Recommendations for Offshore Wind Development in Chile

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EXECUTIVE SUMMARY

To share learnings from the UK's offshore wind (OSW) experience, ORE Catapult has been commissioned by the UK's Department for Business and Trade. This programme draws on UK expertise to assess key challenges affecting the development of offshore wind in emerging markets and identify potential solutions.

Chile is well positioned to develop its OSW sector, supported by strong wind resources, growing electricity demand and long-term decarbonisation targets. However, Chile's current enabling framework for OSW is at an early stage of development. Key challenges include limited coordination across planning and infrastructure, uncertainty in permitting due to gaps in environmental data, transmission constraints, and risks to social licence-- particularly with fishing and coastal communities.

Despite these challenges, offshore wind presents a significant opportunity to support regional economic development and industrial growth, particularly in regions such as Biobío. Unlocking this potential will require a coordinated policy and infrastructure framework that reduces investment risk, aligns delivery across sectors, and ensures efficient system integration.

Drawing on UK experience and engagement with key industry stakeholders, this report sets out a series of recommendations to support the development of an investable and scalable OSW market in Chile. Insights were gathered from UK stakeholders across ports, seabed planning, transmission networks, energy policy, workforce and skills, environmental factors, and supply chains, alongside input from Chilean industry stakeholders.

The focus areas considered for the development of OSW in Chile are not all equal and some will require greater prioritisation than others. For Chile's emerging sector, the relative importance of these areas can be understood through both their system impact and their urgency in the development timeline. Core system-defining elements, particularly seabed leasing design, transmission network planning, port strategy, and overarching energy policy, are both highly impactful and highly urgent, as they establish the physical, regulatory, and investment conditions that determine whether offshore wind can be delivered at scale. These decisions are time-sensitive because early misalignment risks creating long-term structural constraints, as evidenced in the UK experience where insufficient early coordination between OSW deployment and grid planning has contributed to persistent transmission bottlenecks and delays, as well as curtailment.

In addition, stakeholder evidence from Chile suggests that the economic case for offshore wind development in Chile, particularly the Biobío region, also sits firmly in this high-impact, high-urgency category. Biobío has been consistently identified as a leading candidate for OSW deployment due to its industrial base, port infrastructure, shipbuilding expertise and institutional capacity. A clearly articulated local economic narrative, demonstrating jobs, investment flows, and regional value creation, is likely to be an important factor in generating investment momentum. In this sense, establishing a robust and credible economic case is a precondition for early market formation, making it both time-sensitive and system-shaping.

In contrast, supply chain development and workforce planning remain highly important in terms of long-term impact but are comparatively less urgent in the very earliest phase of market formation. These areas are more responsive to the emergence of a credible project pipeline and can therefore scale in step with confirmed seabed leasing rounds and transmission build-out. However, this does not imply delay in preparation; rather, early-stage actions should focus on coordination mechanisms, skills forecasting, and industry signalling to ensure readiness as deployment accelerates.

The focus areas have been ranked using a three-tier prioritisation framework to reflect their relative importance in enabling offshore wind development in Chile. Tier 1 represents the most critical, system-defining areas that are both highly time-sensitive and high-impact. Tier 2 includes areas that are still essential to successful delivery but are either more responsive to early system decisions or can be developed in parallel with emerging project pipelines. Tier 3 covers supporting and enabling functions that remain important in the long term but are primarily demand-led and therefore less urgent in the earliest phase of market formation, scaling as the industry matures. These key recommendations and rankings are summarised in *Table 1*.

Table 1: Key recommendations for OSW development in Chile

Recommendations for the development of offshore wind in Chile	
	Ports
T1	Chile should adopt a strategic approach to port development by identifying a limited number of priority ports based on location, industrial strength, and their role within the OSW supply chain.
T2	Chile should align port investment with a clear, regionally defined OSW pipeline, while strengthening the commercial case for OSW within ports.
T2	Chile should adopt risk-sharing financing models and improve permitting processes to enable efficient port investment.
	Seabed Leasing
T1	Chile should design leasing frameworks that enable de-risking, prioritise deliverability and incentivise timely project progression.
T1	Chile should adopt a plan-led approach to OSW development, supported by a sectoral marine plan and structured stakeholder engagement.
T1	Chile should integrate seabed planning with system infrastructure and economic development objectives.
	Energy Policy
T1	Chile should develop a national OSW strategy with strong central coordination across government.
T1	Chile should align OSW policy with grid development and broader system planning.
T1	Chile should establish a stable and investable market framework that provides long-term revenue certainty while prioritising project deliverability.
T1	Chile should embed cost reduction and system efficiency into OSW policy from the outset.
	Transmission Network Planning

T1	Chile should build on its existing centralised transmission planning framework by strengthening coordination between planning and delivery.
T1	Chile should prioritise transmission corridors at greatest risk of delay for assessment of offshore transmission solutions.
T1	Chile should undertake detailed feasibility studies on offshore HVDC deployment in high-priority corridors.
	Chilean Stakeholder Insights
T1	Chile should position Biobío as an initial regional hub for OSW development.
T1	Chile should implement structured engagement with fisheries and coastal communities to build social license.
T3	Chile should establish a coordinated OSW research and innovation ecosystem and adopt a strategic fast follower approach to support efficient market development.
	Workforce and skills
T2	Chile should adopt an integrated strategy to workforce development, aligning modelling of the workforce to national energy targets and project pipeline.
T3	Chile should establish an offshore wind skills monitoring body, that aligns government, industry and educational institutions and coordinates tasks.
T2	Chile should establish a workforce transfer programme in Biobío.
	Environmental factors
T1	Chile should use pilot projects to generate national evidence.
T1	Chile should agree on survey and evidence plans before Environmental Impact Assessments begin.
T1	Chile should create a formal cross-agency consenting framework early.
	Supply Chain
T2	Chile should establish a coordinating body, such as the Offshore Wind Industry Council, to align government, industry and investors.
T2	Chile should develop a national supply chain strategy built on a clear “make vs. buy” analysis.
T3	Chile should use incentives, not rigid mandates, to drive local content.

Overall, the rankings suggest Chile should prioritise early, high-impact system planning decisions, particularly around seabed leasing, transmission network planning, port strategy, and energy policy, alongside establishing a clear economic case for OSW in Biobío. More adaptive elements, such as workforce expansion and supply chain localisation, should then be sequenced to follow firm pipeline development, with priority given to areas where early decisions are most difficult to reverse and where coordination between industry and government is most critical. It is important to emphasise that coordination between national and regional authorities is key to successfully capture the wider benefits of offshore wind.

Offshore wind has the potential to play a significant role in Chile's energy transition, contributing to decarbonisation, energy security, and economic development. However, realising this opportunity will depend on the ability to reduce uncertainty, coordinate across sectors, and align infrastructure and policy frameworks.

By adopting a strategic, coordinated, and forward-looking approach, Chile can establish a competitive and sustainable offshore wind sector, supporting long-term economic growth and a resilient, low-carbon energy system.

CONTENTS

NOMENCLATURE

ABP	Associated British Ports
CEFAS	Centre for Environment, Fisheries and Aquaculture
CfD	Contract for Difference
CIB	Clean Industry Bonus
DCO	Development Consent Order
DFRA	Department of Environment, Food and Agriculture
DESNZ	Department of Energy Security and Net Zero
EIA	Environmental Impact Assessment
EMF	Electromagnetic forces
EN-3	National Policy Statement for Renewable Energy Infrastructure 3
FID	Final Investment Decision
FLOWMIS	Floating Offshore Wind Manufacturing Investment Scheme
FOW	Floating Offshore Wind
GVA	Gross Added Value
GW	Gigawatt
HDD	Horizontal drilling techniques
HRA	Habitats Regulations Assessment
HVDC	High-Voltage Direct Current
IGP	Industrial Growth Plan
JNCC	Joint Nature Conservation Committee

LCOE	Levelised Cost of Energy
MCZ	Marine Conservation Zones
MD-LOT	Marine Directorate Licensing Operations Team
MMO	Marine Management Organisation
MPA	Marine Protected Areas
NGO	Non-Government Organisations
OSW	Offshore Wind
OWIC	Offshore Wind Industry Council
OWMIS	Offshore Wind Manufacturing Investment Scheme
SCCA	Supply Chain Capability Assessment
SCDS	Supply Chain Development Statements
SCP	Supply Chain Plans
SNCB	Statutory Nature Conservation Bodies

1 INTRODUCTION

Chile's offshore wind (OSW) sector is entering an important phase with the development of an offshore wind energy scenario assessment, which aims to guide deployment between 2035 and 2050. With the potential to reach up to 30GW of installed capacity by 2050, offshore wind is poised to become a central component of Chile's future energy mix. The integration of OSW could play a key role in supporting decarbonisation targets, enhancing energy security, and meeting growing electricity demand.

