Offshore Renewable Energy Area: Pacific Ocean off the Hunter

Submission from the CFMMEU (Maritime Union of Australia and Construction Divisions) and the Electrical Trades Union

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Department of Climate Change, Energy Environment and Water

Submitted via website.

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Background

This submission has been prepared by the Maritime Union of Australia Division (MUA) and Construction Divisions of the **Construction, Forestry, Maritime, Mining and Energy Union** (CFMMEU) and the Electrical Trades Union (ETU).

The Maritime Division (MUA) represents approximately 14,000 workers in the shipping, offshore oil and gas, stevedoring, port services and commercial diving sectors of the Australian maritime industry. This includes coal export terminals. The MUA is also part of the Offshore Alliance (with the AWU) which represents workers on offshore oil and gas facilities. MUA members will also work in offshore renewables: on board construction and maintenance vessels and in offshore wind port terminals handling offshore wind components being prepared for installation at sea.

The Construction Division has been involved in building onshore wind farms for many years. Our members have dug the holes, tied the steel, poured the concrete, rigged the turbines and lifted them in place since the first Wind Farm in Salmon Beach, back in 1987. Once the Salmon Beach Wind Farm was completed, many workers transferred to offshore careers as they were well skilled and formally trained.

In a future offshore renewables industry, CFMMEU members across both Divisions would work on offshore renewables construction and cable-laying vessels as maritime crew, catering crew, crane operators and divers as well as involvement in various aspects of landside works essential to the completion of projects and allowing them to connect to the grid.

The Electrical Trades Union of Australia ('the ETU') is a division of the Communications, Electrical and Plumbing Union ('the CEPU'). The ETU is the principal union for electrical and electrotechnology tradespeople and apprentices in Australia, representing well over sixty thousand workers around the country. The CEPU represents close to one hundred thousand workers nationally, making us amongst the largest trade unions in Australia.

In a future offshore renewables industry, ETU members would be performing all electrical work associated with the offshore generation, transmission and distribution infrastructure during construction, installation, testing and operations both on shore and at sea.

Summary

The CFMMEU Maritime and Construction Divisions, along with the ETU welcome the opportunity to make a submission to the consultation. We strongly support the development of offshore renewable energy in Australia, and the designation of the Offshore Renewable Energy Area in the Pacific Ocean off the Hunter.

We recognise that this Offshore Renewable Energy Area is proposed for the Land and Sea Country of the Awabakal, Bahtabah, Biraban, Darkinjung, Karuah, Mindaribba, and Worimi peoples. First Nations must also be thoroughly consulted in the development of projects in this area and included in the benefits from these projects.

The Declaration of this offshore electricity area is an incredible opportunity for Newcastle, the Hunter and the Central Coast to build the renewable energy infrastructure we need to tackle the climate crisis, and create thousands of good union jobs. This area has a skilled workforce, great electricity grid connections and port infrastructure, a location close to large electricity loads, and strong and consistent winds that blow at times that solar power isn't available. Offshore wind developers from Norway, Denmark, Spain and France have said they would like to build floating offshore wind projects here.

Energy Minister Chris Bowen says the Hunter offshore renewable energy area has the capacity to create 4,800 construction jobs and 2,400 ongoing jobs, and 8 GigaWatts of power generation. Experience in Denmark suggests that a focus on local jobs, local manufacturing capacity and tripartite planning that includes unions, industry, and government could create over 9,000 jobs per GigaWatt. Newcastle could make and supply renewable energy components for Australia and the South Pacific.

We are calling for offshore renewable projects in the Area to use local manufacturing and to ensure that workers in coal-fired power stations and in our coal port can be trained up for these renewable energy jobs.

Given the urgency of the climate crisis, we are also asking for development of renewable energy to be given priority over other uses of the Hunter offshore area, such as for military exercises and oil and gas production. About 900km^2 of the proposed Area is between 200-1000m deep, which will make building wind turbines more difficult and expensive. The proposed Area should be expanded to include the shallower waters to the south and west, while keeping the Area at least 15km from shore.

The waters to the south off the Central Coast have been excluded from the Area because they are used for military exercises – although they are already covered by the PEP11 offshore gas permit. The Defence Department has said wind turbines could interfere with radar at the Williamtown RAAF base, and have asked for a 46 km exclusion zone.

However, there are very few places in Australia that offer the all facilities we need to build renewable energy on a mass scale – the Hunter and Central Coast could host 10 GigaWatts of offshore wind turbines with very minimal grid upgrades – about the size of five coal-fired power stations.

We must seize this opportunity and ensure that we build as much renewable energy as possible off

the Hunter coast, and ensure a just transition for workers in the process.

We offer a package of recommendations with the aim of ensuring a just transition, and to remove obstacles to the construction of necessary infrastructure.

Recommendations

Recommendation 1: The Declaration should require that all licences issued in the area maximise the contribution of the project to the Australian economy and local communities, including*:*

a) maximise the use of locally produced and supplied goods and services
b) maximise the employment of suitably qualified local workers, including energy workers, engaged under registered industrial instruments, agreed between relevant unions and employers
c) provide for training and skills development of local workers, minimum requirements for trainees and apprentices, worker transition opportunities from industries facing closure, and the employment of workers from groups underrepresented in the workforce
d) ensuring projects are aligned with the First Nations Clean Energy Network Best Practice Principles for Clean Energy Projects, including employment and income opportunities

Recommendation 2: Supply chain and workforce planning and licencing requirements to ensure that projects contribute to the economy and community should be developed through new national offshore renewable energy governance arrangements, involving industry, unions, and governments.

Recommendation 3: The Hunter Offshore Renewable Energy Area is a critical area for renewable energy development, because of the available grid and port infrastructure, the location close to large electricity loads, and the quality of the wind resource. Given the urgency of the climate crisis, development of renewable energy projects must be given priority over other uses of the Hunter offshore area, such as for military exercises or oil and gas production.

Recommendation 4: It appears that about 900km^2 of the proposed Renewable Energy Area (the outer 11km x 82km edge) is between 200m and 1,000m deep, which will increase the technical challenge and cost of offshore wind projects, and the cost of electricity. The Minister should look at all opportunities to expand the Area into waters to the west and south of the proposed Area that are less than 200m deep.

Recommendation 5: The area south of Norah Head and more than 10km offshore is 70m-200m deep and close to grid connection points, but has been excluded because Defence has said that they use it for military exercises. Defence should be encouraged to carry out exercises on other parts of the coast. The proposed Renewable Energy Area should be expanded approximately 30km south towards the mouth of the Hawkesbury, while keeping the zone a minimum of 15km from shore in consideration of the higher elevation areas at Norah Head and Toowoon Bay. We note that this area is already covered by the PEP11 petroleum exploration permit.

Recommendation 6: The proposed 46km/25 nautical mile exclusion zone for the RAAF Williamtown base removes a significant portion of potential Area that is between 100-140m deep, and close to grid connection points. Mitigation measures for radar and planes used in other countries should be implemented to expand the proposed Area for renewable energy development to the west, to a minimum of 15km offshore.

