

Offshore Wind

POLICY
DIRECTIONS
PAPER

MARCH 2022

VICTORIA
State
Government



Offshore Wind

POLICY DIRECTIONS PAPER



Traditional Owners acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices. We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

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MINISTER'S FOREWORD

The Hon. Lily D'Ambrosio MP

Minister for Energy, Environment and Climate Change
Minister for Solar Homes



The Victorian Government is committed to developing an offshore wind industry – supporting the transition toward a net-zero emissions economy by 2050, creating new jobs and delivering economic opportunities for all Victorians.

Victoria is blessed with rich offshore wind resources. Harnessing this offshore wind will create a new industry for the State while also providing renewable energy for the Victorian economy. Maximising the potential of local wind resources could sustain up to 3,100 high quality local jobs for 15 years during the development and construction phases, and up to an additional 3,000 during ongoing operations.

Victoria will lead the nation in developing Australia's first offshore wind industry, creating thousands of jobs, delivering clean power to Victorians, and developing local supply chains that will serve both national and international offshore wind projects

We will support the establishment and growth of this emerging industry by committing to a 2032 offshore wind target for Victoria of at least 2GW, and the Victorian Government is aiming for the first power by 2028, following a competitive process.

As a long-term commitment to offshore wind, Victoria is also setting targets to reach 4GW of offshore wind capacity by 2035 and 9GW by 2040.

Later in 2022, we will release an Offshore Wind Implementation Statement that will provide further details on the first offshore wind tranche.

The 2032 target will be finalised as the offshore wind business case is developed in 2024.

Meeting net-zero emissions will require unprecedented amounts of renewable energy generation. Our current estimates indicate that demand for electricity in Victoria will increase by three to six times by 2050. That's why harnessing our offshore wind capacity, coupled with the development of alternative energy carriers such as renewable hydrogen, is essential.

We will work closely with local communities, unions, councils, industry, investors and Traditional Owners to ensure that we maximise the benefits of offshore wind projects to Victoria.

This Victorian Offshore Wind Policy Directions Paper signposts how our Government will accelerate the growth of the State's offshore wind industry, support our transition to renewables, create jobs and generate economic opportunities to Victorians.

We welcome community and industry feedback on this critical program of work – helping us to establish a thriving offshore wind industry that truly benefits all Victorians. Visit engage.vic.gov.au to learn more and have your say.

A blue ink handwritten signature, appearing to read 'Lily D'Ambrosio', written in a cursive style.

Offshore Wind

ESTABLISHING A SECTOR FOR VICTORIA

To achieve
**NET ZERO
EMISSIONS
2050**



**Local jobs
+ supply chain
opportunities**

15x TODAY'S INSTALLED
RENEWABLE ENERGY
CAPACITY IS REQUIRED

Victoria's coastline is a world class
offshore wind resource



20% OF OUR 2050 ENERGY CAPACITY
COULD COME FROM 13GW
OF OFFSHORE WIND





3,100

DEVELOPMENT AND CONSTRUCTION JOBS*

13GW

3,000

ONGOING OPERATIONS JOBS*

A pathway

For offshore wind to help secure our energy future



Regulatory process development



Port infrastructure solutions



Transmission access solutions



Transaction business case development



Workforce training and supply chain development

A partnership approach

Working with community and stakeholders to ensure benefits are shared and risks mitigated



Traditional Owners



Developers and investors



Industry associations, regional organisations and unions



Local government, environment and community groups



Commonwealth Government and AEMO



1

Introduction

Victoria has a world class offshore wind resource. Combined with a skilled workforce across our regions, a track record of delivering onshore renewable energy projects and established renewable energy supply chains, Victoria is perfectly positioned to lead the nation in establishing a thriving new offshore wind industry that will create lasting benefits over the coming decades.



The Victorian Government is already leading the way in delivering new renewable energy projects, tackling climate change and creating renewable energy jobs. Our investment in renewable energy generation has created jobs for thousands of Victorians.

This made us the leading state for renewable energy employment in Australia, with 30 per cent of the nation's renewable energy jobs. We expect our third VRET target – for renewable energy generation to be 50 per cent of electricity generation by 2030 – to generate around 24,400 jobs between 2020 and 2030.

We have also helped grow Victorian businesses that contribute to renewable energy projects, with manufacturing and supply chain capabilities growing in line with our renewable energy capacity.

Offshore wind is the next chapter in Victoria's renewable energy journey. It builds on our demonstrated track record in setting and meeting ambitious renewable energy targets, while providing new industry, employment, and economic opportunities.

This Policy Directions Paper outlines our vision for delivering Australia's first offshore wind project. It outlines our commitment to establishing an inaugural wind farm by the early 2030s, with the aim for first power by 2028, following a competitive process – to establish new opportunities for Victorian businesses and industry, create quality jobs, drive economic growth and innovation, and accelerate our decarbonisation targets.

This Paper is the first step in sharing our ambitious vision for offshore wind. Further details on the implementation steps will be released throughout 2022.

Victoria's Offshore Wind Policy development

Victoria's policy direction for offshore wind is underpinned by extensive technical and economic studies to understand the offshore wind resources in Victoria, including wind strength, ocean depth, proximity to vital infrastructure including ports and transmission, and economic and energy system modelling.