Realising this potential will require coordinated action across policy, planning, infrastructure, and market design. Chile faces a number of structural and institutional challenges that could affect the pace and scale of OSW deployment. These include complex permitting processes, evolving regulatory frameworks, transmission constraints, and the need to develop local supply chains and workforce capability. Addressing these challenges early will be key to enabling timely, cost-effective, and scalable deployment.

This report sets out a series of targeted and actionable recommendations to support the development of an investable OSW market in Chile. It focuses on the key enablers required to facilitate deployment at scale, including policy and regulatory frameworks, seabed planning and consenting, transmission and infrastructure, and industrial and workforce development.

The recommendations draw on both Chile-specific insights and lessons from more mature offshore wind markets, specifically the UK. OSW has emerged as a remarkable success story in the UK, where large scale commercial deployment has been achieved alongside significant cost reduction. The UK has established itself as a global leader in OSW, demonstrating how coordinated policy, strategic planning, and sustained investment has been key to achieving this. With a target of 43-50GW by 2030, OSW is expected to play a central role in meeting the UK's decarbonisation and energy security ambitions.

Building on this experience, this report draws on insights from UK stakeholders across key areas including ports, supply chain, skills, and seabed planning. These lessons have been translated into a set of practical recommendations designed to support Chilean policymakers, regulators and industry stakeholders. The overall aim is to support coordinated and cost-effective deployment of OSW, while maximising its wider economic, social, and regional benefits.

2 PORT DEVELOPMENT

Ports play a critical role in enabling OSW deployment, supporting construction, operations, and the wider supply chain. This section sets out a series of targeted recommendations to guide strategic port development in Chile, drawing on lessons from the UK.

2.1 Strategically Identify and Support Priority Ports

A key lesson from the UK is that port development is most effective when it is strategically prioritised. Ports located near OSW development zones can reduce vessel transit times and lower project levelised cost of energy. Additionally, proximity to established industrial clusters provides access to suppliers, skilled labour, and existing infrastructure, supporting more efficient supply chain development. Without a coordinated and selective approach, investment risks being spread too thinly across multiple locations, limiting the ability to develop ports at sufficient scale to support OSW deployment.

Recommendation: Chile should adopt a strategic approach to port development by identifying a limited number of priority ports based on location, industrial strength, and their role within the OSW supply chain.

Key actions:

- Conduct a national-level assessment of offshore wind deployment needs, port capabilities, and geographic constraints
- Identify a limited number of priority ports based on:
  - Proximity to offshore wind leasing zones
  - Access to regional industrial clusters and demand centres
  - Existing infrastructure and expansion potential
  - Ability to support key supply chain activities
- Align public support and investment with these strategically selected ports

This approach can help to improve coordination and ensure that port infrastructure is developed at sufficient scale and in optimal locations to support efficient and cost-effective OSW deployment.

2.2 Align Port Investment with OSW Pipeline and Leasing Strategy

A key lesson from the UK is that port investment depends on clear visibility of future OSW deployment and a credible commercial case. Uncertainty around project timing, scale, and location can limit private investment, as ports rely on long-term, predictable revenue streams. At the same time, if ports are developed ahead of confirmed project demand, there is a risk of underutilised assets and inefficient capital allocation.

Aligning port development with OSW leasing processes is therefore critical. Leasing rounds that provide clear, region-specific signals on project volumes, timing, and location create a more investable environment, while improving the commercial viability of port investments.

Recommendation: Chile should align port investment with a clear, regionally defined OSW pipeline, while strengthening the commercial case for OSW within ports.

Key actions:

- Provide realistic, long-term OSW deployment targets and regionally defined pipelines linked to leasing rounds
- Design leasing processes to signal expected project volumes, timing and location
- Align port development timelines with OSW project milestones, including Final Investment Decisions (FIDs)
- Support long-term commercial arrangements between port operators and developers
- Enable OSW activities to provide stable, bankable revenue streams

This approach helps to reduce investment risk, improve capital efficiency, and increase the likelihood that port infrastructure is delivered at the right scale and time to support OSW deployment. It also strengthens the commercial case for ports to allocate space and investment to OSW.

2.3 Adopt Blended and Risk-Sharing Financing Models to Enable Port Investment

Port development for OSW involves high upfront capital costs and long investment horizons, often requiring public support to unlock private investment. However, experience from the UK shows that poorly designed funding mechanisms can lead to unintended consequences. Competitive, nationwide grant schemes can spread funding too thinly across multiple ports, particularly where projects are at different stages of readiness. This can limit the ability of any single port to secure sufficient investment to progress, while also distorting local market dynamics.

At the same time, uncertainty around consenting outcomes further increases investment risk. Port developers are often required to commit significant capital at an early stage to progress feasibility, design, and permitting activities, without assurance that projects will proceed. In addition, insufficient time and support to develop funding applications can limit participation and reduce the quality of proposals.

Recommendation: Chile should adopt blended and risk-sharing financing models that reduce early-stage investment exposure while supporting efficient allocation of capital and the development of investment-ready projects.

Key actions:

- Combine targeted grant funding with concessional loans and public finance to support early-stage development
- Leverage public investment institutions, similar to the UK's National Wealth Fund or the Scottish National Investment Bank, to provide patient capital
- Introduce risk-sharing mechanisms such as revenue-contingent loans linked to project progression
- Consider Regulated Asset Base style models, to provide stable, early returns during the development phase

- Provide sufficient preparation time and early-stage support for ports to develop investment-ready proposals

This approach reduces investment risk while maintaining efficient market dynamics. It ensures that public funding is used strategically, supports projects at sufficient scale, and improves the quality of port investment proposals.

2.4 Improve Certainty and Predictability in Port Permitting

Port developments are often subject to complex and overlapping regulatory requirements, including environmental, planning, and marine licensing requirements. The key challenge is often uncertainty in outcomes rather than the duration of the process. This lack of predictability creates investment risk, as developers may commit substantial resources without assurance that projects will be approved.

Recommendation: Chile should improve the clarity, coordination and predictability of port permitting processes.

Key actions:

- Streamline permitting frameworks for strategic infrastructure
- Establish clear and transparent decision timelines
- Introduce coordinated or single-window approval processes
- Provide guidance on balancing environmental and economic objectives

Improving the predictability of permitting outcomes can reduce investment risk, increase developer confidence, and support timely infrastructure delivery.

2.5 Summary of Port Recommendations

The UK's experience demonstrates that successful OSW port development requires coordinated policy across infrastructure planning, financing, permitting, and market development. No single intervention is sufficient in isolation; rather, a combination of aligned measures is needed to create a stable and investable environment.

Key success factors include:

- Strategic selection and development of priority ports
- Clear and credible offshore wind project pipelines
- Targeted and well-structured financial support
- Predictable and streamlined permitting processes
- Alignment with wider industrial strategy and supply chains

Countries seeking to develop OSW should treat ports as critical national infrastructure. This requires proactive, strategic planning and coordinated public and private investment, rather than relying solely on market-driven development.

3 SEABED PLANNING

Seabed planning is a fundamental enabler of OSW development, shaping where and how projects can be deployed. This section sets out recommendations to support a clear, coordinated, and investable seabed planning framework in Chile.

These recommendations draw on experience from the UK, where OSW seabed planning has evolved from market-led approaches towards more coordinated, plan-led systems supported by strong data and stakeholder engagement.

3.1 Separate Strategic Marine Planning From Seabed Award and Leasing

A key lesson from Scotland is that marine spatial planning should be institutionally distinct from the allocation of seabed rights. This ensures that planning decisions are made in the public interest, based on a balanced assessment of competing marine uses, rather than being driven primarily by commercial demand. It also strengthens the credibility and transparency of site selection.

Recommendation: Chile should establish a clear institutional separation between marine spatial planning and seabed leasing functions.