Recommendation 7: Petroleum Exploration Permit 11 (PEP11) covers a signifciant portion of the proposed Renewable Energy Area, and adjacent areas to the south and west. PEP11 should be cancelled, and the existing gas exploration well securely and permanently capped so it does not interfere with renewable energy development.

Recommendation 8: The Renewable Energy Area should be a minimum of 5km from habitat protection zones in the Port Stephens – Great Lakes Marine Park and Hunter Marine Park.

Recommendation 9: The Renewable Energy Area should be a minimum of 15km from Tomaree mountain at the entrance to Port Stephens Bay, as this is a higher elevation lookout area.

Recommendation 10: The Declaration should clarify that sections 77 d) and 78 d) of the Offshore Electricity Infrastructure Act do not allow interference with Native Title rights in the Declaration area or associated transmission infrastructure.

Recommendation 11: The government must build publicly owned transmission infrastructure from the grid to a shared connection point at an offshore substation. Projects in the Area should be required to cooperate on the use of shared infrastructure with an appropriate mechanism to allocate costs, risks, ownership, and control.

Recommendation 12: The Declaration for this area must specify that the vessels used for the construction, operation and maintenance of renewable energy infrastructure are Regulated Australian Vessels covered by the *Navigation Act* (not the *Maritime Safety (Domestic Commercial Vessel) National Law Act*).

Recommendation 13: The government must build a publicly owned common user port terminal for offshore renewable energy construction and maintenance, modelled on the Port of Esbjerg, Denmark, which is currently the world's largest renewable energy port.

Recommendation 14: Recreational fishers must be allowed to fish within the boundaries of offshore wind farms (as is the case in the USA and UK) and as close as possible to wind turbines. There must be a clear plan documenting access for recreational fishing at all stages of each project.

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Securing a Just Transition

The CFMMEU and the ETU support the government taking action to address climate change. Our members have been on the front lines of horrifying rescues from fires and floods. Increasing numbers of days with extreme temperatures and exposure to bushfire smoke affects us on the job. We understand the need to limit global heating to 1.5°C.

Reducing greenhouse gas emissions will have a major effect on our members, especially those working in coal export ports like Newcastle and in the offshore oil and gas industry. Coal mining and coal fired power stations are a major employer in the Hunter region, and these workers and communities must be supported at every step of the way.

The development of offshore renewable energy must be used as an opportunity to deliver a just transition to energy workers and their communities. These workers see the need to support climate action and are leaders in their communities and workplaces. But to maintain their support, we must ensure they can move to good secure union jobs in new industries.

Climate action must be joined to a just transition. This means ensuring that projects and policies delivering the energy transition maximise the number and quality of jobs and community and First Nations benefits that they provide, and that there is a clear path for the workforce and communities from old industries to new industries. A regional and national Energy Transition Authority must also be established to support workers, plan for diversification and ensure the right training is available.[1]

It was an important step for the current government to insert an assessment of offshore renewable energy projects' 'impact on, and contribution to, the Australian economy and local communities, including in relation to regional development, job creation, Australian industries and the use of

[1] ACTU, *Energy Transition Authority: What Workers Need*, January 2023.

Australian goods and services' (*Offshore Electricity Infrastructure Regulations 2022*, s.26(4)(a)). However, this remains one of several criteria under the merit criteria for National Interest when developers apply for licences, and is therefore optional.

The process for the declaration of an offshore electricity area under the *Offshore Electricity Infrastructure Act 2021* (Offshore Electricity Act) also allows the Minister to attach conditions to any licence issued in the declared area (s.19, 20), and the Minister did attach conditions to the Gippsland Declaration.[2]

We believe the government would be in a stronger position to require that the development of offshore renewable energy benefited the Hunter and Central Coast if similar, but broader provisions were mandatory and attached to the Declaration for the Area. The Declaration should require that all licences issued in the Area maximise the contribution of the project to the Australian economy and local communities, including*:*

a) maximising the use of locally produced and supplied goods and services
b) maximising the employment of suitably qualified local workers, including energy workers, engaged under registered industrial instruments, agreed between relevant unions and employers
c) providing for training and skills development of local workers, minimum requirements for trainees and apprentices, worker transition opportunities from industries facing closure, and the employment of workers from groups underrepresented in the workforce
d) ensuring projects are aligned with the First Nations Clean Energy Network Best Practice Principles for Clean Energy Projects, including employment and income opportunities

Similar provisions were included in the US 2022 Inflation Reduction Act.[3] The language suggested above also aligns with the NSW *Electricity Infrastructure Investment Act 2020*, and the NSW Renewable Energy Sector Board Plan released in 2022.[4] The importance of such provisions has recently been described in Parliament by the Hon. Don Farrell, Minister for Trade and Tourism, in relation to the provisions to be included in the new National Reconstruction Fund:

> Our proposed amendments to clause 75 require the corporation to develop policies on how environmental, labour, social and governance matters need to be considered in relation to its investment functions and powers and also its subsidiaries. This represents modern investment best practice, and we thank those stakeholders who raised these issues.
>
> By introducing these amendments, the government reaffirms that one of the most important outcomes of the National Reconstruction Fund will be the creation of secure, well-paid jobs in these key industries that build upon our national strengths.
>
> The fund will revitalise and strengthen our local supply chains to ensure that we have our own industrial and manufacturing capabilities. By legislating the core functions of the board to include the creation of secure jobs, we are emphasising one of the biggest benefits that our domestic manufacturing industry provides and will continue to provide: opportunities for

[2] Offshore Electricity Infrastructure (Declared Area OEI-01-2022) Declaration 2022, 17 December 2022.
[3] The White House, Inflation Reduction Act, 19 August 2022.
[4] NSW Office of Energy and Climate Change, NSW Renewable Energy Sector Board's Plan, September 2022

> Australians to make a meaningful, high-skilled contribution to our nation's future. Nearly 85 per cent of the jobs in manufacturing are full-time.
>
> When we proposed the National Reconstruction fund in March 2021, Labor said we were doing this to rebuild secure work. When he announced the Inflation Reduction Act in August 2022, itself a huge investment in manufacturing capability in the US, President Joe Biden said that it would 'lift up American workers and create good paying union jobs across the country'. 'Union jobs' is universally recognised language for secure, safe, highskilled, well-paid jobs.
>
> That is exactly what this government is doing with our National Reconstruction Fund, creating jobs that communities can build around, especially in regional, remote and outer-suburban Australia. We're investing in businesses so that they can invest in their workers, developing the skills that we need to meet any challenges that the future may have in store. But we're only going to get there by working together—government with business and their people. We all have a common goal: an Australian industry that will lead the world. This can only be achieved if everyone has a voice, which can be heard, and a stake in the success of our collective effort.[5]

Securing the development of local supply chains is critically important as about eight times more jobs are created in manufacturing components for offshore wind than are created in the construction of projects.[6]

Onshore renewable energy projects have unfortunately been rife with poor labour practices and exploitation of workers.[7] We are determined that this experience not be repeated with offshore renewable energy. The Declaration and licencing processes must be used to ensure a baseline minimum best practice employment, safety and supply chain standard is established across all offshore renewable energy projects, which facilitates the development of a genuine local industry that delivers the broadest possible economic benefits to the Australian community.