FIGURE 1 Victorian Government's work to date

Detailed technical studies and modelling have been commissioned and completed. The development of a detailed implementation strategy is underway



Technical studies

- Wind resource assessment
- Environmental studies (benthic, geo-tech and geological)
- Visual impact
- Fish and fisheries
- Sites identification
- Grid injection
- Ports infrastructure
- Shipping and navigation
- Cables and pipelines
- Installation vessels
- Workforce development
- Supply chain development

INFORMS



Modelling

- Electricity demand profile
- Energy market impact
- Cost modelling
- Economic impact
- Labour market impact
- Carbon abatement
- Decarbonisation alternatives

INFORMS



Strategy

- Benefits assessment
- Development size and timing
- Stakeholder engagement
- Procurement
- Regulatory approvals
- Governance



2

The vision for offshore wind in Victoria

The Victorian Government has committed to achieving net-zero greenhouse gas emissions by 2050, supported by ambitious interim targets to halve emissions by 2030. Our 2020 target of generating 25 per cent of electricity demand from renewable energy has been met, and the State is on track to meet its 2025 and 2030 targets.



Victoria will build Australia's first offshore wind farm

To continue our drive towards net-zero emissions, create jobs and drive investment, we are establishing an offshore wind industry in Victoria – delivering the first offshore wind farm in Australia.

Victoria State Government will:

- ✓ Procure an initial offshore wind tranche of at least 2GW with the aim for first power by 2028, following a competitive process – to establish the offshore wind sector in the State
- ✓ Meet targets to reach 4GW of offshore wind capacity by 2035 and 9GW by 2040

Victoria is the first State to make a serious commitment to the offshore wind sector. Recently, the State announced funding support for three successful offshore wind projects as part of Round 1 of the Energy Innovation Fund.

The release of our Victorian Offshore Wind Policy Directions Paper is the next step in our plans to support the establishment of this industry.



The waters off the Victorian coast are world-class

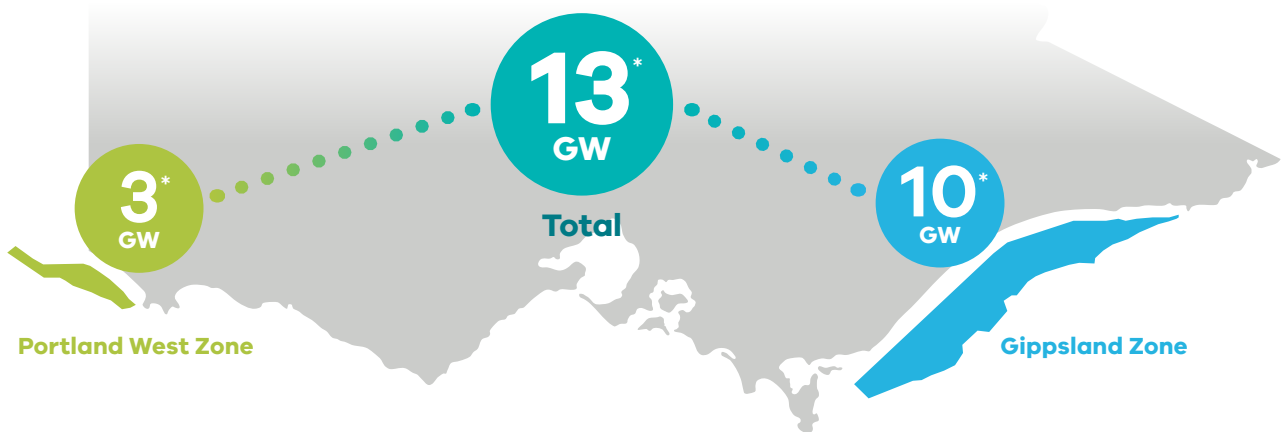
Victoria's coastline offers the best offshore wind resource in Australia and amongst the best globally

Studies to assess the potential to generate power through offshore wind off the Victorian coast found that waters near Gippsland and Portland have the potential to support 13GW of capacity using fixed platforms in shallow waters – which would equate to more than five times the current renewable energy generation in Victoria due to the high capacity factors of offshore wind.

Figure 2 shows the location of high-quality offshore wind resource in the Gippsland and Portland West zones that could be developed.

FIGURE 2 Mapping initial tranches of Victorian offshore wind resource

The waters off the Victorian coast are a world-class offshore wind resource, with at least a **13GW opportunity** in initial tranches near Gippsland and Portland



STRENGTHS OF VICTORIAN OFFSHORE WIND RESOURCE



High wind speeds



Shallow water



Ports upgrades



Transmission access

* Figures approximate Source Consortium analysis commissioned by DELWP

Gippsland and Portland West are attractive for offshore wind projects for a range of reasons:

- The strength and consistency of **wind speeds** are high by Australian and international standards.
- A large area of **shallow ocean** – less than 50–60 metres deep – is suitable for fixed-platform turbines (the technology now being deployed at scale overseas).
- **Ports** that can support construction, operation, and maintenance in both zones.
- A strong **transmission grid** that can be accessed near both zones.