Key actions:

- Designate a public authority responsible for marine spatial planning and stakeholder coordination
- Maintain a separate leasing authority responsible for allocating seabed rights within approved development areas
- Establish clear coordination mechanisms between planning and leasing bodies

This approach improves transparency, reduces stakeholder conflict, and ensures that OSW development is guided by strategic, evidence-based planning.

3.2 Adopt a Plan-Led Approach to Marine Planning and Leasing

Experience from Scotland and the wider UK highlights the importance of establishing a formal sectoral marine plan before launching large-scale OSW leasing rounds. Such systems define the most suitable areas for development while balancing environmental, social, and economic considerations.

Developer engagement in Chile reinforces this need, highlighting that the current developer-led model increases project risk, contributes to fragmented site selection, and makes it more difficult to assess project viability. A more coordinated, plan-led framework would provide greater clarity over where projects can be developed and how they can progress.

The scale and sequencing of leasing rounds also play a critical role in market development. Large-scale leasing can accelerate deployment but may place pressure on infrastructure, supply chains, and consenting processes. Phased approaches can support more coordinated delivery by aligning project development with system readiness.

Recommendation: Chile should adopt a plan-led approach supported by a sectoral marine plan that defines development zones and aligns leasing with market and infrastructure readiness.

Key actions:

- Identify suitable development zones through sectoral marine planning before leasing
- Restrict leasing to these predefined areas
- Determine leasing scale and sequencing based on infrastructure, supply chain capacity, and market maturity
- Align leasing timelines with the development of supporting infrastructure and sector development

This approach reduces consenting risk, improves coordination across marine users, and focuses development in the most technically and environmentally suitable areas. It also provides greater clarity to developers, supporting more efficient and lower-risk project development.

3.3 Base Spatial Planning on Broad Stakeholder Engagement

A key strength of the Scottish approach to OSW development is the depth and breadth of stakeholder engagement undertaken prior to the allocation of seabed rights. Early engagement with a wide range of marine users helps identify potential conflicts and ensures that planning decisions are informed by diverse perspectives.

Stakeholders typically include fisheries, ports, shipping operators, coastal communities, environmental groups, and other marine users. The objective is not to eliminate all competing interests, but to achieve an appropriate balance between them, supporting both development and long-term coexistence.

Recommendation: Chile should embed early and structured stakeholder engagement into marine spatial planning processes.

Key actions:

- Engage proactively with key stakeholder groups, including
  - Artisanal and industrial fisheries
  - Coastal and Indigenous communities (where relevant)
  - Shipping and port operators
  - Environmental bodies
  - Regional governments

This approach supports the identification of development areas that are not only technically viable but also socially and politically robust. It reduces the risk of conflict at later stages, improves project acceptability, and enables more efficient and durable OSW deployment.

3.4 Design Leasing Frameworks to Ensure Project Progression

Leasing design plays a critical role in enabling market entry and ensuring project delivery. UK experience shows that weak qualification criteria can lead to speculative bidding, while poorly designed option periods and fee structures can delay projects or incentivise land banking. A well-designed leasing framework should ensure that developers have the capability to deliver projects, while also providing clear timelines and financial incentives to support progression. Flexibility in the leasing parameters lowers the risk for developers.

Recommendation: Chile should design leasing frameworks that prioritise deliverability and incentivise timely and efficient project progression.

Key actions:

- Require evidence of technical capability and experience in OSW or comparable infrastructure
- Assess project delivery strategies and ability to execute at scale
- Require evidence of secured or accessible financing aligned with project scale
- Define option periods that provide sufficient time to secure consent and financing, while avoiding unnecessary delays
- Structure option fees and payment schedules to incentivise progress and discourage land banking
- Set development timelines with milestones linked to project progression, with limited extensions where justified

This approach reduces the risk of speculative or underfunded project failure, strengthens the credibility of the development pipeline, and supports more efficient project delivery.

3.5 Integrate Seabed Planning with System Delivery and Economic Value

Another key lesson from the UK is that seabed planning must be closely aligned with both system infrastructure and wider economic objectives. Without this coordination, OSW development can be constrained by grid bottlenecks, insufficient port capacity, or misaligned infrastructure timelines.

At the same time, while OSW can support supply chain development, job creation, and regional growth, these outcomes are not automatic and require structured delivery mechanisms. UK experience demonstrates the value of linking seabed leasing to developer commitments, requiring developers to set out how they will support local industry and contribute to wider economic outcomes. These commitments typically include expected levels of local expenditure, supplier engagement, workforce development, and regional investment.

Coordination between national and regional authorities is key to capture the wider benefits of offshore wind and will be key in the Chilean context, particularly with the region of Biobío.

Recommendation: Chile should integrate seabed planning with system infrastructure and economic development objectives.

Key actions:

System Integration

- Align seabed planning with national transmission planning, ensuring grid capacity and expansion timelines are considered in site selection
- Coordinate leasing with port development strategies, including construction, operations and maintenance requirements
- Align project timelines with the delivery of enabling infrastructure to avoid bottlenecks and delays
- Establish coordination mechanisms across relevant institutions to enable integrated planning and decision-making

Economic and Regional Value

- Require developers to submit supply chain and workforce development plans as part of the leasing process
- Include expectations for local and regional expenditure, supplier engagement, and industrial activity
- Align leasing decisions with broader regional development strategies and industrial priorities
- Establish monitoring and reporting frameworks to track delivery of commitments over time

This approach embeds supply chain and regional value requirements directly into the allocation of seabed rights, ensuring that OSW development contributes to domestic industry, regional growth, and long-term economic value.

3.6 Summary of Seabed Planning Recommendations

The recommendations outlined establish a coordinated framework to support the development of a scalable, investable, and socially supported OSW sector in Chile.

Key success factors include:

- Adopt a plan-led approach, ensuring that marine planning precedes leasing
- Maintain a clear separation between planning and seabed allocation to support transparency and strategic decision-making
- Embed strong stakeholder engagement to identify suitable development areas and reduce conflict
- Prioritise developer capability and deliverability, rather than relying solely on price-based competition
- Link leasing to supply chain development and regional value creation
- Coordinate seabed planning with grid, port, and wider infrastructure and industrial strategies

Taken together, these principles point towards a structured, plan-led, and system-integrated model for OSW development in Chile. This approach reduces risk, improves coordination, and supports a more efficient and socially beneficial rollout compared to a purely market-led or speculative leasing model.

4 ENERGY POLICY

Energy policy plays a critical role in enabling OSW deployment by shaping investment conditions, coordinating delivery across sectors, and ensuring long-term system efficiency. This section sets out recommendations to support an investable and coordinated policy framework for OSW in Chile. These recommendations draw on UK experience, where policy has evolved towards a more integrated, whole-system approach.

4.1 Develop a Whole-System OSW Action Plan Before Launching Tenders

A key lesson from the UK is that OSW policy is most effective when embedded within a coordinated, whole-system strategy. The Clean Power 2030 Action Plan has aligned generation, grid, ports, skills, and supply chains under a single framework, helping to address earlier challenges such as unrealistic targets and gaps in coordination across sectors.[1]

Recommendation: Chile should develop a national OSW action plan before launching major tenders or support mechanisms.

Key actions:

- Define a coordinated plan covering OSW deployment, transmission, ports, skills, supply chains, and financing
- Align OSW objectives with broader energy, industrial, and regional development strategies
- Establish clear roles, timelines, and delivery responsibilities across government institutions
- Provide long-term visibility on deployment targets and enabling infrastructure

This would strengthen coordination, improve investor confidence, and reduce the risk of deployment outpacing infrastructure readiness. It would also provide a clear strategic direction for both public and private stakeholders.

4.2 Establish Strong Central Coordination and Early Cross-Sector Alignment

OSW development spans multiple policy areas, including energy, environment, defence, fisheries, finance, and regional development. Without strong coordination, competing priorities can lead to delays and policy misalignment.

Developers identified environmental uncertainty, driven by limited baseline data and unclear guidance, as a major barrier to project development in Chile. In addition, insufficient early coordination with environmental stakeholders and marine users can result in conflicts later in the development process, contributing to project delays and uncertainty.

[1] UK Government (2024) Clean Power 2030 Action Plan: A new era of clean electricity. Available at: Clean Power 2030: Action Plan: A new era of clean electricity

UK experience shows that a central coordinating function, combined with early engagement across sectors, is critical to aligning stakeholders and enabling efficient project delivery. The role of the independent Offshore Wind Champion in the UK helped achieve this.