First Nations

Our unions are proud of our solidarity with First Nations peoples and are participants in the ongoing struggle for self-determination, land rights, constitutional recognition, justice and equality. We are determined to continue to be a leader amongst First Nations allies, and we declare forthrightly that the land we know as Australia always was and always will be Aboriginal and Torres Strait Islander land. We admire the enormous cultural heritage, tradition and legacies that have been built up over 60,000 years of continuous civilisation and independent sovereign nations, and the necessity of repairing the damage done by colonisation.

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[5] Senator Hon. Don Farrell, The Hansard - National Reconstruction Fund Corporation Bill 2023, 28 March 2023. Support for ensuring 'broad socio-economic benefits' under the Offshore Electricity Act was also including in the Senate Report on the Bill when it was introduced, see Senate Environment and Communications Legislation Committee, Report of the Inquiry into Offshore Electricity Infrastructure Bill 2021, October 2021, p.30.

[6] Briggs, C., M. Hemer, P. Howard, R. Langdon, P. Marsh, S. Teske and D. Carrascosa (2021). *Offshore Wind Energy in Australia, P3.20.007 – Final Project Report*. Hobart, TAS: Blue Economy Cooperative Research Centre, p.29 and p.70.

[7] Australian Council of Trade Unions, *Sharing the benefits with workers: A decent jobs agenda for the renewable energy industry*, November 2020.

Our unions participated in establishing and supporting the work of the First Nations Clean Energy Network (FNCEN). The FNCEN is a network of First Nations people, community organisations, land councils, unions, academics, industry groups, technical advisors, legal experts, renewables companies and others, working in partnership to ensure that First Nations communities share in the benefits of the clean energy boom.

The FNCEN has developed Principles and Guidelines for the development of renewable energy, to ensure that country is protected and to make sure First Nations communities share the benefits of Australia's clean energy boom. The principles and guidelines should also be followed by clean energy companies and the governments that regulate projects. The 10 principles cover such things as ensuring projects provide economic and social benefits, mutual respect, clear communication, cultural and environmental considerations, landcare and employment opportunities.

The government should examine the Aboriginal and Torres Strait Islander Best Practice Principles for Clean Energy Projects[8] and ensure that its consultation processes are aligned with it, and the Declaration for this area should require that all licences issued in the area follow these Principles.

In addition, the Declaration process needs to recognise both the limited resources available to First Nations peoples to engage in such a complex process along with the current situation of 'over consultation' which is a growing feature of the transition to renewables. Many communities are already grappling with multiple overlapping consultation and engagement forums that are being initiated by a broad diaspora of renewable energy project proponents.

Recommendation 1: The Declaration should require that all licences issued in the area maximise the contribution of the project to the Australian economy and local communities, including*:*

a) maximising the use of locally produced and supplied goods and services
b) maximising the employment of suitably qualified local workers, including energy workers, engaged under registered industrial instruments, agreed between relevant unions and employers
c) providing for training and skills development of local workers, minimum requirements for trainees and apprentices, worker transition opportunities from industries facing closure, and the employment of workers from groups underrepresented in the workforce
d) ensuring projects are aligned with the First Nations Clean Energy Network Best Practice Principles for Clean Energy Projects, including employment and income opportunities

Planning for a just transition

Delivering the potential local benefits of offshore renewable energy and ensuring that projects are built as quickly as possible will require a coordinated national approach that involves industry, unions, and government. The Minister must establish new offshore renewable energy governance arrangements, such as a Board or Task Force, to achieve this.

A good example of what such a process can achieve is the NSW Renewable Energy Sector Board

[8] First Nations Clean Energy Network, Aboriginal and Torres Strait Islander Best Practice Principles for Clean Energy Projects, November 2022.

(RESB) process. The Board's Plan, has now been approved by the Minister and was incorporated into NSW onshore renewable energy tenders at the end of 2022, as well as other areas of government decision making and policy. The Plan sets out minimum labour, equity and local content requirements (as well as stretch targets), and sets out priority areas for government and private investment.

The RESB is a tripartite statutory board created under the NSW *Electricity Infrastructure Investment Act 2020,* with representatives from unions, steel manufacturers, metal fabricators, employers in the electricity, manufacturing and construction sectors, energy customers, and energy planners. It was established 'to make sure our local workers, communities and industries reap the economic benefits of the transition to cheap, reliable and clean electricity…in ways that are cost-effective for all electricity consumers, drive sustainable growth and competitiveness of our industry, and provide quality jobs for new and existing workers in New South Wales.'[9]

The Board went through an initial research and planning process, underpinned by work from the University of Technology Sydney (UTS) Institute for Sustainable Futures, SGS Economics, MBB Group and ACIL Allen.[10] RESB members were able to participate in the commissioning the required research and providing feedback to researchers as the research progressed.

In particular the study on *Employment, Skills and Supply Chains: Renewable Energy in NSW – Final* produced by the Institute for Sustainable Futures at UTS is a landmark piece of research, for the way it examines supply chain and workforce gaps and opportunities for renewable energy in NSW, and clearly articulates steps forward for policy makers contending with critical planetary deadlines in a challenging environment.[11]

A similar piece of national employment, skills and supply chain research is required to guide government decision-making for offshore renewable energy. There are very considerable economic benefits that could be captured through the development of offshore wind and its supply chains, which have been documented by a Danish study as follows for a 1 GW Danish offshore wind farm:

- Will generate around EUR 5 million (one-off) to the installation port
- An O&M port is assessed to receive around EUR 0.5 million EUR per year, which is equivalent to EUR 12.5 million over 25 years

If local suppliers are included (shipyards, steel manufacturers and electricians, to local restaurants, hotels and catering companies), the benefits for a 1 GW project are:

- Between EUR 11-28 million in turnover and between 30-96 FTEs to the local installation port and suppliers combined.
- Between EUR 3.2-9.1 million in turnover and between 59-81 FTEs each year over a period of 25 years to the local O&M port and suppliers combined.[12]

There are also very significant numbers of jobs for the overall project, as illustrated in Figure 1.