There is potential to grow offshore wind capacity above 13GW and up to 33GW and beyond by using resources further from shore or floating platforms (now being developed for commercial deployment) in deeper waters off the south-west coast and Bass Strait.¹

A pipeline of offshore wind projects in the coming years would be underpinned by an industry development and support framework that draws on experience with the Victorian Renewable Energy Target (VRET) and overseas experience in establishing offshore wind industries.

Further work will be undertaken to determine the precise form of government support, including funding pathways to ensure a net beneficial investment for Victoria and value for money for taxpayers and electricity consumers.

Figure 3 outlines the factors that would guide the deployment of an offshore wind pipeline over the coming years. Over the next two decades the full potential output off the waters near Gippsland and Portland (13GW) could be developed.

FIGURE 3 Victoria’s offshore wind pipeline

The Victorian Government is committed to developing a pipeline of offshore wind projects in the coming years. Deployment will be guided by several factors



Achieving net-zero emissions by 2050

The demand profile for renewable electricity means offshore wind must be in Victoria’s energy mix. Early deployments must occur soon enough and be of sufficient magnitude to ensure that the pace of construction in the 2030s and 2040s is achievable.



Enabling energy resilience

Offshore wind farms produce electricity more consistently than onshore and have a different generation profile which will compliment onshore wind and solar. This increased diversity in the sources of renewable electricity will enhance the resilience of the Victorian electrical grid.



Supporting Victorian jobs and industries

Victoria has the potential to be a first mover in the offshore wind industry which will create new jobs and new industries which will be capable of supporting Victorian, national and international offshore wind projects.

¹ Technical studies suggest ~60GW of floating offshore wind is available in the Bass Strait, with further capacity likely beyond this area

An offshore wind sector will create thousands of jobs in Victoria

Investment in offshore wind creates long-term local jobs and strengthens domestic supply chains. Victoria has long been a leader in renewable energy jobs, already employing more than 7,000 workers in 2020.

The establishment of an offshore wind sector will generate thousands of new jobs across the value chain. Our local workforce and industry have developed extensive capability in onshore renewables and have transferable skills from the resources sector.

Victoria has an established supply chain for onshore wind farms that has grown since the early 2000s, meaning local businesses and workers are well equipped to participate in the offshore wind supply chain.

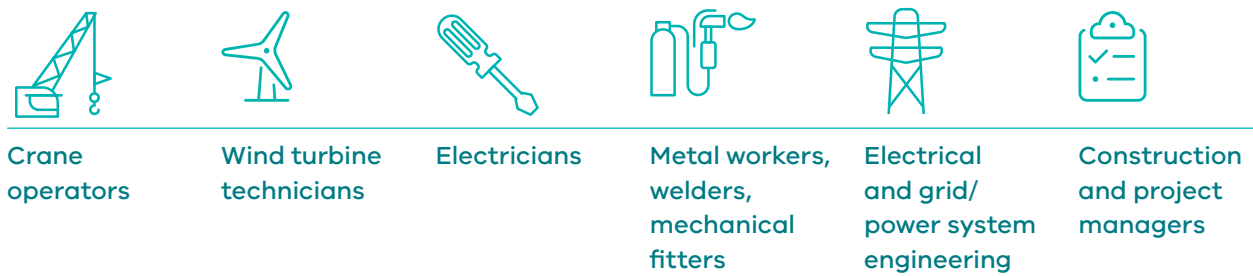
Offshore wind will provide jobs for Victorians across planning, design, engineering, construction, and operations and maintenance. Transferable skills from other sectors, such as engineering, system design, control systems, high-voltage electrical, logistics, and offshore work, will be in high demand.

Figure 4 identifies a subset of the critical jobs that will be created across regional Victoria from the offshore wind sector.



FIGURE 4 Selection of roles required in the offshore wind sector

An offshore wind sector will create meaningful employment opportunities in our regions



Source Consortium analysis commissioned by DELWP

The Victorian Government is committed to activating and supporting local supply chains that can participate in the offshore wind sector and generate direct and indirect jobs in Victoria. This includes working closely with offshore wind farm developers and unions to identify opportunities for local industry. Initially, construction and operational activity for offshore wind is expected to occur near Gippsland, the Port of Hastings and Portland.

Figure 5 illustrates the magnitude of benefits for Victoria’s regions for 13GW of offshore wind development.

Up to 3,100 jobs could be created during the development and construction phases, and up to an additional 3,000 during ongoing operations from offshore wind in Gippsland and Portland West, providing vital economic benefits to regions.