Recommendation: Chile should establish a strong central coordination function, supported by early cross-sector engagement, to align policy, stakeholders, and delivery.

Key actions:

- Designate a lead ministry or central coordinating body responsible for OSW delivery
- Appoint an Offshore Wind Champion to provide independent oversight and strategic guidance
- Establish formal coordination mechanisms across ministries, regulators, and key stakeholders
- Engage environmental bodies, fisheries, and other marine users to identify potential conflicts
- Develop coordinated approaches to mitigation, compensation, and coexistence
- Provide clear guidance on how trade-offs between competing marine uses will be managed

This would improve policy coherence, and provide a clear focal point for industry engagement, helping to reduce consenting risk. It would also help ensure that OSW development is managed as a strategic national priority.

4.3 Establish a Stable and Investable Revenue Support Mechanism

Revenue support mechanisms and auction design play a critical role in attracting investment and ensuring project delivery. Long-term revenue certainty has been critical to OSW deployment in the UK. Mechanisms such as Contracts for Difference (CfD) have reduced financing costs, improved project bankability, and supported large-scale investment.

Without a stable revenue framework, projects face higher financing costs and increased risk. However, auction design is equally critical in determining project outcomes. While increasing competition can drive down costs, allowing immature or speculative projects into auctions can create delivery risks and lead to delays if projects fail to progress. UK experience highlights the importance of balancing competition with deliverability, particularly in the early stages of market development.

Recommendation: Chile should establish a market framework that provides long-term revenue certainty while prioritising project deliverability.

Key actions:

- Introduce a long-term revenue support mechanism, such as a CfD-style scheme
- Provide contract durations aligned with OSW asset lifetimes
- Ensure auction design supports efficient allocation and avoids underutilised capacity
- Provide visibility on future auction rounds to support pipeline development
- Establish eligibility criteria linked to project maturity and readiness

- Focus on procuring viable, deliverable capacity rather than maximising short-term competition

This could help to lower the cost of capital, increase investor confidence, and support the development of a scalable OSW market.

4.4 Support Supply Chain Development Through Targeted Policy Measures

Policy plays a critical role in shaping where and how economic value from OSW is realised. Mechanisms such as the Clean Industry Bonus have been introduced in the UK to incentivise developers to invest in domestic supply chains, by linking financial support to broader industrial outcomes. Without such measures, there is a risk that economic benefits are captured externally, limiting local value creation.

Developer engagement highlighted the importance of a credible industrial and regional development case for OSW in Chile. Without clear signals on how OSW will support domestic industry, regional infrastructure, and long-term market growth, developers face greater uncertainty over investment viability and supply chain readiness.

Developers also emphasised that workforce capability could become a major bottleneck as projects move towards construction. Early investment in skills, training, and certification will therefore be essential to ensure that labour constraints do not delay project delivery.

Recommendation: Chile should use targeted policy measures to support supply chain development alongside OSW deployment.

Key actions:

- Introduce incentive-based mechanisms that reward investment in local supply chains and industrial capacity
- Align financial support with broader economic and industrial policy objectives
- Provide consistent policy signal on the role of domestic industry in OSW development
- Align supply chain ambitions with market growth and capability
- Support skills development and industrial capacity building

This approach allows Chile to capture greater economic value from OSW while maintaining an investable and competitive market framework.

4.5 Coordinate Offshore Wind Policy with Grid Planning from the Start

In both the UK and Chile, strong wind resources are often located far from demand centres, making coordination between OSW deployment and transmission planning critical. Without early alignment, grid constraints can delay projects, increase curtailment, and reduce system efficiency.

Recommendation: Chile should align OSW policy, seabed planning, and transmission development as part of an integrated system.

Key actions:

- Align leasing and tender timelines with transmission planning and delivery
- Incorporate grid constraints into site selection and development prioritisation
- Assess offshore and onshore transmission requirements within a single planning framework

This would help to reduce system inefficiencies, minimise curtailment, and ensure that OSW generation can be integrated effectively at scale.

4.6 Place Community Engagement at the Centre of Development

Public acceptance is critical to OSW deployment, particularly for onshore infrastructure such as transmission networks. UK experience shows that even where OSW is widely supported, local opposition can arise if communities are not engaged effectively. Early and transparent engagement is therefore essential to building trust and securing long-term support.

OSW can deliver significant economic and social benefits, but these are not always visible to local communities, which can weaken public support. Clear communication is therefore essential. In Chile, this is particularly important given the opportunity to support regional development in areas such as Biobío.

Recommendation: Chile should strengthen public engagement and clearly communicate the economic and social value of OSW.

Key actions:

- Engage communities early in both offshore and onshore infrastructure planning
- Clearly communicate, at both national and regional levels, the benefits, impacts, and trade-offs of OSW development
- Define clear targets for jobs, skills, and regional development linked to OSW development
- Align OSW with broader industrial and regional development strategies, including emerging sectors such as green hydrogen
- Develop mechanisms to share benefits with affected communities

This would improve public acceptance, support policy continuity, and strengthen the case for OSW within Chile's energy transition.

4.7 Maintain a Focus on Cost Reduction and System Efficiency

As OSW deployment scales, managing system-wide costs becomes increasingly important, particularly in relation to consumer energy bills. UK policy has increasingly focused on reducing

overall system costs while maintaining deployment momentum. A whole-system approach is essential to ensure that OSW remains cost-effective over the long term.

Recommendation: Chile should embed cost reduction and system efficiency into OSW policy from the outset.

Key actions:

- Evaluate policy decisions based on total system cost rather than individual project costs
- Coordinate generation, transmission, and infrastructure planning to improve efficiency
- Signal clear expectations for cost competitiveness over time
- Encourage investment and efficiency across the value chain

This would support a more affordable OSW sector, maintain public support, and ensure long-term sustainability of the energy transition.

4.8 Summary of Energy Policy Recommendations

These recommendations highlight the importance of a coordinated, whole-system policy framework to support OSW deployment.

Key success factors include:

- Strong strategic planning and central coordination
- Stable and investable market design
- Early alignment with grid and supply chain infrastructure
- Integration of environmental, community, and stakeholder interests
- Delivery of economic and social value alongside energy generation

5 TRANSMISSION NETWORK PLANNING

Transmission planning will be critical to enabling large-scale OSW deployment in Chile. Delays in onshore transmission expansion, combined with insufficient coordination in grid planning, can lead to significant system inefficiencies. These include greater curtailment of OSW and greater reliance on thermal generation, which can substantially increase system operating costs. This section sets out recommendations to support a more coordinated, strategic, and efficient approach to transmission planning, drawing on experience from the UK.

5.1 Strengthen Centralised Transmission Planning Through Improved Delivery and Risk Allocation

A key lesson from the UK is the transition from a decentralised, project-by-project approach to a more coordinated and anticipatory transmission planning model. Historically, OSW projects were connected individually through radial links, leading to duplication of infrastructure, increased environmental impacts, and higher system costs. In response, the UK has moved towards a centralised and strategic approach, where transmission infrastructure is planned at a system level, based on long-term OSW deployment targets, demand growth, and network needs.

This approach has enabled the development of shared offshore transmission corridors, optimisation of onshore landing points, and proactive reinforcement of key network nodes ahead of project delivery. Programmes such as the Offshore Transmission Network Review, Holistic Network Design, and the emerging Centralised Strategic Network Plan demonstrate how coordinated planning can reduce costs, minimise impacts, and improve system efficiency.[2,3,4]

In Chile, transmission has long been centrally planned, meaning any reinforcement or new development must be approved by the National Energy Commission (CNE), which defines projects through the Transmission Expansion Plan. These developments are typically recommended by the system operator, Coordinador Eléctrico Nacional (CEN).

Despite this centralised planning, project development risks remain largely with developers. They are responsible for securing land access rights, obtaining necessary planning permits, and securing a grid connection. In addition, while the transmission system is centrally planned, it remains relatively sector-specific and does not yet take a broader multi-sector approach, for example by integrating marine spatial planning considerations. This allocation of risk is a key factor behind delays in delivering new transmission infrastructure and highlights the potential value of alternative approaches to network expansion that reduce reliance on developer-led delivery of critical infrastructure.

[2] UK Government (2020) Offshore transmission network review. Available at: Offshore transmission network review - GOV.UK

[3] NESO (2022) Holistic Network Design. Available at: download

[4] NESO (2026) Centralised Strategic Network Plan (CSNP). Available at: Centralised Strategic Network Plan (CSNP) | National Energy System Operator

Recommendation: Chile should build on its existing centralised transmission planning framework by strengthening coordination between planning and delivery, integrating spatial considerations for instance, and reducing developer-led responsibility for permitting, land access and grid connections.