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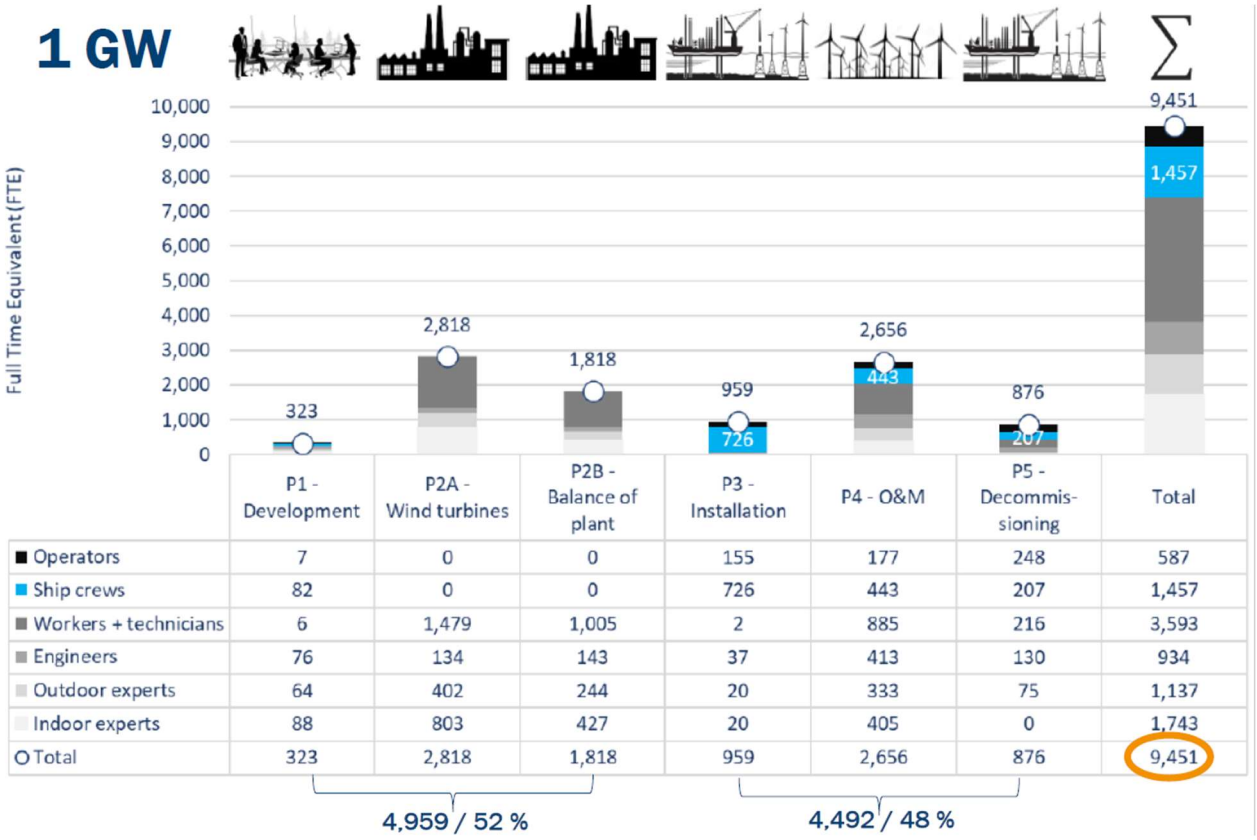
[9] Office of Energy and Climate Change, NSW Renewable Energy Sector Board's Plan, September 2022, p.3 The Plan was assessed against Australia's international trade obligations and electricity customers' financial interests (p.18-20), and then separately by the NSW Independent Pricing and Regulatory Tribunal (IPART).

[10] Studies commissioned by the NSW RESB are available under the header Renewable Energy Sector Board on this page.

[11] Briggs, C., Gill, J., Atherton, A., Langdon, R., Jazbec, M., Walker, T., Youren, M., Tjondro, M., Rutovitz, J., Cunningham, R., Wright, S. and Nagrath, K., 2022. *Employment, Skills and Supply Chains: Renewable Energy in NSW – Final Report*. Sydney: University of Technology Sydney and SGS Economics and Planning.

[12] QBIS, Socio economic impact study of offshore wind, 2020, p.7

Figure 1: Estimated number of jobs arising from a 1 GW offshore wind project.



	P1 - Development	P2A - Wind turbines	P2B - Balance of plant	P3 - Installation	P4 - O&M	P5 - Decommis-sioning	Total
Operators	7	0	0	155	177	248	587
Ship crews	82	0	0	726	443	207	1,457
Workers + technicians	6	1,479	1,005	2	885	216	3,593
Engineers	76	134	143	37	413	130	934
Outdoor experts	64	402	244	20	333	75	1,137
Indoor experts	88	803	427	20	405	0	1,743
Total	323	2,818	1,818	959	2,656	876	9,451

Source: Port of Esbjerg presentation, sourced from QBIS, Socio economic impact study of offshore wind, 2020, p.29.

Another important outcome of the NSW RESB process is a strong set of minimum standards and stretch targets for renewable energy tenders, used in the 2022 tender round. Where there is competition for a tender, projects will be judged on how far they go to meeting stretch targets. This includes:

- Minimum requirements and stretch goals for apprentices
- Minimum requirements and stretch goals for First Nations participation
- Minimum requirements and stretch goals for employment of underrepresented groups (women, long-term unemployed, young people, and anyone else covered by the NSW *Anti-Discrimination Act.*
- Minimum requirements and stretch goals for steel products and components using locally milled steel
- A contractually binding investment in local supply chain innovation
- Requirements to 'have a current certified industrial agreement registered with the Fair Work Commission'[13]

[13] Office of Energy and Climate Change, NSW Renewable Energy Sector Board's Plan, September 2022, p.28. AEMO Services, Renewable Energy Sector Board update, 5 July 2022, p. 6 'How RESB plan recommendations are considered under MC8'

- The company's record on work health and safety, payment of employee entitlements, timely payment of small business subcontractors, and compliance with modern slavery legislation is also examined.

Introducing similar or better standards into offshore renewables licencing decisions is important to meet the government's current policy objectives to improve job security and pay equity, increase labour force participation, to reduce barriers and disincentives to employment (particularly for women and other groups underrepresented in the workforce), and to improve skills and incentivize upskilling.[14]

While the NSW RESB has played an important role in NSW, planning for offshore renewable energy must be coordinated at a national level to secure adequate scale.

Recommendation 2: Supply chain and workforce planning and licencing requirements to ensure that projects contribute to the economy and community should be developed through new national offshore renewable energy governance arrangements, involving industry, unions, and governments.

Size and Location of the Hunter Offshore Renewable Energy Area

There are very few areas in Australia that have all the ingredients we need to build renewable energy on a mass scale. The Hunter and Central Coast have a skilled workforce, great electricity grid connections and port infrastructure, a location close to large electricity loads, and strong and consistent winds that blow at times that solar power isn't available.

Transmission infrastructure and port infrastructure are critical barriers to building renewable energy. The Australian Energy Market Operator says that the Hunter and Central Coast offshore areas have the largest available grid capacity (10GW) and the lowest expansion cost of any Renewable Energy Zone attached to the National Electricity Market (Figures 5 and 6). These grid connections are likely to be to Eraring or Munmorah, near the southern end of the Area.

The urgency of the climate crisis means that we must take full advantage of the opportunity to build offshore renewable energy off the Hunter and Central Coast. The construction of renewable energy must be given priority in this area.

