains attractive for potential developers.
- Whilst there is an appreciation that landing power in Jersey may not happen, this decision could be determined in collaboration with the auction winner. Giving developers flexibility in approach will increase the attractiveness of Jersey as an offshore wind market, increasing competition levels.

Next Steps:

- **Continue to work with JE throughout the project's development to refine the expected increase in electricity prices, focusing on:**
    - Current contract price
    - Expected contract increase vs offshore wind price
    - Jersey demand and consumption levels

LCoE Results: Alternative Power Landing Configuration

LCoE Results: Alternative Power Landing Configuration

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)	*77.9*	*83.5*	340 MW to Jersey via 132 kV cable, incl. OnSS	85.9	91.6
			100 MW to Jersey via 90 kV cable, no OnSS	84.6	91.1

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

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 66 kV 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.

Thank you

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Glossary

Abbreviation	Definition
AC	Alternating Current
AR	Allocation Round
AO	Appel d'Offres (Call for Tenders)
ASP	Administrative Strike Price
BAFO	Best and Final Offer
CapEx	Capital Expenditure
CCGT	Combined Cycle Gas Turbine
CES	Crown Estate Scotland
CfD	Contract for Difference
CPPA	Corporate Power Purchase Agreement
DC	Direct Current
DNO	Distribution Network Operator
DevEx	Development Expenditure
EGL	Electricity Generator Levy
EPCI	Engineering, Procurement, Construction, and Installation
FiT	Feed-in Tariff
FOU	Foundation
GoJ	Government of Jersey
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current

Abbreviation	Definition
IPP	Independent Power Producer
ITPD	Invitation to Participate in Dialogue
JE	Jersey Electricity
LCoE	Levelised Cost of Electricity
MVAC	Medium Voltage Alternating Current
OFTO	Offshore Transmission Owner
O&G	Oil and Gas
O&M	Operations and Maintenance
OpEx	Operating Expense
OSS	Offshore Substation
OSW	Offshore Wind
PPA	Power Purchase Agreement
PQQ	Preliminary Qualification Questionnaire
STATCOM	Static Synchronous Compensator
TCA	Trade & Cooperation Agreement
TCE	The Crown Estate
TSO	Transmission System Operator
WACC	Weighted Average Cost of Capital
WTG	Wind Turbine Generator