Key actions:

- Strengthen coordination between transmission planning and delivery to reduce delays between system design and project execution
- Align transmission planning with OSW deployment scenarios, demand growth, and wider system needs
- Develop strategic transmission corridors and optimise grid connection points
- Plan transmission infrastructure in advance of OSW deployment, based on long-term targets
- Encourage shared transmission infrastructure to reduce duplication and environmental impact
- Establish a central planning framework to coordinate long-term network development

This approach would reduce overall system costs, minimise environmental and social impacts, and enable more efficient large-scale integration of OSW.

5.2 Prioritise Transmission Corridors at Risk of Delay for Offshore Solutions

The economic case for offshore HVDC is strongest where delays in onshore transmission create substantial system costs. In Chile, corridors linking southern generation regions to central demand zones are particularly important for integrating OSW from regions such as Biobío. Early identification of corridors at greatest risk of delay would help focus planning and feasibility work.

Recommendation: Chile should prioritise transmission corridors at greatest risk of delay for assessment of offshore transmission solutions.

Key actions:

- Identify onshore corridors where delays are most likely to occur
- Prioritise corridors critical to OSW integration for offshore HVDC assessment
- Consider permitting, environmental, and social constraints when screening corridors

This would help target offshore transmission options where they are most likely to be technically and economically justified.

5.3 Conduct Feasibility Studies for Offshore HVDC Deployment

While offshore HVDC may be economically justified under certain conditions, further work is needed to assess project-specific feasibility. This includes technical design, routing, environmental impacts, delivery timelines, and the implications for wider system planning.

Recommendation: Chile should undertake detailed feasibility studies on offshore HVDC deployment in high-priority corridors.

Key actions:

- Assess route options, landfalls, converter station requirements and grid connection points
- Evaluate environmental, permitting and delivery risks for offshore HVDC infrastructure
- Compare offshore HVDC costs and benefits against delayed onshore reinforcement in specific cases

This would provide the evidence base needed to support future investment decisions and de-risk the development of offshore transmission solutions.

5.4 Summary of Transmission Planning Recommendations

The UK's experience demonstrates that effective transmission planning is critical to enabling large-scale OSW deployment. Moving from a project-by-project approach to a more coordinated and strategic model can reduce system costs, lower OSW curtailment, and minimise environmental and social impacts.

Key success factors include:

- Transitioning to a centralised and strategic transmission planning framework
- Identifying high-risk transmission corridors and assessing alternative solutions early
- Evaluating the role of offshore HVDC in alleviating onshore constraints
- Building strong evidence base through targeted feasibility studies

Together, these measures support a more proactive and integrated approach to transmission development, ensuring that grid infrastructure is delivered at the right scale and time to enable OSW deployment. This will be critical to reducing system inefficiencies, maintaining cost-effective operation, and supporting Chile's long-term energy transition.

6 CHILEAN STAKEHOLDER INSIGHTS

Engagement with Chilean stakeholders highlights the importance of regional leadership, social licence, institutional coordination, and knowledge development in enabling OSW deployment. While many enabling factors are addressed in earlier sections, these insights reflect on-the-ground perspectives and identify practical priorities for building momentum and acceptance.

6.1 Establish Biobío as a Lead Region for OSW Development

Stakeholder engagement consistently identified the Biobío region as the most promising location for early OSW development. The region benefits from strong existing industrial capacity, particularly in shipbuilding, as well as established port infrastructure and strong institutional collaboration. Regional stakeholders have already demonstrated significant interest, with active cooperation already in place between local institutions, government bodies, and industry actors

Recommendation: Chile should position Biobío as an initial regional hub for OSW development.

Key actions:

- Align OSW development with regional industrial strategies
- Coordinate port infrastructure and supply chain planning at a regional level
- Strengthen collaboration with universities and research institutions
- Support early-stage project development in the region

This would accelerate early deployment, demonstrate success at a regional level, and build momentum for national expansion.

6.2 Establish a Structured Fisheries and Coastal Engagement Framework

Fisheries were consistently identified as the most sensitive and complex stakeholder group in Chile. Artisanal fishing communities are highly organised and politically influential, and concerns around access and livelihoods could present a significant barrier to OSW development.

At the same time, many concerns are driven by limited familiarity with OSW and how it operates in practice. Without early and consistent engagement, there is a risk of mistrust, conflict, and delays during project development.

Recommendation: Chile should establish a structured, early, and proactive engagement framework for fisheries and coastal communities, supported by practical demonstration and knowledge-sharing initiatives.

Key actions:

- Initiate engagement with fishing communities early, before site selection and project design
- Map fishing activity, livelihoods, and areas of interaction with offshore wind
- Establish clear and consistent communication channels between developers and fisheries

- Develop national guidance on fisheries engagement and coexistence approaches
- Facilitate international knowledge exchange programmes to share best practice
- Develop a demonstration project or pilot area focused on OSW–fisheries coexistence

This would improve trust, reduce conflict, and support the development of a durable social licence for OSW. It would also help stakeholders better understand how OSW can operate alongside existing marine activities.

6.3 Strengthen Knowledge Development and Position Chile as a Strategic Fast Follower

Stakeholder engagement highlighted the fragmentation of OSW knowledge in Chile and the importance of adopting a realistic market positioning. While Chile has strong academic capability, there is currently no dedicated institutional platform to align research, industry, and government, limiting the effective application of knowledge to project development. The Offshore Renewable Energy Catapult plays that role in the UK, acting as a research, technology demonstration, and innovation centre for offshore renewables.

At the same time, stakeholders recognise that Chile is likely to develop OSW as a fast follower rather than an early global leader. Given that the majority of Chile's offshore wind resource is expected to be floating, and that floating offshore wind (FOW) remains relatively high cost, Chile's development pathway will depend on leveraging international experience, cost reductions, and proven technologies. In particular, there is a strong opportunity to learn from more mature markets such as the UK, which is at the forefront of FOW deployment, including lessons in technology development, consenting, and supply chain growth.

Recommendation: Chile should establish a coordinated OSW research and innovation ecosystem and adopt a strategic fast follower approach to support efficient market development.

Key actions:

- Establish a national OSW energy research centre or coordination hub linking universities, industry, and government, similar to the Offshore Renewable Energy Catapult in the UK
- Focus research on Chile-specific priorities, including environmental conditions, seismic factors, and fisheries coexistence
- Develop targeted research and innovation programmes focused on FOW technologies and deployment challenges
- Support applied research directly linked to project development and consenting
- Learn from international best practice and adopt proven technologies and regulatory frameworks
- Monitor global cost trends and market developments to inform the timing and scale of deployment

This approach reduces development risk, improves coordination across stakeholders, and enables Chile to enter the OSW market at an optimal time while building domestic capability.

6.4 Summary of Recommendations from Chilean Stakeholder Insight

Stakeholder engagement highlights several critical priorities for advancing offshore wind in Chile, particularly in relation to regional leadership, social licence, and knowledge development.

Key success factors include:

- Establishing regional hubs, such as Biobío, to drive early deployment
- Building trust with fisheries and coastal communities through structured, early engagement
- Using demonstration projects and international knowledge exchange to support social acceptance
- Strengthening research coordination and focusing on Chile-specific priorities
- Positioning Chile as a fast follower to benefit from global cost reductions and reduce delivery risk
- Translating strategy into clear, near-term implementation actions

Together, these measures support a more inclusive, coordinated, and regionally grounded approach to OSW development. They complement the policy, seabed planning, and infrastructure recommendations by reflecting how current conditions are experienced by stakeholders in practice.

7 WORKFORCE AND SKILLS

Rapid expansion of the offshore wind industry will require a concerted effort to ensure workforce demands are met in a timely and sustainable way that provides value to the community. As such, an integrated planning approach is essential. Mature markets like the UK are seeing critical skills shortages that require targeted intervention. High demand technical roles are at risk of facing shortages, particularly in engineering. But modern offshore wind requires expertise far beyond engineering, including digital analytics, logistics, marine operations, environmental management, and safety. Skills providers also need to adapt their curricula to the increasingly digital, data-driven nature of offshore wind. Aligning education providers, industry and regional bodies around priority occupations are key to addressing gaps.

