Introduction

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with over 1,000 of the leading businesses operating in renewable energy and energy storage. We are committed to accelerating Australia’s clean energy transformation.

We welcome the leadership and commitment shown by the Victorian Government to both renewable energy generally and to offshore wind in particular. The setting of ambitious medium and long-term megawatt targets for offshore wind provides enormous momentum to this burgeoning, and potentially game-changing, sector of renewable energy.

Like the Victorian Government, we believe offshore wind has a major role to play, firstly, in supporting Australia’s decarbonisation and secondly, in contributing to clean energy exports (such as green hydrogen). We also welcome the initial government programs to support offshore wind, noting the three grants totalling $37.9m under the Energy Innovation Fund to Star of the South, Flotation Energy and Macquarie Group.

We were pleased to see the release of the Government’s Directions Paper and we look forward to continuing to work with Government to ensure the success of offshore wind in Victoria.

We note that the Directions Paper includes a list of detailed technical studies that have been completed, including port infrastructure, environmental studies, shipping and navigation, workforce development and supply chain development. We would welcome greater insight into the findings of these technical studies. Not only would it provide industry with more material of substance to respond to, but provision of this information would help project proponents to plan their own activities.

Key points in this submission are:

- For a successful industry, significant effort is needed to establish supply chain infrastructure, including ports and shipping fleet, and workforce capability.
- A clear pipeline of auctions for projects is needed, to provide financial support to individual projects but also to provide investment certainty to both project developers and supply chain manufacturers.
- Time is of the essence: Victoria’s efforts to establish a thriving offshore wind industry take place in a very competitive global environment with growing commitments from other countries. These threaten to divert industry development capability (skills, vessels) and investment away from Victoria and Australia. We need to move quickly to reach government objectives of first power by 2028, 2 GW by 2032 and then beyond to 9 GW by 2040.
Industry development

Key constraints and challenges that need to be overcome for Victoria to reach its targets on offshore wind include a lack of adequate supply chain infrastructure, including ports and shipping fleet, and a lack of skilled labour.

We have a general preference to maximise use of common infrastructure, such on offshore substations, transmission infrastructure and maintenance facilities. The government can play a role in encouraging this cooperation across industry, which helps to create cost efficiencies. However, while shared infrastructure is a positive, we do not think it should be a requirement, as there may be circumstances in which it is not preferable, and it may risk delaying development in the short term.

While Victoria is leading the way in Australia, we note that there is already a global competition for offshore wind capabilities, which requires careful consideration if we are to attract the talent and investment required to deliver on the ambition set out in the Directions Paper.

Supply chains and local content

Supply chains will be an essential feature of success in establishing an offshore wind industry in Victoria. Early engagement of original equipment manufacturers and other suppliers is critical.

The key to successful implementation of a supply chain strategy is to ensure that the supply chain is ready to go when offshore wind projects need it. Shared supply chains will enable economies of scale to be achieved through the most efficient utilisation of resources. However, we foresee the potential for timing issues if/when multiple projects need to get supply from the same sources at the same time. For this reason, we submit the Government could consider interchangeability of any local content requirements. For example, if enough domestic steel is simply not available, this could be counter-balanced by a higher amount of other materials or even higher ratios of local workforce or apprenticeships.

Beyond interchangeability, new markets benefit from a strategy to build local content requirements over time, managing the ambition for early projects with a view of building up as the industry matures. Strict local content requirements, especially at the outset of the industry, risks increasing cost and slowing down market development.

Our general view of local content requirements is that these are best addressed at a national scale and require coordination with other states: the scale of the market in each individual state is unlikely to ever be large enough for each state to try to develop its own supply chain manufacturing capability. Victoria’s leadership on offshore wind, however, may make it the natural home in Australia of componentry specific to this sub-set of the industry.

More broadly, the scale of renewable energy (both onshore and offshore) that will be needed to first transition Australia’s electricity system and then secondly to pursue clean energy export opportunities, such as green hydrogen, creates a significant opportunity for Victoria and Australia to establish more onshore supply chain manufacturing.

Workforce

Skills development will be key to the success of offshore wind in Victoria. It presents a significant opportunity to support a transition for fossil fuel industry workers – using skills from mature markets and upskilling local people is crucial. This will involve partnering with TAFE, Universities and other education and training providers to inform and develop the skills required for a new, offshore wind
workforce. The Blue Economy CRC report has a detailed analysis of the skill requirements for offshore wind and the skill overlaps with the existing offshore oil and gas industry.

Just as we have a general preference to maximise use of common infrastructure, we have a preference to maximise the use of existing or common qualifications. The offshore wind sector in Australia should avoid developing bespoke or niche qualifications that do not have relevance outside of offshore wind. Instead, the sector should identify key relevant qualifications such as electrical, mechanical, and civil trades and focus on developing contextualised training and targeted post-trade upskilling or micro-credentials. This will allow local workers to benefit from work within the offshore sector without limiting their options outside of the sector.

