



Submission: Inquiry into Renewable Energy in Victoria

10 December 2021

About Star of the South

Star of the South is Australia’s first offshore wind project. It has the potential to power nearly 20 per cent of Victoria’s electricity needs while creating thousands of jobs and long-term investment in the Gippsland region. It is backed by Copenhagen Infrastructure Partners (CIP), one of the world’s largest clean energy investors. The project is currently in the environmental assessment phase and aims to start construction in the middle of the decade, generating full power by 2030.

Offshore wind is one of the fastest-growing renewable energy technologies globally, helping to transition energy systems to a consistent and reliable form of renewable power while creating new jobs and economic investment in regional areas around the world.

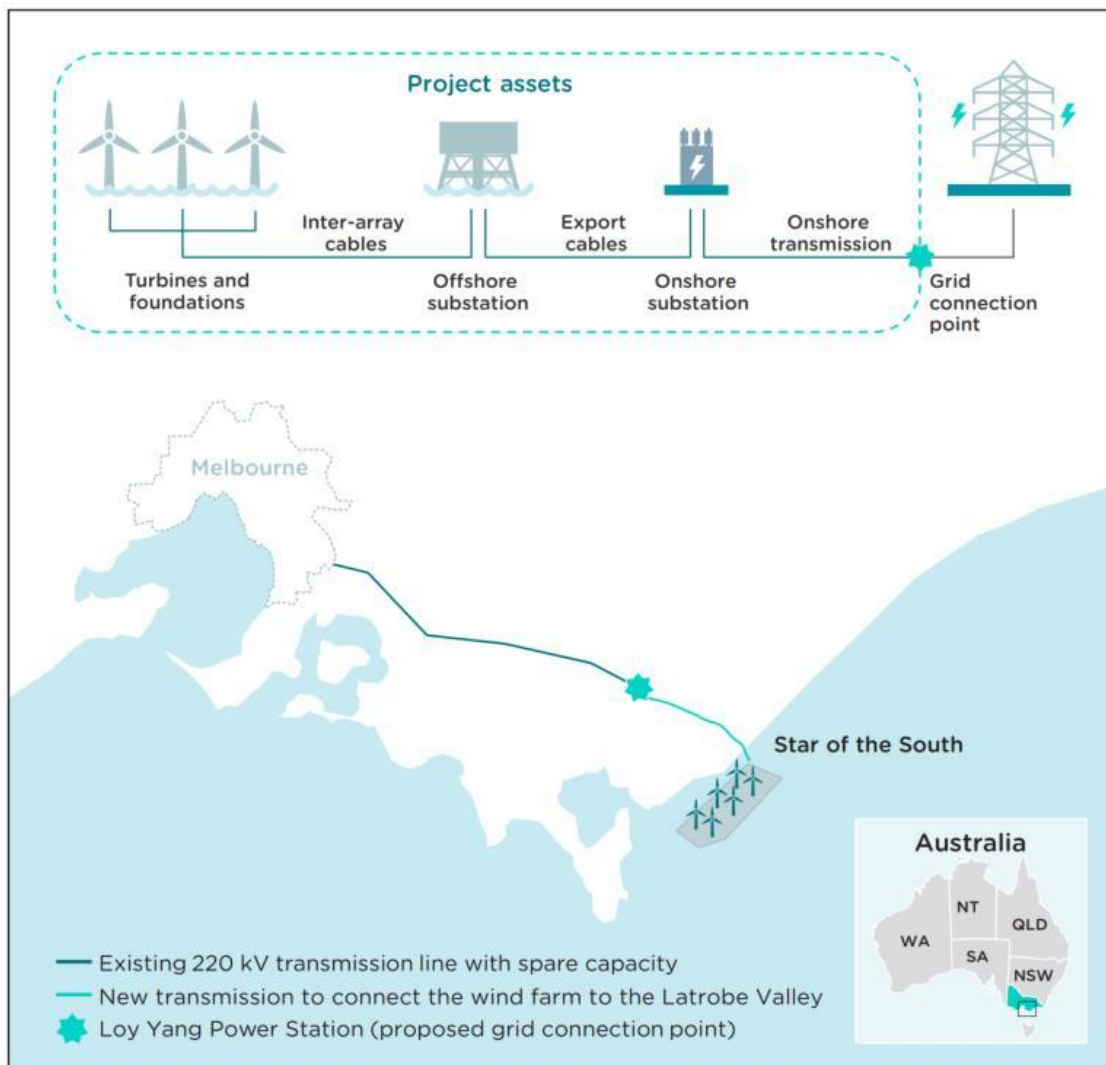


Figure 1 – Star of the South’s proposed location

Our submission

We welcome the opportunity to make this submission to the Legislative Council's Environment and Planning Committee regarding renewable energy generation in Victoria.