Stable policy and deployment pipelines are also essential. Meeting future workforce needs depends on a stable policy environment, cost and investment certainty and a guaranteed pipeline of offshore wind projects. Integrated planning will help ensure training and recruitment scale in step with project timelines, reducing boom-and-bust labour cycles.

7.1 Develop an Integrated and Long-Term Plan of the Offshore Wind Workforce

An integrated approach to workforce and skills planning is essential to align workforce growth to deployment ambitions, address emerging skills shortages, support regional economic development, facilitate a fair transition from other sectors. It also ensures that training and education systems evolve in line with sector needs. Without coordinated planning, workforce constraints could become a critical bottleneck to offshore wind deployment and climate targets.

Coordination and data-driven planning are essential, considering long-term needs, regional concentration, and role-specific demand. Alignment with energy targets and the project pipeline is critical to ensure policy credibility and to guide education and training investment.

Recommendation: Chile should adopt an integrated strategy to workforce development, aligning modelling of the workforce to national energy targets and project pipeline.

Key actions:

- Issue a report identifying the OSW skills gaps
- Establish a phased skills roadmap aligned to project lifecycle stages—development (6 years), construction (2 years), O&M (30 years)—as reflected in UK project structures.
  This ensures training capacity scales at the pace required by the growing pipeline.

7.2 Establish a System for Monitoring and Coordinating Workforce Development

Successful delivery of offshore wind workforce demand needs coordinated data and monitoring. Better data availability supports forecasting and reduces the risk of misalignment between training output and industry needs. A central workforce data observatory would serve to track labour supply, demand, and emerging skills gaps.

The UK has taken an initiative to approach sector coordination. Several organisations work to promote OSW workforce development, such as the Offshore Wind Industry Council (OWIC). However, a successful approach has been to set up a form formal, centralised unit whose role is to understand monitor workforce supply and demand, training throughput, skill shortages and sector employment impacts, the Workforce Foresighting Hub. Aligned with national policy, it coordinates industry, academia and government to deliver a cohesive understanding of the workforce needs. This enables evidence-driven policy and early identification of bottlenecks.

Recommendation: Chile should establish an Offshore Wind Skills monitoring body.

Key actions:

- Assess the Workforce Foresighting Hub model from the UK, which undertakes a systemic approach to identifying the organisational capabilities and workforce skills necessary to enable industry to adopt and exploit innovative technologies.

7.3 Training the Workforce of Tomorrow

Preparing early to meet the workforce needs of future offshore wind deployment is essential to avoid bottlenecks and provide investors with confidence. Chile's position at the early stages of offshore wind development presents an ideal window to anticipate industry requirements and begin building the necessary skills base. However, capturing this opportunity will require proactive action now to ensure the workforce is ready when needed. Early-stage roles, such as those in the development and capital expenditure phases, are particularly critical. These roles unlock investment, shorten project timelines, and create the foundation for a mature offshore wind industry. Growth will be regionally concentrated. The largest workforce expansion is projected in Biobio, where the projects are most likely to be developed. Efforts to establish regional training hubs in the coastal communities, expanding local college and university capacity, and delivering fast-track programmes for local entrants and career-changers are key to enable an effective skills supply. Planning effort must go to ensure training is available in the right places to support local economic uplift and timely project delivery.

Recommendation: Chile should build early capacity for OSW skills, with a clear focus on development phases.

Key actions:

- Prioritise training for roles critical in early project stages such as design engineers, environmental advisors, contract managers, and permitting specialists.
- Embed OSW-relevant curricula within universities and technical institutes.
- Prepare early for the large and sustained O&M workforce by expanding technician training capacity. O&M will be the longest and most stable source of local employment. One possibility would be to develop partnerships with turbine manufacturers and O&M contractors to establish regional training and simulation centres.

- Establish training centres in the coastal communities that will be the base for OSW deployment. In the case of Chile, Biobío is a natural candidate to concentrate training programmes.

7.4 Transfer Existing Skills

Another consideration is cross-sector expertise. Workers in the marine sectors possess highly transferable skills well suited to offshore wind. Targeted pathways and structured retraining programmes can accelerate their transition. Standardised conversion routes and transition programmes can be a valuable enabler to integrate these skills into offshore wind.

Marine, defence and oil & gas are sectors that possess relevant skills which can be converted quickly with targeted upskilling, creating a faster pipeline of qualified offshore wind talent.

Training programmes should focus on recognising prior experience and providing bridging modules to meet sector-specific competency requirements.

Recommendation: Chile should establish a workforce transition programme in Biobío.

Key actions

- Creating pathways for fishery workers, port personnel, steelworkers, fabricators, electricians, and other industrial workers to move into OSW
- Implement Recognition of Prior Learning schemes to formally assess and credit existing skills, enabling workers to transition more quickly into offshore wind roles

7.5 Support Long-Term O&M Workforce Development

Follow the UK's success in regenerating industrial regions (e.g., Hull, Teesside) through offshore wind clustering.

Recommendation: Chile should create a Biobío Offshore Wind Industrial Zone

Key actions:

- Designate a regional OSW development area centred around Coronel–Concepción to facilitate
    - Port upgrades
    - Fabrication cluster development
    - Technician training hubs
    - Local supply chain incentives

8 ENVIRONMENTAL FACTORS

Environmental considerations are identified to be one of the high priority areas for OSW development in Chile. This stems from two factors: ecologic and regulatory. The waters of Chile are home to one of the world's richest wildlife environments, which plays a very important role in the ecology of the region, and any intervention must be carefully managed. The Chilean government and communities have a committed interest in maintaining the harmony of the marine environment and do not take changes lightly. Efficient and effective regulation will ensure that stakeholders have a clear view of the impact of OSW projects and ensure adverse effects are minimised. On this regard, mature markets can provide lessons on previous experiences.

UK policymakers have a long history of working with developers and other stakeholders on environmental mitigation. The recommendations for Chile in this regard are to study the UK's approach to inform their own approach. An overview of key elements is provided, and a summary of recommendations is made based on lessons learned and future goals of the UK.

8.1 Management of OSW Developments to Minimise Impacts on Marine and Coastal Protected Areas

In the UK, there is significant regulation that oversees the environmental effects of an OSW project and determines if the project can move ahead. The pre-application stage of an OSW project involves an Environmental Impact Assessment (EIA) and a Habitats Regulations Assessment (HRA). These assessments consider the direct and indirect environmental impacts of the proposed development, including potential effects on European sites, specifically Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Additional designations apply across the UK, including Marine Conservation Zones (MCZs) in English and Welsh waters, and Marine Protected Areas (MPAs) in Scotland. These areas must be considered as part of marine licence or Development Consent Order (DCO) applications.

In practice, the UK follows a structured hierarchy of avoid, reduce, mitigate, and, only where necessary, compensate. Environmental policy also encourages developers of multiple schemes to work collaboratively, where, for instance, cable routes create cumulative disturbance across intertidal or subtidal zones.

A significant recent development in the UK is the move towards strategic compensation for residual effects on MPAs. This approach aims to reduce the need for individual projects to develop bespoke compensation packages in isolation, while retaining the principle that compensation should only be considered once feasible avoidance and mitigation measures have been exhausted.

Overall, the UK's approach seeks to balance marine protection with offshore wind development through risk-based spatial planning, robust site assessment, project-level mitigation, and strategic compensation for unavoidable residual effects.

A key recommendation is to ensure that the relevant authorities have sufficient capacity and resources to process applications with a quick turnaround.

8.2 Governance Frameworks: Coordinating Environmental Regulators and Planning Authorities during the Offshore Wind Consenting Process

The governance framework that England and Wales have moved toward including five elements.

1. Early evidence planning with nature conservation bodies (CBs), so that developers and regulators agree up front what evidence is needed and where uncertainty is acceptable.
2. Pre-application advice, so that relevant agencies and local planning authorities are aligned before examination starts.
3. Clear role separation among the examining authority, licensing authority, statutory advisers, and the decision-maker.
4. Case-specific technical working groups for seabirds, marine mammals, benthos, fish, cable landfall and cumulative effects.
5. Post-consent governance that links licence conditions, monitoring review, and adaptive management.

The Scottish OSW consenting process follows a plan-led governance framework, with Sectoral Marine Plans used to identify suitable areas for development. Reforms are currently underway to establish a faster and more flexible consenting framework.