The Victorian Government should consider establishing an offshore wind training centre in a strategic location to offer the qualifications and other training identified as relevant to the sector. This training centre will need public support to ensure that it has appropriate equipment and trainers. The training centre can also tailor content delivery to the specific needs of the region by understanding and mapping the relevant pathways into a career in offshore wind. For example, a pathway from thermal power generation or from (or to) linework.

The Victorian Government should be deliberate in the timing of multiple offshore wind projects, and in the context of other projects in the region (such as Marinus Link). Sequencing of project stages, particularly construction stages, will be key to maximising local employment and to maintaining social license for the industry. Well-sequenced projects will benefit from attracting experienced workers from previous projects and will minimise costs of importing labour. Well-sequenced projects will also allow the sector to promote the concept of a career in the construction of offshore wind through a pipeline of projects.

It is likely that highly technical and expert skills will need to be imported in the early stages of the industry’s development. The Victorian Government should support the industry in minimising costs, delays and any other barriers in securing overseas talent. The expectations for qualifications and skills should align with international expectations to facilitate international mobility. Ideally, any skills import would be permanent migration.

**Port infrastructure & shipping fleet**

Port infrastructure is key investment that government needs to make to support an offshore wind industry. We estimate that achieving 9 GW of offshore wind by 2040 will require 4-6 berths for delivery and construction vessels, potentially across more than one port.

Analysis by BVG Associates in 2019 found the following typical requirements for construction ports:

- At least 8 hectares of land-side space for lay-down and pre-assembly, but potentially up to 30 hectares for larger turbines.
- Quayside length of 200-300 metres
- Ability to accommodate vessels up to 140m in length, 45m beam and 6m draft (noting this may increase as turbine sizes increase) – though vessels 225m in length, 80m beam and 10m draft are already becoming typical.
- Overhead clearance to sea of at least 100m

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1 Guide to an offshore windfarm
Thought needs to be given to the potential need for multiple ports and the timing of construction demands across multiple projects, to ensure efficient use of the port infrastructure without risking delays to project construction.

As an international example, the US state of New Jersey is developing a dedicated offshore wind port. This will support 7.5 GW of procurement over the next 8 years, providing access to 50% of the available US offshore wind lease areas, suggesting it can support construction of projects within a range of approximately 200-250km (trip time of around 6 hours). This is not an outer limit, but greater distances start introducing inefficiencies. This suggests that a port in the central or eastern parts of Victoria would likely not be able to provide a base for construction of projects off the NSW coast, but a port at Portland could potentially support projects in eastern South Australia.

Smaller ports for construction management and for operations and maintenance are likely to be needed closer to where projects are built (typically a 2-hour travel time limit due to daily mobilisations). We also note that floating and fixed offshore wind farms may have different demands in terms of port and vessel requirements.

The availability of a fleet of construction vessels is obviously critical to the industry. The volume of construction anticipated by the Victorian targets will likely require a domestic shipping fleet. Establishing a clear understanding of exactly how many MW of projects makes a domestic fleet viable will be important. Specialised vessels are being developed and used in Europe and US for the largest turbines. If Australia cannot secure these vessels, domestic projects may need to use more, smaller turbines, which potentially adds to the space needed in port facilities, but it is also unclear whether smaller turbines will continue to be available once larger turbines have come to market. While this all presents challenges for project developers, the consistent theme is that time is critical: the sooner projects have confidence in supply chains and government support, the sooner they can sign contracts for construction vessels, which helps avoid delays down the track.

### Government support for projects

Government investment in offshore wind represents a significant opportunity for the Victorian economy, energy system, the state’s contribution to climate action and future potential clean energy exports. It is a solution that delivers significant value for the investment.

We believe that a combination of government support mechanisms will be required to properly develop an offshore wind industry in Victoria. Greater support leads to greater acceleration of the industry, which helps lead to faster cost reductions. The trajectory of cost reductions is already playing out in the UK – in the latest UK auction, offshore wind projects secured lower strike prices than onshore wind and solar. Further, long-term predictability of the project pipeline helps developers lower capital costs, which helps deliver lower levelised costs of electricity.

The scale and nature of support needs to reflect the fact that this is a new industry in Australia. In the early days of the industry in the UK, additional support through higher strike contract-for-difference ( CfD ) strike prices and longer periods of support (eg. 15-20 years) were provided to get projects (and the industry as a whole) moving.