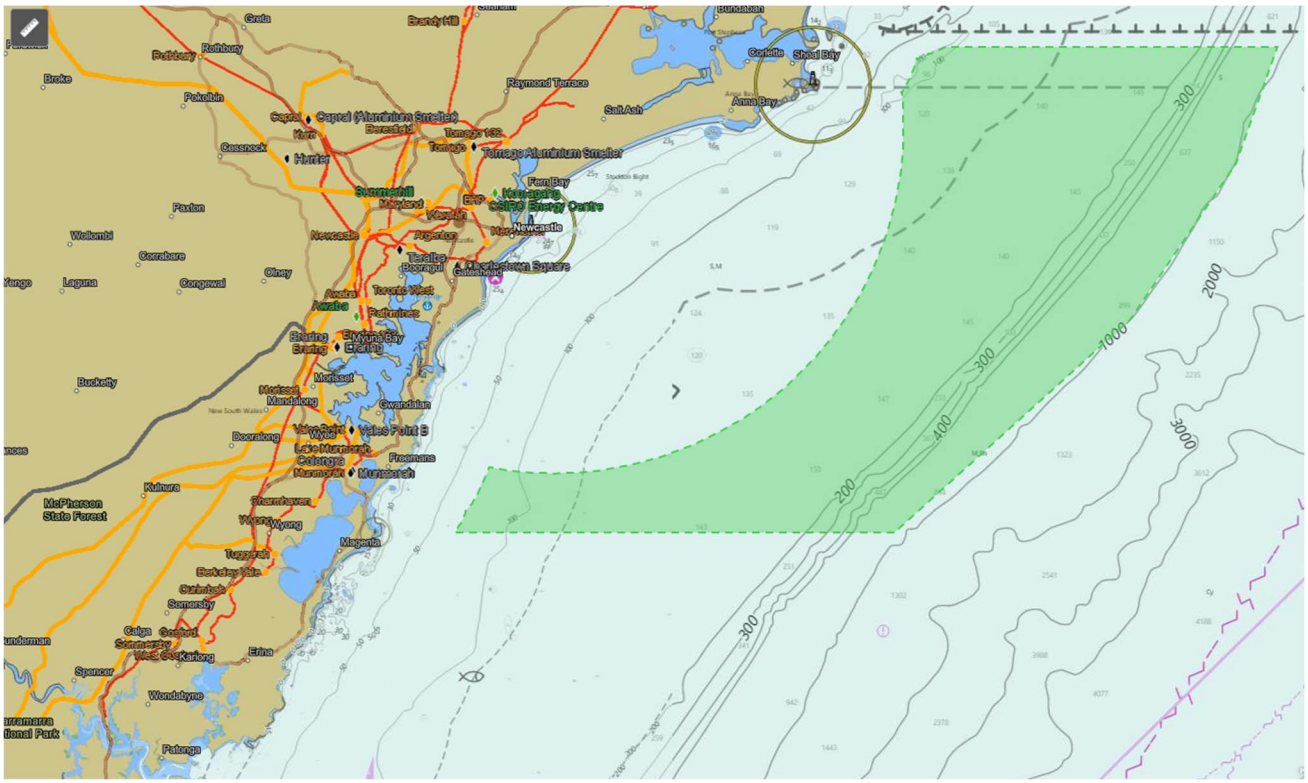
We are concerned that the way that the current zone is drawn, it does not make best use of the area. About 900km^2 of the proposed Renewable Energy Area (the outer 11km x 82km edge) is between 200m and 1,000m deep. This area is unlikely to be used in the short term, due to the increased technical challenge and cost of building in deep water (Figure 2). The waters to the south off the Central Coast have been excluded from the Area because they are used for military exercises – although they are already covered by the PEP11 offshore gas permit (Figure 3). The Defence Department has said wind turbines could interfere with radar technology at the Williamtown RAAF

[14] See Budget Strategy and Outlook Budget Paper No.1 October 2022-3, p.11, p.14 Women's Budget Statement October 2022-3, p.27. Australian Government Treasury, Jobs and Skills Summit September 2022 – Outcomes, September 2022. Australian Government Treasury, Employment White Paper Terms of Reference, September 2022

base, and have asked for a 25 nautical mile/46 km exclusion zone. Emerging technologies are already in development to mitigate such interferences, with the UK Ministry of Defence claiming last year to have identified multiple technological mitigations in collaboration with industry.[15]

The Minister should look at all opportunities to expand the Area into waters to the west and south of the proposed Area that are less than 200m deep, while keeping the Area 15km from shore. These areas are the closest to the existing transmission infrastructure and a more feasible and cost effective to build offshore renewable energy than the areas within the zone that are more than 200m deep, or at the north end of the proposed Area. Mitigation measures to reduce the exclusion zone for radar and airplanes should also be examined more closely, utilising technology sharing arrangements under the AUKUS Agreement to capitalise on the existing work of our allies.

Figure 2: Proposed Hunter Offshore Renewable Energy Area.



Source: Australian Marine Spatial Information System, Offshore Renewable Energy Infrastructure, General Portal. Layers include 'Electronic navigation charts' and 'Electricity infrastructure', and 'Hunter Proposed Area'. Depths are in meters.

To minimise potential environmental impacts and assuage community concerns, the minimum distance to State and Commonwealth marine protected areas to the north of the Area should be increased to 5km. The Renewable Energy Area should also be a minimum of 15km from Tomaree Mountain and Fingal Head at the entrance to Port Stephens Bay, as these are higher elevation lookout areas. The minimum distance to shore near Norah Head should be increased from 10km to 15km, given the higher elevation of some parts of the Central Coast.

15 UK Ministry of Defence, 2022, *Mitigating the adverse effects of offshore wind farms on air defence radar: concept demonstrations*

In order to accommodate the residents and tourism value of Port Stephens, provide dedicated open areas for vessel traffic, and still deliver renewable generation capacity at a scale that can provide energy security for local population hubs and resurgent industries in the Hunter, more space needs to be created for offshore renewable infrastructure further South.

We strongly encourage the Department to expand the proposed Area into waters off the NSW Central Coast, providing a greater area for renewable infrastructure development and economic opportunities for the region's growing population.

Figure 3: Petroleum Exploration Permit 11 (PEP 11) and the proposed Renewable Energy Area.