We note the specific objectives from the Terms of Reference regarding the transition to renewable energy, the economic impacts, public and private investment, and government action (referenced below). We have structured our submission around the unique opportunity offshore wind presents to provide Victoria with substantial renewable electricity while offsetting the loss of jobs and supply contracts as coal generation begins to retire from the market.



Figure 2 – Veja Mate Windfarm

- (a) measures to enable Victoria to transition its energy supply to 100 per cent renewable energy;*
- (b) jobs and economic benefits and implications of Victoria transitioning to 100 per cent renewable energy;*
- c) investment, both public and private, required to achieve 100 per cent renewable energy generation in Victoria, including investment in grid infrastructure and energy storage;*
- (e) government investment or action that would be needed to support workers in impacted industries to facilitate a just transition and ensure workers and communities are not left behind as Victoria transitions to 100 per cent renewable energy;*

Our feedback is informed by several years of deep community and stakeholder engagement in Gippsland, public research into the economic potential of offshore wind, internal socio-economic modelling, and preliminary local content investigations. This gives us a strong understanding of the job transition potential within the Gippsland region and the state-wide benefits offshore wind brings to Victoria.

Supporting the Victorian renewable energy transition

Star of the South and offshore wind in the Gippsland region could provide strong, reliable, and renewable electricity to the Victorian grid while also connecting to existing, underutilised transmission infrastructure. The project is expected to supply up to 20% of Victoria’s current electricity needs, further advancing the state towards a zero emissions grid.

Electricity generated through offshore wind is increasingly valuable for the Victorian grid, providing much needed energy security while supporting the worker transition and reducing social licence risks. Offshore wind in Gippsland provides access to an untapped natural energy resource within Victoria, allowing the state to harness wind energy with that is not correlated with the current renewable energy generation.

Figure 3 shows the percentage of time periods when onshore wind (green), offshore wind in Gippsland (blue) and solar (yellow) are operating above 50% capacity factor while the other technologies operate below 25% capacity factors. Having a combination of technologies in different locations around the state strengthens the electricity reliability in a 100 per cent renewable system, with offshore wind in Gippsland bringing the largest diversity benefit to Victoria.

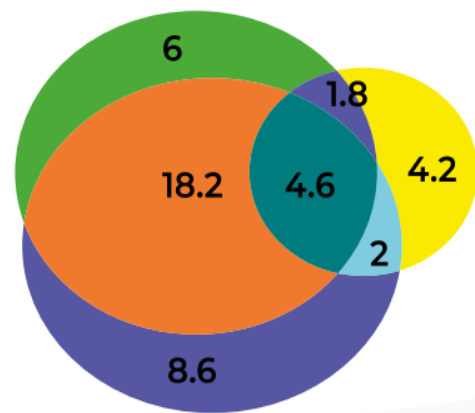


Figure 3: Diversification of renewable resources in Victoria (Blue Economy CRC)

The diversification benefits of Star of the South increase further during days of highest demand. The Bureau of Meteorology (BOM) analysed weather patterns off the eastern coast of Victoria and found a high-pressure system formed over the Tasman Sea everyday Melbourne experienced temperature over 35 degrees¹. This high-pressure system creates strong winds in the east of the state, especially offshore, to generate large quantities of electricity when it is most needed.

In the Blue Economy CRC’s report into *Offshore Wind Energy in Australia*², it was found that there is technical energy potential for over 3000 TWh/year of offshore wind generation within the Victorian and Tasmanian coastline. This energy potential could transform the Victorian electricity system, supporting onshore renewables and storage technologies to create a strong, reliable and carbon free electricity network. The creation of an offshore wind industry in Victoria would greatly assist the state in achieving these goals, including the progression to net zero, while supporting the Gippsland community, workers, and industry.

¹ Analysis was undertaken by the BOM in 2020 for the use of Star of the South

² Blue Economy Cooperative Research Centre (Blue Economy CRC), *Offshore Wind Energy in Australia*, Final Project Report, July 2021 www.blueeconomycrc.com.au/projects/offshore-wind-potentialaustralia/

Supporting jobs and investment in Gippsland's clean energy sector



Figure 4: Latrobe Valley coal worker and offshore wind advocate Tony Wolfe

Star of the South is committed to working with Latrobe Valley and Gippsland communities to maximise local employment and economic opportunities. We have already established an office in Gippsland, employing local workers and investing development expenditure into the region's economy through our 'buy local' approach.

We are engaging with the Latrobe Valley Authority, Regional Development Victoria, the Committee for Gippsland, GROW Gippsland, TAFE Gippsland, Federation University and the Gippsland Trades and Labour Council to map out opportunities and to share knowledge about the skills and training requirements required for a new offshore wind sector.

