

Winds of opportunity

Powering Australia's clean energy future with offshore wind

Purpose and limitations of this study

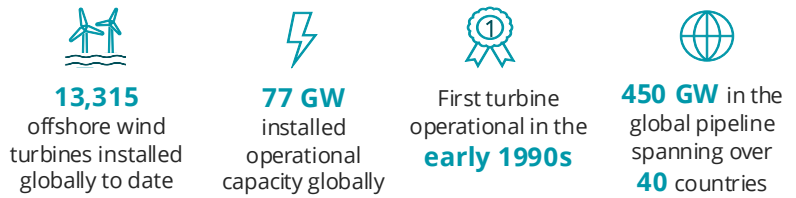
The Winds of opportunity report highlights the business case for offshore wind in Australia. It explores growth scenarios for Australian offshore wind and draws lessons from global leaders to inform potential policy options to accelerate and enable the industry.

Offshore wind is a technology of choice to deliver clean and reliable energy supply

Offshore wind, with faster and more consistent wind speeds, larger turbines, and located near large coastal demand centres, is a technology of choice for many countries to ensure:

- A **sufficient supply of green electricity** to meet growing demand in a decarbonised future
- An orderly clean energy transition for businesses and household, with **well-paying jobs**
- A **diversified** electricity portfolio for **economic resilience and energy security**

Figure 1 Offshore wind is a mature technology, operating for over 30 years.



Source: 4C Offshore, IEA, NREL

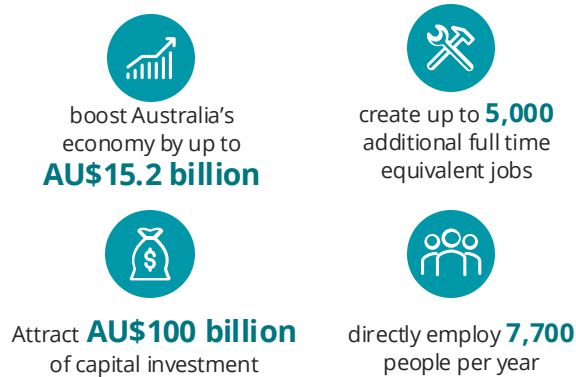
Offshore wind delivers a windfall to Australia

Key outcomes

Offshore wind has world class potential in Australia due to its strong offshore winds. This study reveals that Australia stands to gain if it delivers offshore wind timely and at scale. Streamlining and accelerating the deployment path for offshore wind in Australia offers **two strategic benefits**:

I) Economic development and high-value jobs

Figure 2 A scaled, **20GW by 2054**, offshore wind industry could:



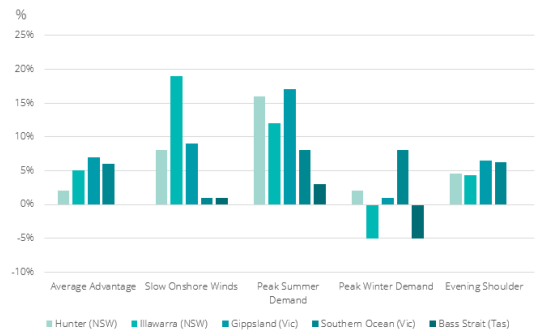
Source: Deloitte C&E modeling
Note: Data above reflects the sensitivity analysis results for the central scenario, "Stable Progress". Consult the complete Winds of Opportunity report for detail on modelled scenarios. Employment projections shown represent jobs numbers at the peak of operations.

Moreover, offshore wind unlocks:



II) Energy resilience and security

Figure 3 Offshore wind complements onshore renewable generation during peak demand periods and boost electricity levels when the grid needs it most.



Note: Ratio of offshore wind and onshore wind capacity factor. Source: Deloitte Analysis based on AEMO ISP 2024 30-minute wind traces, 2024 to 2052, from New South Wales, Victoria and Tasmania

Figure 4 Offshore wind unlocks large-scale supply near demand centres: it delivers the most energy capacity for the shortest transmission distances of any new transmission project, impacting fewer landholders.

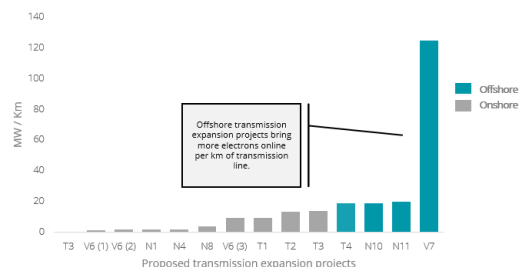
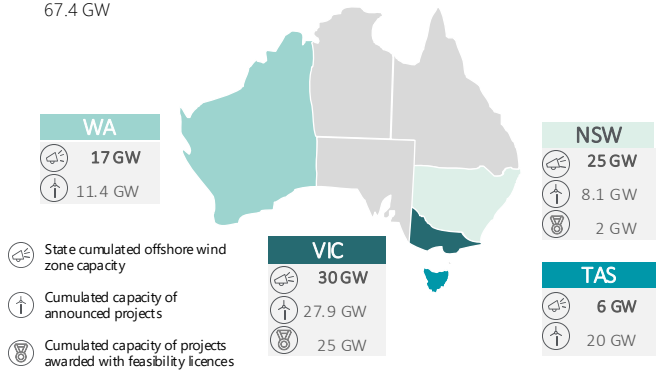


Figure 9: Represents the MW capacity unlocked per kilometre of proposed transmission lines, based on the total MW capacity potential and easement length. The x-axis lists the transmission infrastructure projects ranked by MW / km efficiency. Project names with letter 'N' represent projects in New South Wales, 'T' in Tasmania and 'V' in Victoria, followed by the targeted REZ number.