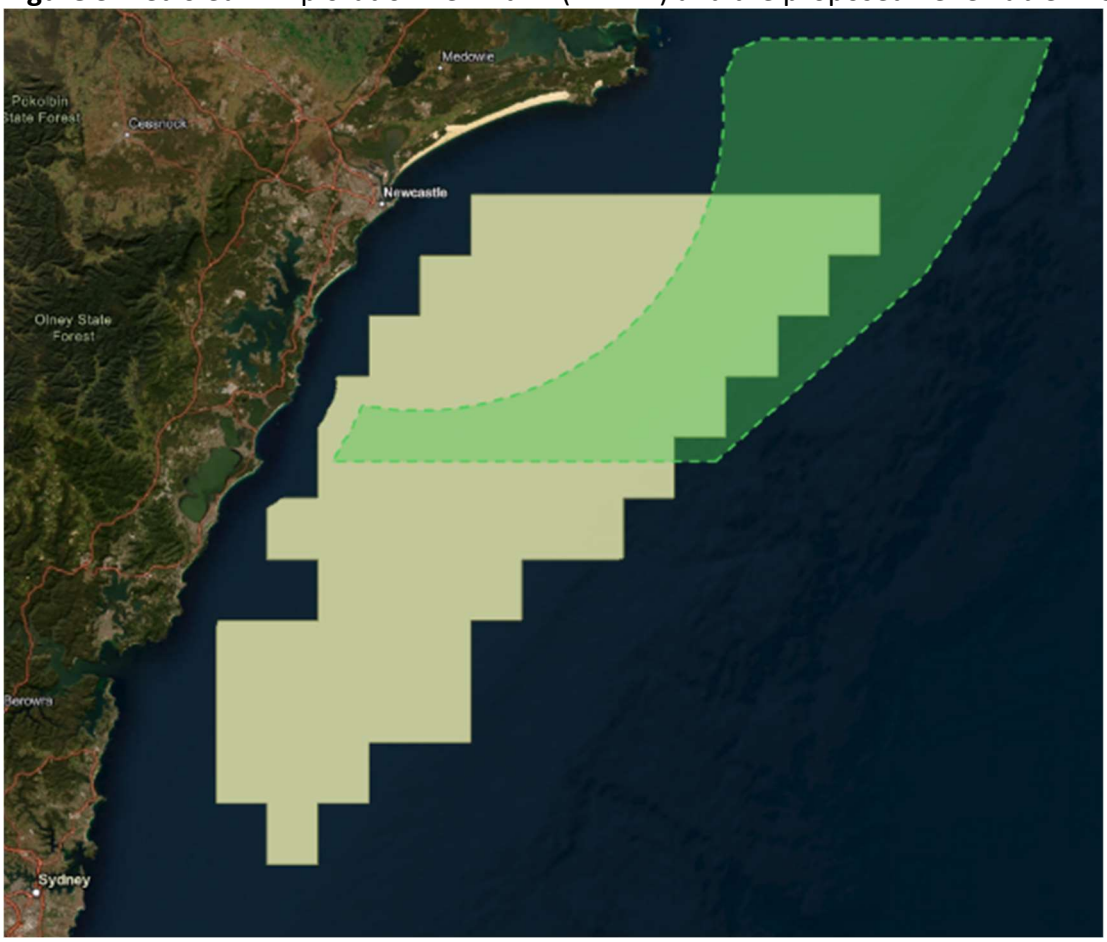
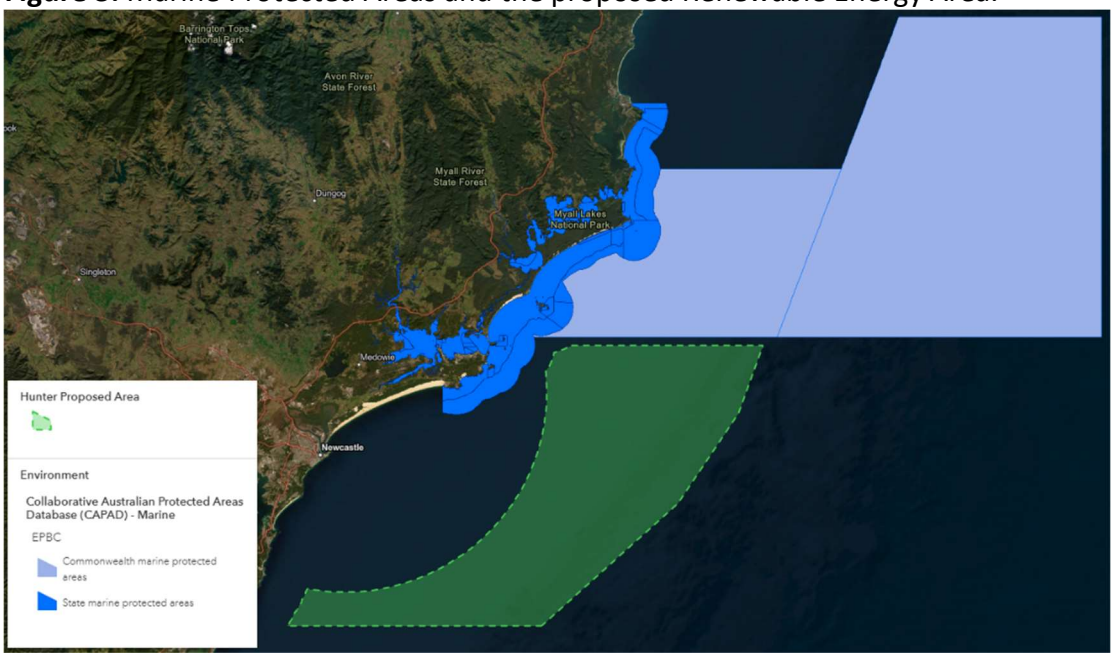


Figure 3: Marine Protected Areas and the proposed Renewable Energy Area.



The proposed Offshore Renewable Energy Area overlaps with a significant portion of Petroleum Exploration Permit 11 (PEP11). We support the recent amendments to the Offshore Electricity Infrastructure Act that embed emissions reduction targets into the decision making to designate Offshore Renewable Areas.[16] The imperative of reducing emissions to address climate change means that if there is a conflict between the development of offshore oil and gas projects and offshore renewable energy projects, the renewable energy projects must be given precedence.

PEP11 should be cancelled, and the existing gas exploration well securely and permanently capped so it does not interfere with renewable energy development.

Recommendation 3: The Hunter Offshore Renewable Energy Area is a critical area for renewable energy development, because of the available grid and port infrastructure, the location close to large electricity loads, and the quality of the wind resource. Given the urgency of the climate crisis, development of renewable energy projects must be given precedence over other uses of the Hunter offshore area, such as for military exercises or oil and gas production.

Recommendation 4: It appears that about 900km^2 of the proposed Renewable Energy Area (the outer 11km x 82km edge) is between 200m and 1,000m deep, which will increase the technical challenge and cost of offshore wind projects, and the cost of electricity. The Minister should look at all opportunities to expand the Area into waters to the west and south of the proposed Area that are less than 200m deep.

[16] Provided in the *Climate Change (Consequential Amendments) Act 2022*.

Recommendation 5: The offshore area south of Norah Head is 80m-200m deep and close to grid connection points, but has been excluded because Defence has said that they use it for military exercises. Defence should be encouraged to carry out exercises on other parts of the coast. The proposed Renewable Energy Area should be expanded approximately 25km south towards Terrigal, while keeping the zone a minimum of 15km from shore in consideration of the higher elevation areas at Norah Head and Toowoon Bay. We note that this area is already covered by the PEP11 petroleum exploration permit.

Recommendation 6: The proposed 46km/25 nautical mile exclusion zone for the RAAF Williamtown base removes a significant portion of potential Area that is between 100-140m deep, and close to grid connection points. Mitigation measures for radar and planes used in other countries should be implemented to expand the proposed Area for renewable energy development to the west, to a minimum of 15km offshore.

Recommendation 7: Petroleum Exploration Permit 11 (PEP11) covers a signifciant portion of the proposed Renewable Energy Area, and adjacent areas to the south and west. PEP11 should be cancelled, and the existing gas exploration well securely and permanently capped so it does not interfere with renewable energy development.

Recommendation 8: The Renewable Energy Area should be a minimum of 5km from habitat protection zones in the Port Stephens – Great Lakes Marine Park and Hunter Marine Park.

Recommendation 9: The Renewable Energy Area should be a minimum of 15km from Tomaree Mountain and Fingal Head at the entrance to Port Stephens Bay, as this is a higher elevation lookout area.

Protection of Native Title rights

The First Nations Clean Energy Network Best Practice Principles for Clean Energy Projects[17] provides best practice for renewable energy projects which all offshore renewable energy and transmission projects should meet. At the same time, existing Native Title rights must be fully respected, and unfortunately this is not protected in current offshore renewable energy legislation.