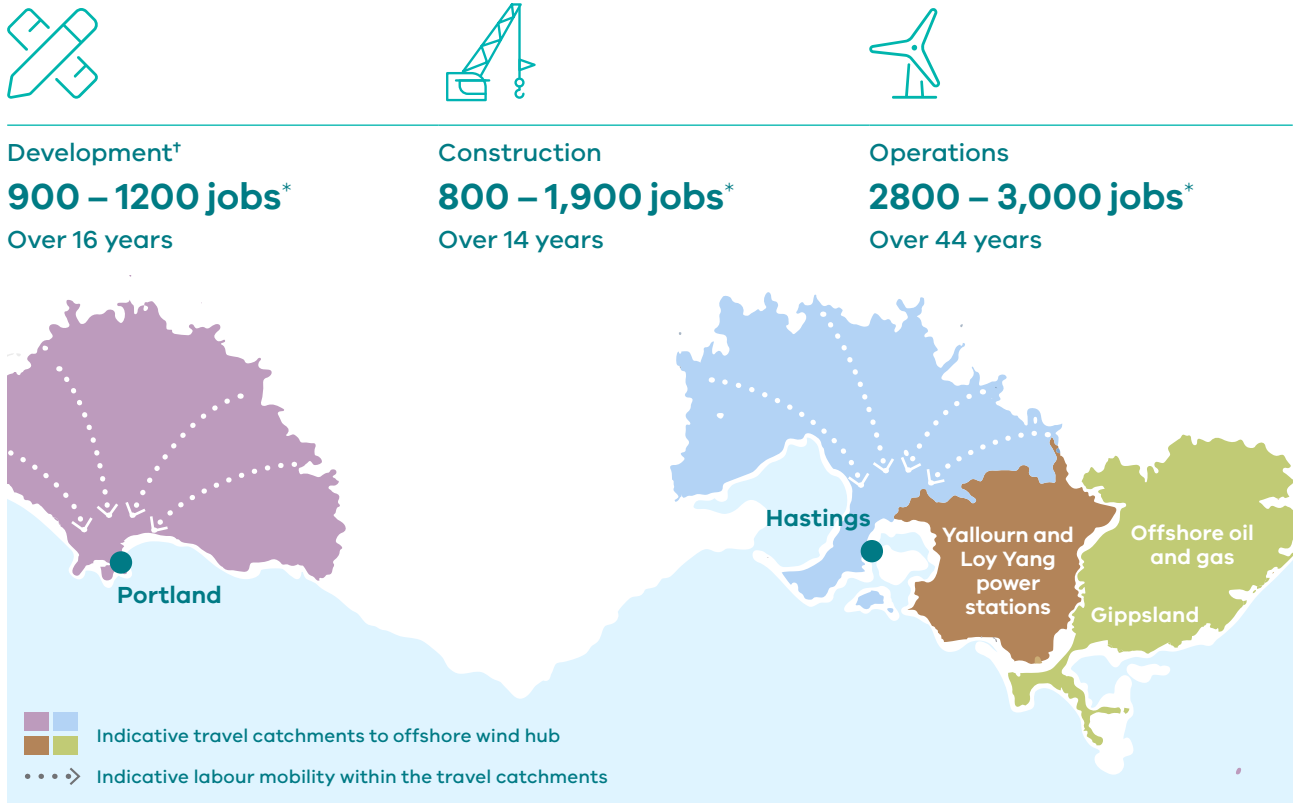
The offshore wind sector will also boost wider economic activity and create additional jobs in communities that support workers such as education, hospitality, training, healthcare, and other services. Much of this activity will be focused in regions where planning, construction, manufacturing, or operational activity for offshore wind is underway.



FIGURE 5 Potential job creation from 13GW in Gippsland and Portland West²

Offshore wind creates the opportunity for a meaningful, just transition for Victoria’s coal, oil and gas regions

Localised employment opportunities from 13GW of offshore wind off Gippsland and Portland



Source Consortium analysis commissioned by DELWP † Development jobs include planning, design and engineering *Approximate estimates only

2 The upper job estimate assumes a high level of industry development and activation that maximises participation from local supply chains and workforce. Consortium analysis commissioned by DELWP



Tackling climate change is an opportunity to transform our energy system

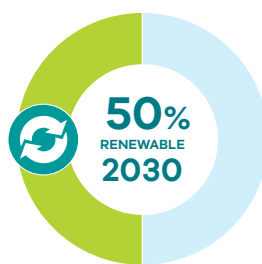
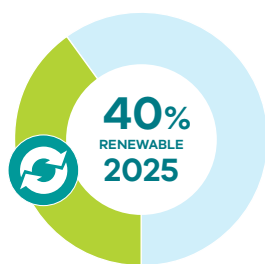
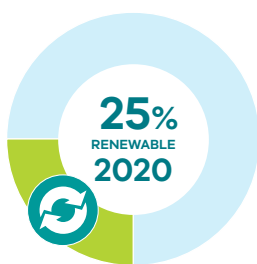
The Victorian Government’s commitment to emissions reduction through the *Climate Change Act 2017* establishes a long-term target of net-zero greenhouse gas emissions by 2050.

This is reiterated in Victoria’s Climate Change Strategy, published in 2021, which sets out the State’s plan for further reducing emissions.

The net-zero emissions target is part of a suite of Victorian Government commitments to mitigate the effects of climate change. Other relevant policies include:

2025	2030	2050
100%	50%	50%+
Green all government operations with renewable energy	Interim target to halve emissions below 2005 levels	Renewable energy target of total generation

Victoria’s legislated renewable energy targets



Achieving net-zero requires the construction of unprecedented amounts of renewable energy in Victoria – more than 15 times today’s installed renewable capacity according to the current best estimate. **Figure 6** outlines the significant role that renewable energy will play in meeting Victoria’s decarbonisation goals.