There is a strong commitment from all parties to drive these initiatives, and we encourage the Victorian Government to provide continued support and resources for this important work in the region, where applicable.

Offshore wind offers a unique transition pathway for workers in declining sectors such as offshore oil and gas and coal. There are several international precedents and success stories, with Australia's opportunity highlighted in the Blue Economy CRC's report into *Offshore Wind Energy in Australia*³.

The report brought together expertise from CSIRO, Saitec Offshore, Institute for Sustainable Futures, University of Technology Sydney, Maritime Union Australia along with contributions from the Electrical Trades Union, Australian Manufacturing Workers' Union and Australian Council of Trade Unions, representing a broad cross section of industry, government and academic perspectives.

It found "*offshore wind energy could play a significant role in a 'just transition' for oil, gas and coal workers*" and recommended that "*skills training and labour market programs should be developed to support oil, gas and coal workers to gain employment and skills in offshore wind energy.*"

We are working directly with EnergyAustralia on skills mapping and transition opportunities for the Yallourn Power Station workforce and contractors. These investigations are increasingly important for Gippsland's future economy as the region's coal fleet retires from the market (starting in 2028 with Yallourn).

We are committed to working together to share knowledge and map opportunities for coal workers and supply contractors. However, this opportunity will also require timely support from government and local training institutions to ensure there are pathways into the sector to capitalise on regional jobs.

³See footnote above

The Blue Economy CRC report into *Offshore Wind Energy in Australia* also recommended Government involvement in the sector to drive job and supply chain creation. It found that “Active training and labour market adjustment programs should be developed to maximise the potential for the existing offshore oil and gas workforce and the workforce in coal regions located near offshore wind to transition to employment in offshore wind energy”.



Figure 5 – Offshore construction vessel at dock

Further investment for a carbon neutral electricity grid

As the demand for renewable energy increases, so too does the strain on the electricity grid. The transformation of the entire Victorian energy system is resulting in a shift in how electricity is being produced and moved throughout the state. Offshore wind in Gippsland provides an opportunity to use existing transmission assets to provide reliable electricity from Gippsland to Melbourne through the current transmission network. Transmission upgrades in the Latrobe Valley and throughout Victoria have been highlighted by the Australian Energy Market Operator to reduce the risk of curtailment during this transitional period, with government planning, coordination and investment key to unlocking many of the benefits these upgrades may bring.

Investment from both government and industry into port infrastructure is also likely needed for an offshore wind sector to develop at the scale that is required to meet net zero targets. We understand the offshore wind sector is being considered in longer-term ports and freight planning and we look forward to understanding relevant strategies that can help accelerate the technology while driving down the cost of projects to enable large scale clean energy generation when it is needed.



A growing global industry

Offshore wind is a rapidly evolving, international industry. A global race to finance offshore projects is underway as prices continue to fall, turbines and wind farms grow in size, and competition increases. Dozens of countries worldwide have identified the need for offshore wind to achieve 100 per cent renewable energy generation and have invested into early projects to kickstart the industry through various support schemes. These investments have been backed by large and ambitious offshore wind targets worldwide (see table 1), reducing uncertainty for developers and driving competition.

Table 1 – Global offshore wind targets

Country	2030 targets	Other targets
EU	-	300GW (by 2050)
UK	40 GW	-
USA	30 GW	100 GW (by 2050)
Germany	20 GW	-
South Korea	12 GW	-
Japan	10 GW	45 GW (by 2040)
Denmark	Additional 7.2 GW	-

Due to these targets, incentives and regulation many countries are now receiving offers for offshore wind developments at market price. A recent example is the Thor Offshore Wind Farm in Denmark, in which multiple proponents bid at the minimum price⁴, leaving the winner to effectively receive average Danish spot market prices.

Global interest in offshore wind has encouraged a rapid build out of the technology worldwide, with current projections from the Global Wind Energy Council expecting the global installed capacity to reach 234GW by 2030, with 105GW of declared projects to be built by 2025.