Note: MW capacity unlocked per kilometre of transmission line easement length. Source: Deloitte analysis based on AEMO (2024) Integrated System Plan and AEMO (2023) Transmission Expansion Options Report.

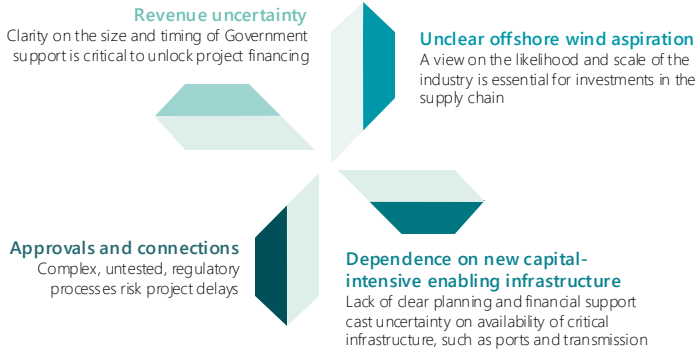
There is already strong interest for offshore wind in Australia, but we can go faster

Figure 5 Project announcements amount to over 76 GW across declared offshore wind zones, which have a total potential capacity of 67.4 GW



Source: 4C Offshore, Renew Economy, project websites

Figure 6 Four key barriers create uncertainty and delay investment decisions for offshore wind projects in Australia today



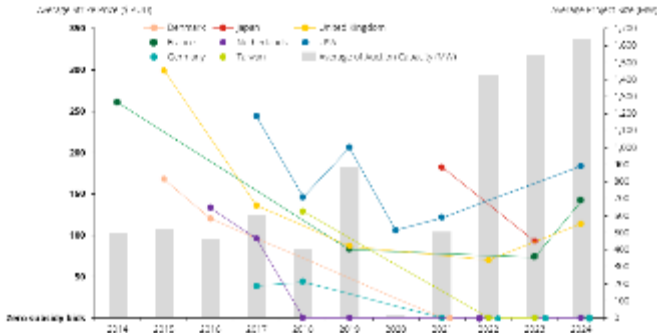
Source: Engagement with the Australian offshore wind industry

Shore up the future: charting a course for offshore wind success in Australia

Offshore wind project economics improve with maturity of the industry: international jurisdictions have seen support costs decrease 10-50% across tender rounds while simultaneously tripling average project sizes.

Source: Based on Deloitte analysis. Auction tender prices sourced from (House of Commons Library, Bundesnetzagentur, Norton Rose Fulbright, S&P Global, BWO, Orsted, Japan Energy Hub, TGS, Westwood Global Energy Group, Energy Trend, Wind Europe, Offshore Wind Biz), with currencies converted to AUD using RBA historical exchange rate averages and adjusted for inflation using the RBA Inflation Calculator.

Figure 7



Policy recommendations

	Short-term	Mid- to long-term
Market need		
1. Provide revenue certainty	<ul style="list-style-type: none">○ Catalyse the national offshore wind industry through federal-state co-investment in the Victorian Contract-for-Difference offshore wind auction.	<ul style="list-style-type: none">○ ● Federal and state governments to develop a revenue certainty mechanism to succeed the initial Victorian auctions that recognises the local context and objectives for each state.
2. Signal clear direction on offshore wind ambition, such as intended scale and timelines	<ul style="list-style-type: none">○ ● Publish a national offshore wind strategy clearly stating objectives and offering a roadmap to achieve targets, leveraging Australia's competitive advantages across the supply chain.● Map out offshore wind-specific capabilities and skills pathways in preparation of project construction. Commission a sector assessment for offshore wind in alignment with worker transition and skills pathways planning.● States build on the Victorian example and develop coordinated policies for offshore wind (for example targets, infrastructure and revenue support)	<ul style="list-style-type: none">○ Provide market transparency on the pipeline through publication of a national auction schedule.○ Leverage existing policy initiatives to build capacity in supply chains and workforce development, leveraging Australia's competitive advantages across the supply chain.● Link supply chain and workforce development to market maturity to optimise local benefit for communities.
3. Ensure timely availability of critical infrastructure	<ul style="list-style-type: none">○ Pool funds and/or leverage existing programmes to lower capital costs of new port and transmission infrastructure and ensure timely delivery to underpin offshore wind projects.	<ul style="list-style-type: none">● Develop a nationally coordinated offshore wind port strategy.● Ensure each offshore wind zone has a scoped-out, dedicated plan for transmission delivery, including clear timelines.
4. Streamline regulatory processes for timeline certainty	<ul style="list-style-type: none">● Consider a commitment to regularly review and update offshore wind regulations based on transparent regulator data on assessment timeframes and feedback from community and industry stakeholders.● Investigate accrediting the Offshore Infrastructure Regulator to undertake the EPBC review and approval process for offshore wind projects.	<ul style="list-style-type: none">○ Set up a regulatory sandbox for offshore wind to test streamlining proposals.● Explore a public-private investment model in tools to facilitate data collection and identify lowest environmental impact solutions.○ Consider implementing modern digital systems to speed up permitting and approval processes for offshore wind.
5. Partner for progress	<ul style="list-style-type: none">● ● Work with the Clean Energy Council as the national industry body to design and deliver a national offshore wind strategy	<ul style="list-style-type: none">● Support establishment of local independent energy hubs to provide communities in offshore wind areas with access to reliable information, building trust and countering misinformation
Responsibility	<ul style="list-style-type: none">○ Federal and state governments● Offshore Infrastructure Regulator● Federal Government● State government● Clean Energy Council● Industry	

Limitations of our Work

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