To achieve net-zero in the energy sector, Victoria must not only decarbonise power generation, but also a range of fuel sources across the economy, including petrol, natural gas, diesel, and aviation fuel.

The transition from these sources will include direct electrification using renewable energy, or renewable hydrogen or its derivatives produced with renewable energy.

Significant investments have already been made to support the achievement of these targets.

The first VRET Auction has contracted new wind and solar projects. The second VRET auction, currently underway, aims to bring online at least a further 600MW of generating capacity.

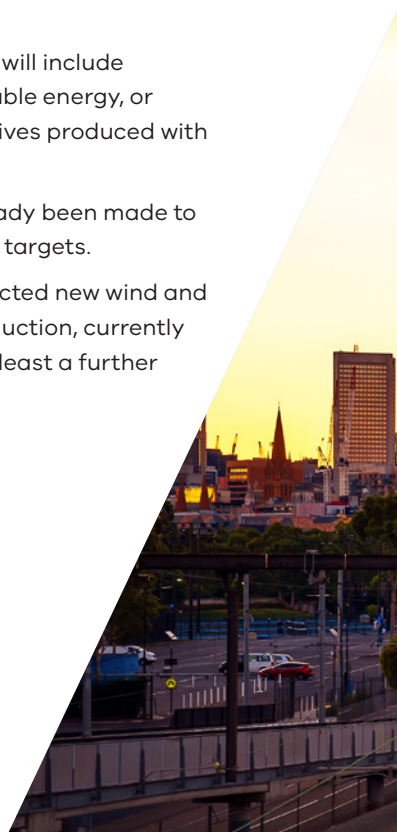


FIGURE 6 Scale of renewable energy required to achieve net-zero emissions

Unprecedented amounts of renewable energy must be produced to decarbonise Victoria’s energy system – requiring more than 15 times today’s installed renewable energy capacity

x15+

TODAY’S INSTALLED RENEWABLE ENERGY CAPACITY IS REQUIRED



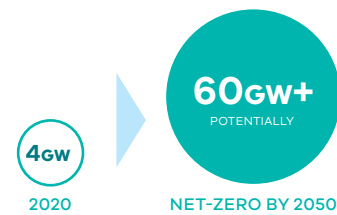
Replacing electricity generation from traditional power plants is an important first step, but even more challenging will be to decarbonise energy consumption across the rest of the economy

- Petrol and diesel road transport
- Diesel rail transport
- Aviation fuels
- Industrial process heating
- Building heat
- Shipping fuels



Renewable electricity can directly or indirectly reduce more than 75% of Victoria’s economy-wide greenhouse gas emissions

Grid-scale wind and solar capacity required to achieve net-zero must rise exponentially



Source Consortium analysis commissioned by DELWP



We're going to need both onshore and offshore wind to hit net-zero emissions

Renewable energy generation from onshore wind and solar farms is core to Victoria's net-zero objectives. We have made strong progress to date, with 4GW already powering homes across Victoria and at least a further 7GW proposed or committed over the coming decade.

The Victorian Government has delivered major investments to unlock onshore wind and solar. We have implemented VRET and the Victorian Renewable Energy Auction Scheme. We are establishing Renewable Energy Zones to strengthen the transmission network across Victoria and to ensure a smooth transition to renewable energy. Onshore wind and solar will continue to play an important role in meeting the demand for clean energy, and Victoria will continue to build out those sources.

But there are significant challenges for onshore wind and solar to meet all of our net-zero energy needs. Analysis indicates that to meet net-zero targets using onshore renewables could require up to 70 per cent of Victoria's agricultural land to host wind and solar farms.

Figure 7 outlines the future constraints facing onshore renewables in Victoria, in particular illustrating the extent of land use limitations in comparison to other states.

Figure 8 identifies the risks of alternative options including importing electricity or hydrogen from adjacent states or purchasing carbon offsets in high quantities. Establishing offshore wind creates considerable economic and employment opportunities while ensuring the security of our energy supply.

At the scale required to achieve net-zero, importing electricity or hydrogen from interstate is expected to create a cost premium compared to offshore wind and does not create these same opportunities.



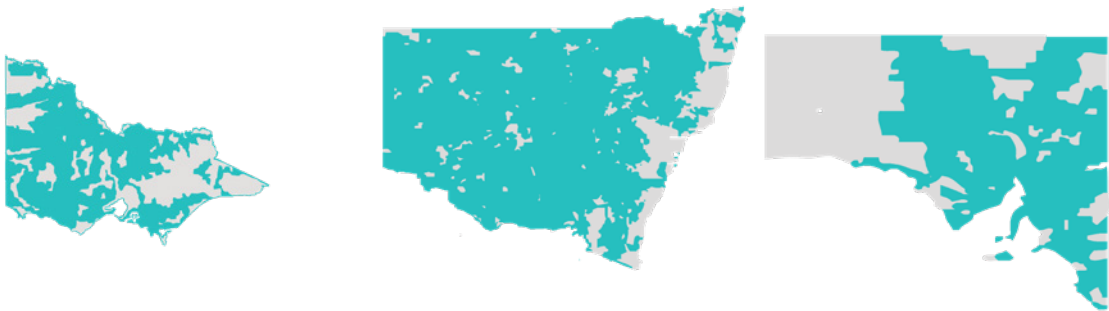
FIGURE 7 Constraints facing onshore renewables