⁴ [The Danish Energy Agency invites bidders to draw lots to identify the bid winner for Thor Offshore Wind Farm | Danish Energy Agency \(ens.dk\)](https://ens.dk/en/energy-projects/2021/12/08/the-danish-energy-agency-invites-bidders-to-draw-lots-to-identify-the-bid-winner-for-thor-offshore-wind-farm)

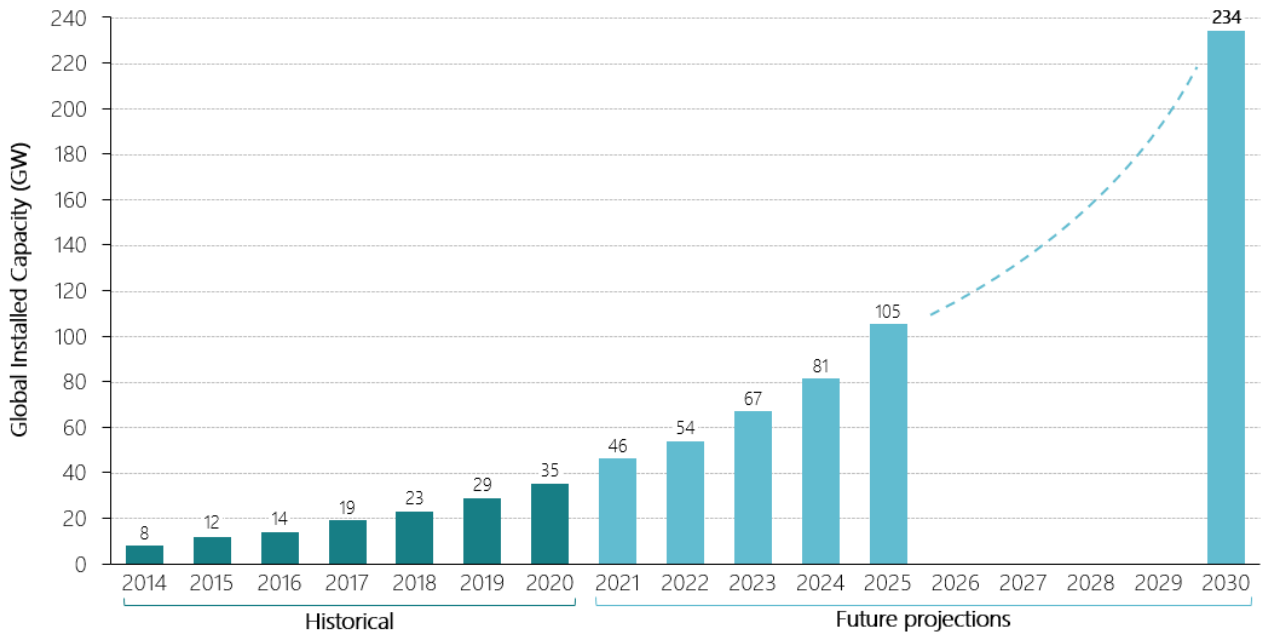


Figure 6 – Global installed offshore wind capacity projections⁵

Australia, and more prevalently Victoria, are on track to become one of the next regions for offshore wind uptake. With the right policy settings, Victoria could take full advantage of this rapidly expanding industry, pivoting to 100 per cent renewable electricity generation that is reliable and capable of providing thousands of jobs.

⁵ Global Offshore Wind Report 2021 - Global Wind Energy Council (gwec.net)

Recommendations

1. Continued funding and support for Gippsland's regional economy

Star of the South has been working with governments, community and industry on the creation of potential skills/training pathways, supply chain mapping and social procurement as the offshore wind industry develops. These initiatives are aimed at supporting Gippsland's economic growth as the region's coal plants retire over the coming decades. We recommend ongoing funding and support for bodies such as the Latrobe Valley Authority, Regional Development Victoria, the Committee for Gippsland, GROW Gippsland and local councils and shires to continue this important work.

2. Increased government assistance for worker transition in the Gippsland region

Industry and local governments have begun discussions to outline potential ways to support current workers in the Latrobe Valley, but further consultation, funding and action is required to make the transition as smooth as possible for both workers and industry.

3. Accelerate development of Victoria's offshore wind sector

Offshore wind projects have long lead times – this is especially true of new markets where no offshore wind projects have previously been built before (such as in Australia). Star of the South has the potential to be operating by the end of the decade, but regulatory and other policy developments (such as investment in supporting infrastructure) must keep pace to support these timeframes. We understand the Victorian Government is developing an Offshore Wind Sector Strategy and recommend this work continues in step with industry to ensure positive and timely outcomes in the wake of more power station closures in the Latrobe Valley, starting with Yallourn in mid-2028.

4. Providing regulatory certainty and strong cross-jurisdictional cooperation

Star of the South's approvals process is a critical path activity – it needs to continue progressing it at pace to deliver the project without delays. It is important that the first offshore wind project in Australia is delivered before 2030 to allow the industry to grow into the 2030s, supporting Victoria to meet its energy, economic and decarbonisation goals. To keep projects on track through this approvals process, we see increased collaboration between the state and federal governments along with further regulatory support for offshore projects as crucial.

Thank you for this opportunity to make a submission. We look forward to following the outcomes of this consultation process and would be pleased to participate in any hearings to support our submission.