For protected areas, the UK regulatory framework is increasingly adding a strategic layer above project-by-project consenting. These initiatives aim to address certain issues through more coordinated approaches, moving away from fragmented project-level negotiations toward strategic compensation mechanisms and clearer national-level requirements.

8.3 Mitigation Measures and Technologies: Methods to Minimise Environmental Impacts

There is strong consensus in the UK that the most effective form of mitigation is to avoid and reduce impacts at the design stage, well before compensation is considered. Environmental policy explicitly states that applicants should first review all avoidance, reduction, and mitigation options.

For MPAs and sensitive habitats, the policy examples include micrositing routes, alternatives to piling or trenching, noise abatement technology, collision-avoidance measures, and, only then, compensation if residual effects remain.

8.4 Post-Consent Environmental Monitoring: Ensure Long-Term Ecological Impacts are Effectively Evaluated

The UK's post-consent model is primarily based on condition-led monitoring requirements set through the marine licence or Development Consent Order (DCO). Recent guidance, published in 2025 and updated in March 2026, aims to standardise monitoring approaches for a small number of receptors, rather than prescribing a universal set of monitoring requirements for all projects.

A key feature of UK practice is improving the accessibility and reusability of monitoring evidence, allowing data and lessons learned from individual projects to inform future developments. This supports a broader shift towards treating post-consent monitoring as an adaptive management process, rather than solely as a mechanism for demonstrating regulatory compliance.

8.5 Bringing Local Communities into Environmental Monitoring Requirements for Offshore Wind

Bringing local communities into offshore wind environmental monitoring in Chile could be a core governance and evidence strategy that can reduce consenting risk, improve data quality, and build long-term social licence. A way to do this is to integrate the community into the national evidence programme.

Fishers and coastal communities collect data, validate observations and co-design monitoring priorities. Communities should monitor high-value, observable, localised indicators e.g. fisheries and livelihoods (seasonal changes in catch composition and species); marine ecology (seabird activity, marine mammal sightings); and the physical environment (turbidity, debris). This activity will complement and not replace scientific surveys.

Appropriate technology could be provided to the local communities to support data collection, and quality assurance (QA)/quality control (QC) procedures must be in place, achieved through standardising methods and data quality. In addition, monitoring should be paid for and not seen as voluntary.

It will be important to set up local community partnerships as a governance model, including fishers, scientific advisors, developers, and local NGOs.

8.6 Summary of Recommendations

The overall summary of recommendations on environmental factors for OSW is based on the UK's experience balancing the key environmental concerns with ambitious deployment targets, pressured project timelines, data and technology availability, and assessment/application review capacity.

Key recommendations:

1. Create a formal cross-agency consenting framework early
2. Use marine spatial screening to avoid the worst conflicts of area requirements
3. Agree on survey and evidence plans before EIAs begin
4. Prioritise mitigation by design
5. Standardise post-consent monitoring and data-sharing
6. Define protected-area policy clearly and early
7. Build a cumulative effects assessment at the plan level
8. Use pilot projects to generate national evidence.

The central recommendation for Chile is not to copy the UK's mature regime in full, but to front-load the governance, evidence, mitigation, monitoring, and protected-area rules that the UK had to build over time through experience. The UK's updated policy statement and the post-consent monitoring standardisation work show a system moving toward earlier coordination, mitigation by design, stronger focus on protected areas, and more standardised evidence generation.

9 SUPPLY CHAIN

Beyond Chile's exceptional technical potential for offshore wind, some estimates forecast that installed capacity could reach between 20 GW and 30 GW by 2050 under medium-to-high-deployment scenarios. Realising this ambition will require a robust, competitive, and locally anchored supply chain capable of scaling from opportunity to delivery. The UK's offshore wind sector has been shaped by two decades of supply chain development, beginning with early efforts to identify where domestic capabilities could meet the needs of a growing industry.

9.1 Key Factors of OSW Supply Chain

An overview of the key supply chain factors for Chile's OSW can be summarised in eight key points:

9.1.1 Offshore wind requires complex, multi-stage supply chains

Offshore wind depends on a large ecosystem of manufacturers, maritime assets, ports, and service providers. Key supply-chain segments include:

- **Raw materials** (steel, copper, rare earth elements)
- **Component manufacturing** (turbine blades, nacelles, towers, foundations, cables)
- **Specialised logistics** (installation vessels, heavy-lift capability, port laydown areas)
- **Operations & maintenance (O&M)** infrastructure over 25–30 years
  All stages, from raw materials to installation vessels, must mature together, as bottlenecks in even one area constrain project delivery.

9.1.2 Floating wind presents unique supply chain needs

With deep waters close to shore, floating assemblies will form the vast majority of Chilean offshore projects. This dramatically shapes supply-chain requirements:

- Floating foundations (semi-submersible, spar, barge designs)
- Mooring systems and dynamic cables
- Port capacity for assembly of very large structures

Floating wind is entering commercialisation stages but faces supply chain constraints and high-cost pressures.

9.1.3 Chile currently lacks key industrial and port capacities

There are gaps in the Chilean industry needed to deploy OSW today around:

- **Manufacturing capacity**, particularly for large components such as blades, towers, and floating platforms
- **Maritime services**, including specialised vessels and offshore-ready port infrastructure

Local manufacturing and maritime capabilities as an essential element to achieve cost reduction and long-term sector viability in the region.

9.1.4 Port upgrades are a strategic priority

International experience shows offshore wind depends on specialised ports able to support:

- Large-component laydown and storage
- Heavy-lift cranage
- Quayside assembly
- Floating platform integration

The Biobío region has been identified as central for Chile's first offshore projects. It hosts major ports near industrial hubs and is well-positioned for offshore wind assembly.

9.1.5 Latin America's supply chain is currently fragmented

The Global Wind Energy Council highlights that Latin America lacks integrated manufacturing and service capacity, with the supply chain heavily concentrated in Brazil and Mexico. To meet rising offshore wind demand, the region must strengthen coordination, port infrastructure, and local industrial capabilities.

Chile must therefore compete for global supply while building domestic capabilities strategically, particularly floating foundations, fabrication, and O&M.

9.1.6 Cross-sector strengths can accelerate supply-chain development

Chile already has significant maritime, industrial, and fabrication capacities from sectors such as fisheries, shipyards, and steel manufacturing. These sectors can be leveraged to develop:

- Floating platform assembly yards
- Cable fabrication or staging
- Maintenance and marine operations

Chile's Marine Energy Research & Innovation Center (MERIC), active from 2015 to 2025, highlighted synergy opportunities across industrial clusters.

9.1.7 Industrial clustering accelerates cost reduction

Countries that built successful supply chains (e.g., the UK, Denmark, Netherlands) developed **offshore wind industrial zones** near major ports, concentrating:

- Manufacturing
- Assembly
- Workforce training

- Innovation centres

Clustering reduces cost, shortens logistics timelines, and improves competitiveness. This is an approach recommended for Chile, especially around Biobío.

9.1.8 Policy certainty is essential for supply chain investment

Global experience, including that of the UK, shows supply chain investors require:

- Clear long-term offshore wind targets
- Transparent seabed leasing and permitting
- Grid expansion plans
- Predictable project pipelines

In Chile, the absence of a complete regulatory framework has already been flagged as a barrier for first-mover projects.

9.2 Learnings from the UK

From the start of the OSW industry in the UK, government bodies and industry associations have published a steady stream of strategic assessments, exploring everything from port infrastructure readiness to future cost trends and supply chain health checks. These reports have played a crucial role in shaping policy, directing investment, and guiding industrial strategy. Collectively, this body of work has helped to ensure the UK's supply chain development has been evidence-based, forward-looking, and responsive to market needs, positioning the country as a global leader in offshore wind.

In addition, this collaboration has also materialised formal initiatives such as the 2019 Offshore Wind Sector Deal. This arrangement included a government commitment to provide regular project auctions, alongside an industry ambition to increase UK content to 60% of lifetime expenditure by 2030. It also launched several supply chain development initiatives, such as the Offshore Wind Growth Partnership.

Alongside these strategic initiatives, significant investment has been made in UK manufacturing capacity. One notable example is the establishment of a blade manufacturing facility at Hull's Alexandra Dock in 2016, following a £310m investment in partnership with Associated British Ports (ABP). Investment in ports and logistics developments has also been a key priority for the UK, with schemes such as the Offshore Wind Manufacturing Investment Scheme (OWMIS) and Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) introduced to support and de-risk port development.