Onshore wind and solar will likely face constraints to meet energy demand required to achieve net-zero

The extent of land use and land mass limitations for onshore renewables

Given Victoria’s low agricultural land area relative to other states, achieving full energy decarbonisation with only onshore renewables is an implausible prospect. For example, achieving 60GW using only onshore wind and large-scale solar could require up to 70 per cent of agricultural land, or four times the area of Greater Melbourne.

Available land for onshore renewables



	Victoria	New South Wales	South Australia
Total land	227,444km ²	801,150km ²	984,321km ²
Agricultural land today	~127,000km ²	~638,000km ²	~521,000km ²

■ Agricultural land Available for onshore renewables ■ Conservation, native title, urban land Unavailable



Source: Consortium analysis commissioned by DELWP, ABARES Catchment Scale Land Use of Australia data, 2020. Direct footprint of wind or solar farms only. Indicative analysis only. Graphic is not to scale



FIGURE 8 Risks of being dependent upon interstate energy imports

Pursuing other options to achieve net-zero is risky compared to local offshore wind

Other options available to achieve net-zero include importing renewable electricity or renewable hydrogen from interstate. However, each option has risks or constraints that prevent long-term reliance and forgo any of the benefits to Victoria (e.g. local employment).

	RISKS	COST PREMIUM VS OFFSHORE WIND
 <p>Import electricity</p>	<p>Increasing capacity of interstate transmission lines requires unprecedented investment</p> <p>Land use changes of new transmission lines risk significant community pushback</p>	~60-75%
 <p>Import hydrogen</p>	<p>Unclear when other states will produce hydrogen at scale or have an export surplus</p> <p>Developing a new hydrogen pipeline network across states requires extensive planning</p>	~5-15%

Source: Nous analysis of literature. Indicative analysis only.



Offshore wind is a mature source of renewable energy with rapidly growing deployment

Europe led the development of offshore wind starting two decades ago. Today, it is a mature renewable energy technology with rapid deployment around the world.

Europe has the highest deployment rates and the most developed supply chain. The United States of America, China, Taiwan, Japan, South Korea, and Vietnam are commencing their own deployment programs, with China installing half of all new global offshore wind capacity in 2020.

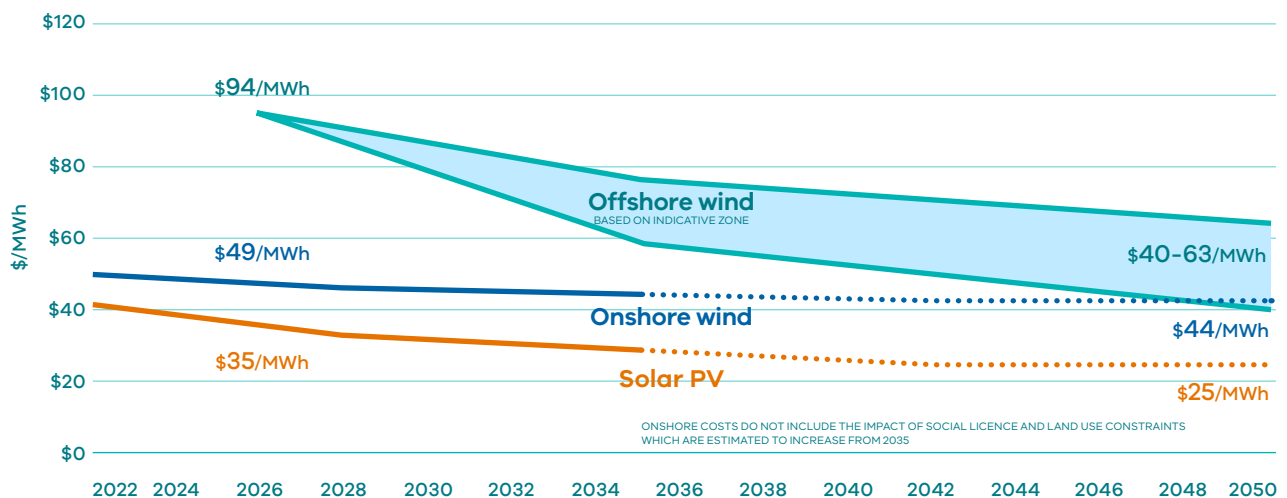
Offshore wind has been successfully and sustainably deployed despite challenges surrounding shared use of the sea among multiple jurisdictions. International practice takes into account potentially competing uses such as navigation, fishing, dredging, defence, recreation, and other commercial activities.³

Globally, today's installed offshore wind capacity of 35GW is expected to rise to more than 100GW by 2025, representing a growth rate of over 30 per cent per year, compared with less than one per cent for onshore wind.⁴ In Australia, market interest in offshore wind has accelerated in recent years, with over 10 projects currently proposed.