The OEI Act (s.77 and s.78) prohibits Licence holders and people acting on their behalf from interfering with the exercise of Native Title rights and interests. However, 77 d) and 78 d) allow interference if it is necessary for 'the reasonable exercise of the person's rights under this Act or the licence' or 'the performance of the person's obligations under this Act or the licence.'[18] Interference with the exercise of Native Title rights and interests should not be permitted by the legislation and 77 d) and 78 d) should not apply to Native Title rights and interests.

[17] First Nations Clean Energy Network, Aboriginal and Torres Strait Islander Best Practice Principles for Clean Energy Projects, November 2022.

[18] See also Madeline Taylor and Tina Soliman Hunter, Australia's first offshore wind farm bill was a long time coming, but here are 4 reasons it's not up to scratch yet, *The Conversation*, 3 September 2021.

The OEI Act should be amended, but in the meantime the Declaration should clarify that sections 77 d) and 78 d) do not allow interference with Native Title rights in the Declaration area.

Recommendation 10: The Declaration should clarify that sections 77 d) and 78 d) of the Offshore Electricity Infrastructure Act do not allow interference with Native Title rights in the Declaration area or associated transmission infrastructure.

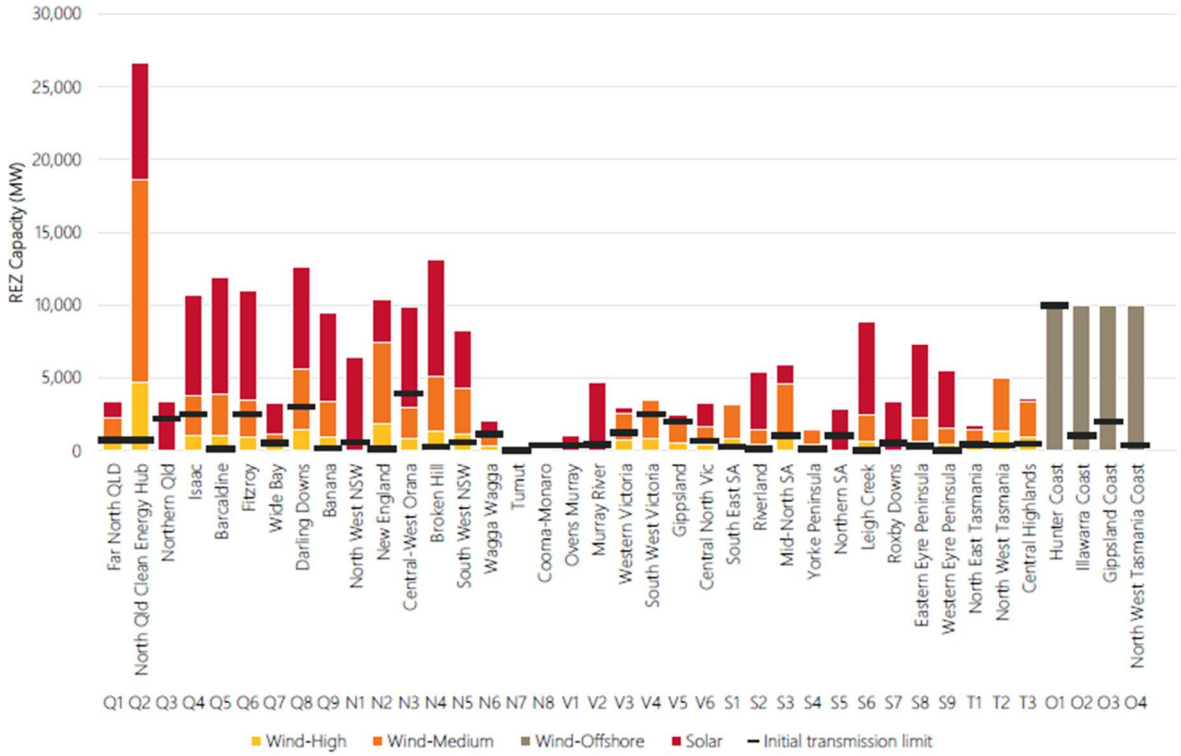
Transmission infrastructure

The Australian Energy Market Operator says that the Hunter and Central Coast offshore areas have the largest available grid capacity (10GW) and the lowest expansion cost of any Renewable Energy Zone attached to the National Electricity Market (Figures 5 and 6). The Integrated System Plan for the electricity system has identified the Eraring 500kV substation as the key connection point for the Hunter Offshore Renewable Energy Area.[19] This connection point is located about 25km as the crow flies from the southern end of the proposed Renewable Energy Area. The former Munmorah power station has also been identified as a potential connection point. It is about 17km as the crow flies from the southern end of the proposed Renewable Energy Area.

Figure 5: Electricity infrastructure and the proposed Renewable Energy Area.

[19] Australian Energy Market Operator, Inputs, Assumptions and Scenarios Report, July 2021, p.110.

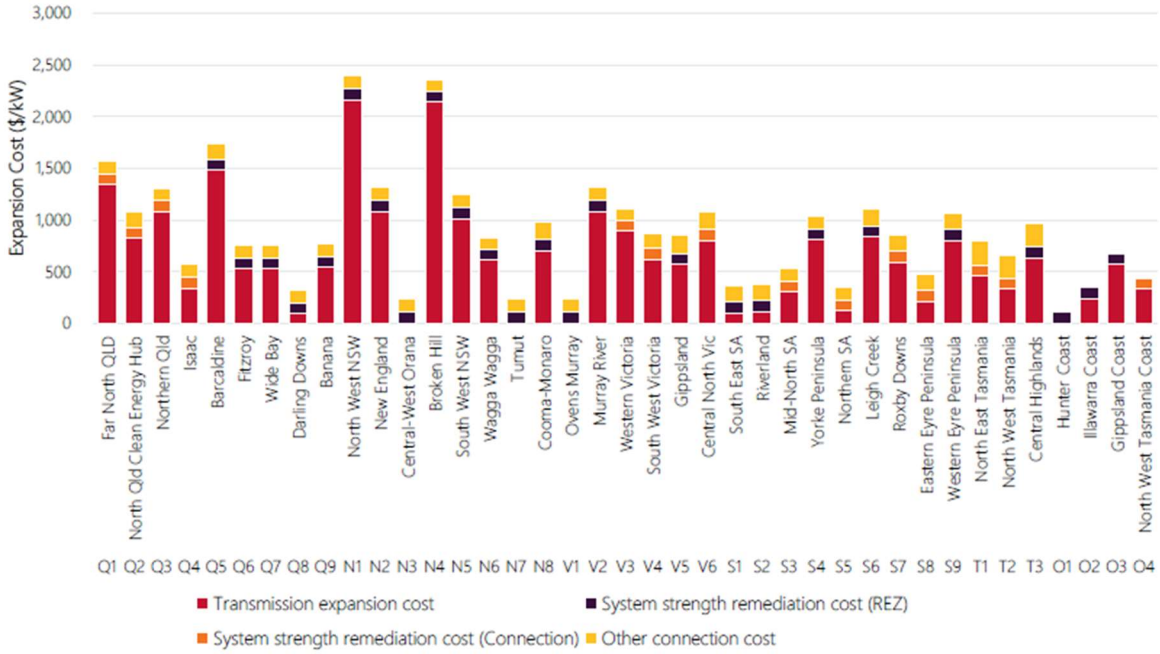
Figure 6: National Electricity Market (NEM) Renewable Energy Zone potential resource quantity and transmission limits, showing that the Hunter offshore area with the highest available initial transmission limit in the NEM.