The UK also has significant FOW potential and ambition, particularly in Scotland, making the experience of developing this sector particularly relevant to Chile. One of the challenges for FOW, even in established markets like the UK, is to close critical capability gaps in high-capex areas such as wind turbine towers and floating substructures. These components represent the largest capital outlays in FOW projects but currently exhibit the lowest supply chain readiness. These are also directly applicable to Chile and addressing these gaps will require:

- Public sector investment to establish or enhance tower manufacturing facilities
- Early-stage project involvement to build substructure manufacturing experience
- Collaborative design optimisation among suppliers for components like synthetic mooring lines and anchors

The lack of standardisation across floating substructure technologies creates uncertainty for suppliers and makes long-term investment and capacity planning more challenging. Greater coordination between developers, suppliers and policymakers can therefore help provide greater visibility of future demand and support investment in domestic manufacturing capability.

Scotland's port and logistics infrastructure is well-positioned to support FOW development, though specific requirements remain undefined. Coordinated efforts among multiple ports and fabrication yards, along with investment in high-capacity cranes and storage facilities, will be essential to deliver commercial-scale projects.

Overall, the UK experience demonstrates the benefits of developing a clear and coordinated industrial strategy, underpinned by an in-depth understanding of domestic and global supply chain capabilities. Strategic assessments can identify capability gaps and future requirements, while targeted public-sector support and early project development can help de-risk investment and build domestic capability. These lessons are particularly relevant to Chile as it considers how to develop a competitive FOW supply chain while managing uncertainty around future demand and technology choices.

9.3 Capturing Economic Benefit: Local Content

The UK has taken a number of measures to encourage domestic content within the offshore wind supply chain. Currently, the UK has an ambition to capture 60% UK content in OSW supply chain expenditure by 2030, supported through a combination of developer commitments, regulation and incentives. Developers are required to provide local content targets and measures to achieve them as part of their applications for a Contract for Difference award, in the form of Supply Chain Plans (SCPs). In Scotland, Supply Chain Development Statements (SCDS) were also introduced as part of the seabed leasing application.

While these mechanisms do not mandate a specific level of local content for individual projects, they provide a framework for encouraging developers to engage with domestic suppliers and build UK supply chain capability. this voluntary target helps to build momentum around domestic supply. The approach provides flexibility for developers to select the most competitive sources of supply, while creating greater visibility of future demand for domestic suppliers and encouraging investment in UK manufacturing and services.

The introduction of the Clean Industry Bonus (CIB) goes a step further and offers a financial incentive for using shorter supply chains (i.e. local supply). The CIB is an allocation scheme where developers get financially rewarded for opting to invest in more sustainable supply chains above a certain minimum threshold. This scheme was introduced for Allocation Round 7 in 2025.

Progress against SCP or CIB commitments is subject to monitoring and reporting. Failure to meet these commitments can have consequences for projects, including potential impacts on CfD or seabed leasing processes, while projects receiving a CIB must demonstrate delivery of their committed investments to retain the associated support.

9.4 From Plan to Reality: the Industrial Growth Plan

The Industrial Growth Plan (IGP) released in 2024 sets out a strategic vision for how the UK can maximise the industrial and economic opportunities presented by the continued growth of the OSW industry. It builds on the earlier Supply Chain Capabilities Assessment (SCCA), taking a more detailed look at the UK's existing capabilities, areas of competitive strength, and the gaps that could constrain future supply chain development.

The IGP provides a comprehensive assessment of the OSW value chain, considering the UK's ability to compete across the key components, services, and activities required to deliver future offshore wind projects. A central feature of the assessment is a "make-or-buy" analysis, which considers where the UK has the potential to develop or retain domestic capability and where it is more appropriate to rely on international supply chains. This provides a basis for identifying areas where targeted intervention could deliver the greatest industrial value.

9.5 Recommendations

The following comprises a summary of recommendations from the UK's experience with industrial planning and local content inclusion.

- **Develop a national supply chain strategy built on a clear "make vs. buy" analysis.**

  Assess domestic industrial strengths and prioritise investment in components or services where competitive advantage is achievable, as the UK did with blades, towers, foundations, and cables

- **Establish a coordinating body to align government, industry, and investors.**

  Create a dedicated delivery organisation similar to the UK's Industrial Growth Plan Delivery Body to maintain the national roadmap, facilitate cross-sector coordination, and channel targeted funding.

- **Prioritise technology innovation and testing infrastructure.**

  Invest in R&D centres, blade and floating platform test facilities, and automation/AI applications to stay competitive, following the UK's plan to expand national innovation hubs and advanced technology institutes.

- **Build regional industrial clusters around strategic ports.**

Concentrate fabrication, assembly, and O&M functions near key ports to reduce costs and accelerate project delivery. This approach is central to the UK's scaling ambitions.

- **Support workforce and skills development aligned with the industrial plan.**

Link technical education, apprenticeships, and up-/reskilling programmes to the projected labour needs of manufacturing, installation, and O&M, ensuring readiness as capacity scales.

- **Ensure financing mechanisms mobilise both public and private investment.**

Following on from the UK's model, Chile should create investment frameworks that leverage private capital through grants, incentives, or localisation bonuses.

- **Use incentives, not rigid mandates, to drive local content.**

Adopt mechanisms similar to the UK's Supply Chain Plans or Clean Industry Bonus, which link access to revenue frameworks (e.g., CfDs, PPAs, or tax credits) to detailed commitments on local procurement, workforce development, and innovation, backed by monitoring and enforcement.

- **Integrate local content into seabed leasing rules.**

Require developers to submit Supply Chain Development Statements during leasing rounds, outlining planned domestic expenditure and capabilities to be developed.

- **Establish transparent monitoring and penalties for non-performance.**

Ensure commitments made in supply chain plans are enforceable, with measurable milestones and consequences for non-delivery, as practised in the UK's SCP framework.

- **Support domestic suppliers with targeted industrial programmes.**

The UK complements local content requirements with the Offshore Wind Growth Partnership (OWGP) programs, providing funding, capability building, and innovation support to the domestic supply chain.

10 CONCLUSION

Chile has a significant opportunity to develop a competitive and scalable OSW sector, supported by strong natural resources, increasing electricity demand, and long-term decarbonisation targets. It is also well positioned to benefit from lessons learned in more mature markets. The UK's experience over the past two decades, transitioning from pilot projects to large-scale commercial deployment, provides a strong foundation of practical insight across policy, planning, and delivery. By leveraging this experience, Chile can create a supportive and investable environment for OSW, delivering a reliable, low-carbon energy source, while driving wider economic growth through the development of a domestic industry.

This report highlights that the key challenge is not resource availability, but the need to establish an enabling framework across policy, planning, infrastructure, and market design. Without early coordination, OSW deployment could be constrained by permitting delays, transmission bottlenecks, infrastructure gaps, and misalignment across institutions and stakeholders.

Drawing on lessons from the UK and insights from industry stakeholders, this report sets out a series of practical recommendations to address these challenges. Central to these is the need to move towards a more strategic, plan-led approach, supported by central leadership, integrated transmission and seabed planning, and targeted support for supply chains, ports, and workforce development. At the same time, building social licence, particularly with fisheries and coastal communities, will be critical to ensuring long-term project viability and public support.

A consistent theme across all recommendations is the importance of adopting a whole-system perspective. Offshore wind cannot be developed in isolation; it must be aligned with transmission infrastructure, industrial strategy, regional development, and environmental management. Taking this integrated approach will help reduce system costs, improve delivery timelines, and maximise the wider economic and social benefits of OSW.

Chile is well positioned to act as a strategic "fast follower," leveraging international experience while developing domestic capability. Given that the majority of Chile's OSW resource is expected to be floating, there is a clear opportunity to learn from the UK's emerging FOW experience in areas such as technology deployment, consenting, and supply chain development. By adopting a forward-looking and integrated framework, Chile can reduce risk, attract investment, and enter the offshore wind market at an optimal time and scale. It also creates an opportunity to support early deployment in priority regions such as Biobío, where strong resource potential, infrastructure, and stakeholder alignment can help build momentum for wider expansion.

Ultimately, offshore wind has the potential to play a transformative role in Chile's energy transition, contributing to energy security, emissions reduction, and regional economic growth. By taking early and strategic action, Chile can establish a resilient and competitive OSW sector that delivers long-term value for the country.

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