Although offshore wind is a mature technology, onshore renewables are currently cheaper because they are more established and have different cost drivers. This gap is expected to narrow over time with the cost of offshore wind reaching parity with onshore wind in the 2040s, assuming continued learning rates. The UK forecasts parity with onshore wind in the late 2030s.⁵

FIGURE 9 Indicative Levelised Cost of Energy (LCOE) projection of offshore wind and onshore renewables in Victoria

Onshore wind and solar will continue to be more economical than offshore wind in Victoria, but the gap is projected to narrow over time



Source Consortium analysis commissioned by DELWP

3 UK Department of Business, Energy & Industrial Strategy, Policy paper: Offshore wind sector deal, 2020
 4 GWEC Global Wind Report 2021
 5 UK Government Department for Business, Energy & Industrial Strategy, Electricity Generation Costs 2020



3

Delivering Victoria's first offshore windfarm

The Victorian Government is building on a long track record of delivering renewable energy projects and new energy technologies. We will harness the momentum created by the Energy Innovation Fund for commercialising innovative, emerging renewable and new energy technologies such as offshore wind. Almost \$40 million from Round 1 of the Energy Innovation Fund (EIF) will fund the initial development of three offshore wind projects which could lead to a total investment of \$18.7 billion. This long-term vision sets the pathway for these and further investments and developments to be delivered in Victoria.

Our analysis has confirmed the opportunity for offshore wind in Victoria. We will work with industry and communities to detail the initial development and how it will be delivered.

The Victorian Government is committing to deliver an **initial offshore wind tranche of at least 2GW by 2032**, to help power Victorian homes and workplaces.

The first offshore wind tranche will be procured in the mid-2020s, aiming for the first power by 2028, following a competitive process – to allow sufficient time for the Government and offshore wind proponents to complete the necessary development activities, including:

- Planning and approvals
- Procurement, supply chain and workforce development
- Stakeholder impacts
- The Commonwealth’s regulatory framework
- Enabling infrastructure such as ports and transmission

Further details on the target for the first offshore wind tranche and an Implementation Statement will be announced later this year. Future offshore wind tranches will be planned, integrated and announced as part of future renewable targets and will form part of our VRET auction process. Our longer term offshore wind target is to reach **4GW of offshore wind capacity by 2035 and 9GW by 2040**.



FIGURE 10 Offshore wind projects supported through the Energy Innovation Fund

Victoria is delivering on its vision to establish an offshore wind industry by investing in the development of those projects which offer the best potential to deliver energy security and jobs to Victorians



Star of the South

Will receive \$19.5 million which will support pre-construction development activities

Potential for a 2.2GW offshore windfarm using off the coast of Gippsland

Could result in an investment of approximately \$8.7 billion and the creation of 2,000 jobs

Potential to provide enough power to provide 20% of Victoria’s energy needs



Macquarie Group

Will receive \$16.1 million to facilitate pre-feasibility works

Potential for a 1GW offshore wind farm off the Bass Coast

Could result in a potential total investment of approximately \$4 billion and the creation of 1,500 jobs



Flotation Energy

Flotation Energy will receive \$23 million for scoping studies and surveys

Potential for a 1.5GW offshore wind farm off the coast of Gippsland

Could result in an investment of \$6 billion and the creation of 1,600 jobs

Will assess the potential of re-purposing offshore oil and gas infrastructure



The first tranche of offshore wind will create high-quality jobs in our regions. We estimate that a 1,000MW offshore wind farm would create up to 600 full-time equivalent jobs during peak construction, and approximately 300 full-time equivalent ongoing operations and maintenance jobs throughout the 30 years of operation. These would include unskilled and skilled labour, technical and management roles.

Figure 11 shows the breakdown in more detail. There is also potential for additional service jobs in sectors including hospitality, education, and healthcare due to greater spending in the regions.⁶

The first offshore wind tranche is a critical step to a thriving new industry in Victoria. The supply chain, regulatory and transmission challenges to be worked through will ensure Victoria has the capacity to scale up the offshore wind sector in future tranches and meet future renewable energy demand.

Later in 2022 we will release an **Offshore Wind Implementation Statement** that will provide further details on:

- The expected scale and timing for the first offshore wind procurement
- Our approach to developing the **transmission network** to provide offshore wind farms with access to the grid
- Our approach to facilitate **port upgrades** to support wind farm construction and operation

The Victorian Government understands the importance of consultation and feedback in this process. That is why:

- We will **consult carefully** with communities, workers, unions, affected businesses, the energy industry and port operators in designing our approach
- We will give priority to **engaging local communities and landowners** to minimise the impact of development and fairly share the benefits with them
- We propose to work closely with the **Australian Government** to coordinate our respective actions to establish offshore wind in the waters off Victoria
- Our plans for offshore wind will be integrated with our plans for developing **Renewable Energy Zones** and setting of **future VRET targets**
- Consistent with **Pupangarli Marnmarnepu**, DELWP's Aboriginal Self-Determination Reform Strategy 2020–2025, we will work with Traditional Owners from the start of developing the State's offshore wind resource by developing a new model of engagement with renewable energy projects based on principles that align with Traditional Owner aspirations for self-determination and economic independence