Note: The offshore wind resource limit is notional – it is not based on an assessment of resource availability. This setting is not expected to influence the selection of an optimal development path.

Source: Australian Energy Market Operator, Inputs, Assumptions and Scenarios Report, July 2021, p.113

Figure 5: Cost to expand the generation and transmission capacity of different Renewable Energy Zones in the National Electricity Market (NEM), showing the Hunter offshore area with the lowest cost of transmission expansion in the NEM.



Source: Australian Energy Market Operator, Inputs, Assumptions and Scenarios Report, July 2021, p.118

The historical lack of energy system planning at a national level has left Australia with serious transmission infrastructure deficits. In overcoming these deficits, it is important that we ensure that any conditions placed on a declaration play an important role in reducing duplication, maximising efficiencies, and reducing costs while avoiding monopoly risks.

Transmission is not just about the physical underwater cable infrastructure but also the installation of offshore switching stations and substations, managing the infrastructure at the point of landfall and connection to and export into the existing grid. With the potential for multiple offshore wind projects, it will not be practical for each project to build separate transmission infrastructure to connect to the grid.

Central coordination is required to ensure that the responsibility for outlaying the initial capital investment in transmission doesn't simply fall onto the first mover, and that the initial infrastructure is suitable for expansions and further continued developments long into the future.

Coordinated infrastructure between the existing grid and offshore connection points is also important for securing community support for projects, and reducing opposition. For this reason the Victorian government is developing shared infrastructure for offshore wind in Gippsland and Portland.[20]

Denmark is the preferred model, with publicly-owned shared transmission infrastructure built out to the offshore substation, and providing multiple connections for offshore wind projects.

[20] Victorian Government, Offshore Wind Implementation Statement 2, March 2023, p.12-16.

The UK offers a cautionary example of leaving individual projects responsible for the development of their own grid connection. The UK government is now looking at reform of how transmission for offshore wind projects is delivered because it says that:

> "Constructing individual point-to-point connections for each offshore wind farm may not provide the most efficient approach and could become a major barrier to delivery given the considerable environmental and local impacts, particularly from the associated onshore infrastructure required to connect to the national transmission network."[21]

Through the current Offshore Transmission Network Review, the UK government is now taking steps to ensure a much higher level of coordination of transmission infrastructure is implemented for future projects.

Recommendation 11: The government must build publicly owned transmission infrastructure from the grid to a shared connection point at an offshore substation. Projects in the Area should be required to cooperate on the use of shared infrastructure with an appropriate mechanism to allocate costs, risks, ownership, and control.

Maritime Safety

Any interface between a vessel subject to waves and wind and a fixed structure is dangerous and must be treated with the utmost caution. Such interactions will have to constantly take place in the construction and operation of offshore renewable energy.

The highest safety standards must apply. For this reason, the Declaration must specify that the vessels used for the construction, operation and maintenance of renewable energy infrastructure are Regulated Australian Vessels covered by the *Navigation Act* (not the *Maritime Safety (Domestic Commercial Vessel) National Law Act*).

This will ensure that appropriate skills and qualifications and vessel standards apply to the industry, and will also contribute to the broader pool of maritime skills for the operation of Australian ports and exports.

Serious issues have arisen in the UK offshore wind industry arising from a poor systems for maritime qualifications and training in the offshore wind industry, leading to the publication of a combined report on wind farm vessel incidents by the Marine Accident Investigation Branch(MAIB).[22] This was also taken up in a submission to the 2020 consultation on the development of the OEI Act from the University of Aberdeen Centre for Energy Law.[23] In the foreword to the combined report on windfarm accident investigations, the MAIB Chief Inspector 'highlighted a need for robust crew

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[21] UK Government, Offshore transmission network review, Accessed June 2022

[22] Marine Accident Investigation Branch, 2013, *Combined report on the investigation of the contact with a floating target by the wind farm passenger transfer catamaran Windcat 9 on 21 November 2012 and the investigation of the contact of Island Panther with turbine I-6, in Sheringham Shoal Wind Farm on 21 November 2012*.

[23] Eddy Wifa and Tina Soliman Hunter, 2020, Proposed Framework for Offshore Clean Energy Infrastructure in Australia, University of Aberdeen School of Law Centre for Energy Law Working Paper Series 002/20.

recruitment, training and assessment procedures to ensure the supply of mariners with the right skills.'[24]

Recommendation 12: The Declaration for this area must specify that the vessels used for the construction, operation and maintenance of renewable energy infrastructure are Regulated Australian Vessels covered by the *Navigation Act* (not the *Maritime Safety (Domestic Commercial Vessel) National Law Act*).

Port Infrastructure

Common user port facilities that are needed to build offshore wind, and planning for these facilities must start as soon as possible. The port of Esbjerg, Denmark is a very successful model to follow here. The port is publicly owned with extensive common user facilities, and a workforce employed directly by the port authority. It is by far the largest renewable energy port in the world. It has been used as a base to build the majority of the offshore wind infrastructure in Europe. It also handles an enormous quantity of onshore renewable energy components.

The shared workforce and infrastructure allows renewable energy developers to use the port facilities they need, and to concentrate on their projects without having to build new ports or terminals to accommodate them. The port also hosts training facilities for the offshore wind workforce.

The Victorian government is starting to follow this example with the construction of a Victorian Renewable Energy Terminal at Hastings.[25]

Recommendation 13: The government must build a publicly owned common user port terminal for offshore renewable energy construction and maintenance, modelled on the Port of Esbjerg, Denmark, which is currently the world's largest renewable energy port.

[24] Marine Accident Investigation Branch, 2013, p.i.
[25] Victorian Government, Offshore Wind Implementation Statement 2, March 2023, p.18-21.

Figure 6: Part of the Port of Esbjerg, Denmark, which handles vast quantities of components for onshore and offshore renewable energy. There are multiple wind turbine component manufacturing and assembly facilities in the surrounding area.

Recreational fishing

Recreational fishing is an important pastime for many residents of Newcastle, the Hunter and the Central Coast, including members of our unions. Floating wind turbines may provide habitat for fish and other sea life, and could improve recreational fishing.

Early assurances from government and developers that they will allow access to windfarm areas to recreational fishers will be important to securing community support for projects.

Recommendation 14: Recreational fishers must be allowed to fish within the boundaries of offshore wind farms (as is the case in the USA and UK) and as close as possible to wind turbines. There must be a clear plan documenting access for recreational fishing at all stages of each project.

Visual impacts

We are not concerned about the visual impact of wind turbines. However, moving turbines 15km from elevated and populated areas such as Norah Head, the Central Coast and the entrance to Port Stephens may help secure social license and increase community confidence in the development of offshore renewable energy.