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2 [New Jersey Wind Port (nj.gov)]
3 [CfD Allocation Round 4 results (publishing.service.gov.uk)]
A clear pipeline of auction rounds for contracts for difference (such as the Victorian Renewable Energy Target or those adopted in the UK) or PPA offtake arrangements, likely with government, is a critical support mechanism for the industry. Individual contracts will be required to enable the bankability of offshore wind projects, especially while they remain a higher-cost form of electricity, but the value of a clear and transparent pipeline of auctions is that it enables more effective planning by project developers and gives more certainty to those investors who are bringing the groundswell of industry development. The commitment to a 2 GW tranche procured in the mid-2020s and with first power by 2028 is welcome, but this could be a single project, which makes broader industry development more difficult. Timing of second and subsequent tranches should be established as the process for the first tranche approaches.

Having the ability to de-risk projects early in the development process through securing CfD or PPA would also help foster a more collaborative approach across the industry.

We submit that offshore wind projects will either require their own competitive process or should compete for a sub-set of broader Victorian Renewable Energy Target (VRET) auctions. We assume that the range of considerations that informed VRET 2 auction winners will be similar to the factors considered as part of the tranches for offshore wind.

In designing offshore-focused support, it is critical the support does not crowd out the many onshore renewable energy project opportunities that exist. We would similarly welcome a clearer pipeline of auctions to support onshore projects that will contribute to achieving the Victorian Renewable Energy Target and to the state’s broader energy transition, especially as coal power stations are likely to retire much sooner than currently announced.

Beyond direct support for specific projects, the Victorian Government should also consider other support mechanisms, such as:

- Port development and/or upgrades
- Industry grants for construction of supply chain/logistics hubs
- Investment in training facilities to ensure adequate skills are available
- Public release of the findings of technical studies. This would allow for earlier mitigation planning by project proponents and would provide more transparency on issues like environmental data.
- Working with the Federal government to establish incentives such as exemptions on import duties and simplification of customs procedures.

Regulatory and inter-governmental issues

State/Federal interactions

Early announcement of offshore wind development areas is essential for success of the industry. It will give confidence to investors and allow time for developers to prepare applications for feasibility licenses. We encourage the Victorian government to work with Federal counterparts to ensure the area declaration process unfolds in a timely manner. We are also keen to see overlaps in area declaration processes, on the basis that one area alone cannot support a thriving industry. The sooner the declaration process for a second area commences after the first, the better.

Another key issue related to interactions with the Federal government is managing the boundary between state and Commonwealth waters 3 nautical miles from the coastline. We would welcome as
much consistency as possible, along with clear articulations from both government of how this jurisdictional boundary will be treated.

**Victorian regulatory and policy frameworks**

While most offshore wind farms may be proposed in Commonwealth waters, it is possible that some (or even all) turbines for a project may be in State waters, as well as the cables connecting the turbines to the grid. We understand that there is currently no integrated state-based regulatory framework that would enable such a project to proceed. We encourage the Victorian Government to consider the need for new or amended laws and regulations to cover this gap.

We would welcome a clear articulation of state planning and environmental assessment requirements that will affect offshore wind farms. Existing questions include, for example:

- Provision of offshore wind focused guidance on how to navigate the Environment Effects Statement process, including, for example, minimum survey requirement and subject areas to be included in the EES documentation.
- How coastal land management under the *Crown Land Reserves Act* treats offshore projects
- What seabed consents might be required under the *Land Act*
- How the consent process under the *Marine and Coastal Act 2018* is integrated into the regulatory framework
- How environmental impact assessment processes relating to visual impacts will be applied, noting that the projects themselves will likely be in Commonwealth waters

We submit that the state government Victorian Government should update its Marine and Coastal Policy 2020 and Marine and Coastal Strategy 2022 and other local planning policies to account for offshore wind developments. This would provide greater clarity and more consistency to guide project planning and stakeholder engagement.

There also needs to be sufficient resourcing within the Victorian Government to ensure well-paced assessments and approvals of projects. Without wanting to bypass important environmental assessments, we would welcome options for fast-tracking or otherwise prioritising these significant and time-sensitive projects.

**Potential alignment with firming capacity**

Given the geographic proximity and the likelihood of being connected to adjacent parts of the electricity grid, the Victorian government could consider how offshore wind off Gippsland interplays with Marinus Link and hydro or pumped hydro from Tasmania.

**Community and stakeholder engagement**

We strongly support early engagement with communities close to offshore wind projects and agree that community benefit sharing is an important part of all renewable energy projects.

We note the statement in the Directions Paper that DELWP will work with traditional owners to develop “a new model of engagement with renewable energy projects based on principles that align with traditional owner aspirations for self-determination and economic independence”.
Across the industry, there is a growing enthusiasm for both (a) better community engagement and more creative benefit sharing and (b) greater First Nations engagement and participation in renewable energy projects. We will continue to liaise with the DELWP Offshore Wind team as our own work in these areas evolves.

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