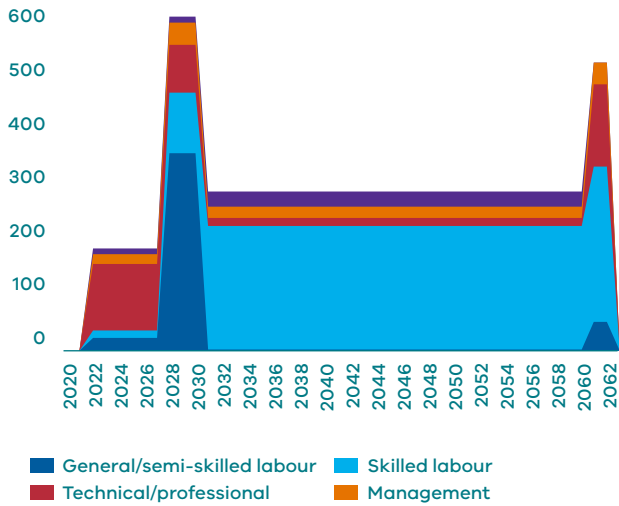
⁶ American Wind Energy Association, *U.S. Offshore Wind Power Economic Impact Assessment* indicates that induced jobs could be created at the rate of 0.56 FTE per direct and indirect FTE. Based on this rate of induced job creation, service jobs from the 1GW of offshore wind in Victoria could be up to 150 FTE.



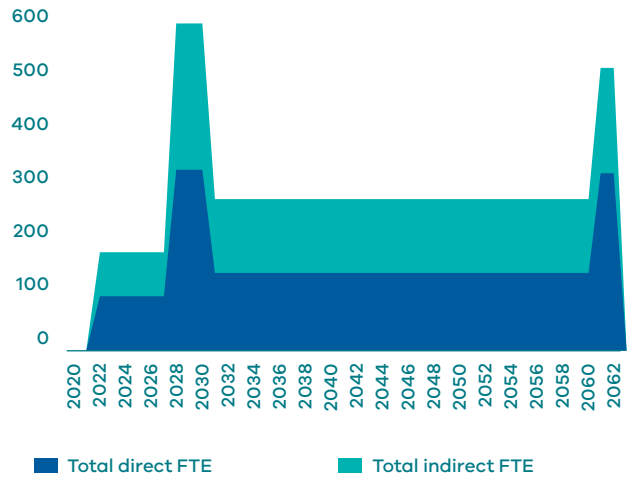
FIGURE 11 Direct and indirect jobs created to deliver a 1GW offshore wind farm

Up to 600 direct and indirect jobs could be created during construction. Approximately 300 ongoing jobs will be needed throughout the 30 years of operation.

Total FTE for 1GW by role



Total FTE for 1GW by direct/indirect



Source Consortium analysis commissioned by DELWP



Glossary of key terms

The table below outlines the definitions of key terms used throughout this report

TABLE 1 **Glossary of key terms**

KEY TERM	DEFINITION
Fixed platform offshore wind	<p>Offshore wind turbine installed on a platform connected to the seabed (called a 'fixed' foundation or platform). At a high-water depth, fixed platform offshore wind is no longer economically viable given capital expenditure costs.</p> <p>Fixed foundation offshore wind turbines (also called fixed platforms) are a mature technology that is a more realistic and favourable technology for near-term development of an offshore wind sector than floating platform technologies.</p>
Floating platform offshore wind	<p>Offshore wind turbine installed on a floating foundation that is attached to the seabed by mooring lines to hold the assembly in position (also called 'floating platform'). Floating wind turbines are feasible in a wider range of water depths than fixed platform technology.</p>
Net-zero energy emissions	<p>Achieving 'net-zero' emissions for the generation or consumption of energy (also referred to as 'net-zero for energy' or 'net-zero energy'). This includes emissions from electricity generation and fossil fuel consumption across the Victorian economy. Offshore wind energy can only contribute towards the reduction of energy sector emissions.</p>
Onshore renewables	<p>Onshore renewables refer to large-scale and grid-connected wind and solar PV. Rooftop solar is considered as a behind-the-meter technology, while hydro is assumed to remain largely constant. Therefore, for consistency, any references to onshore renewable capacity or generation only refer to onshore wind and large-scale solar PV (unless explicitly stated).</p>
Renewable Energy Zone (REZ)	<p>AEMO has designated 33 Renewable Energy Zones throughout the national electricity market. They combine renewable energy generation (as well as future sites with good resources) such as wind, solar, and storage (pumped hydro and batteries); and high-voltage transmission to deliver energy to homes, businesses, and industry.</p>

Accessibility

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Photos in this document containing people were taken prior to March 2020 before physical distancing and masks were required.

Have your say

VISIT engage.vic.gov.au

The Victorian Government is committed to engaging with all stakeholders about offshore wind energy. Consultation will commence in April and you will be able to provide your feedback by visiting engage.vic.gov.au

You can view and download the Policy Directions Paper at energy.vic.gov.au, please email any questions to offshorewind@delwp.vic.gov.au