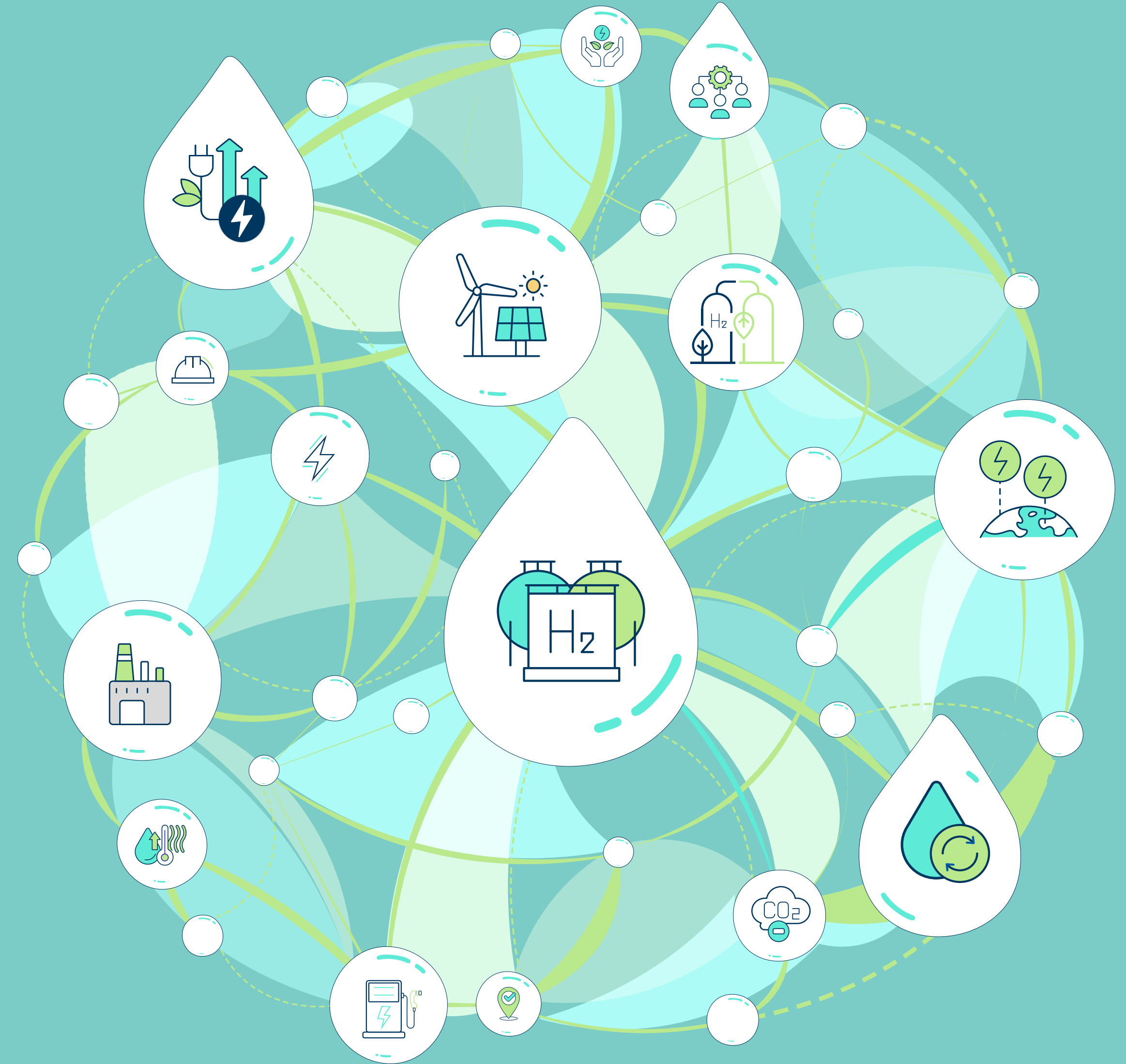


Barwon South West Renewable Hydrogen Prospectus

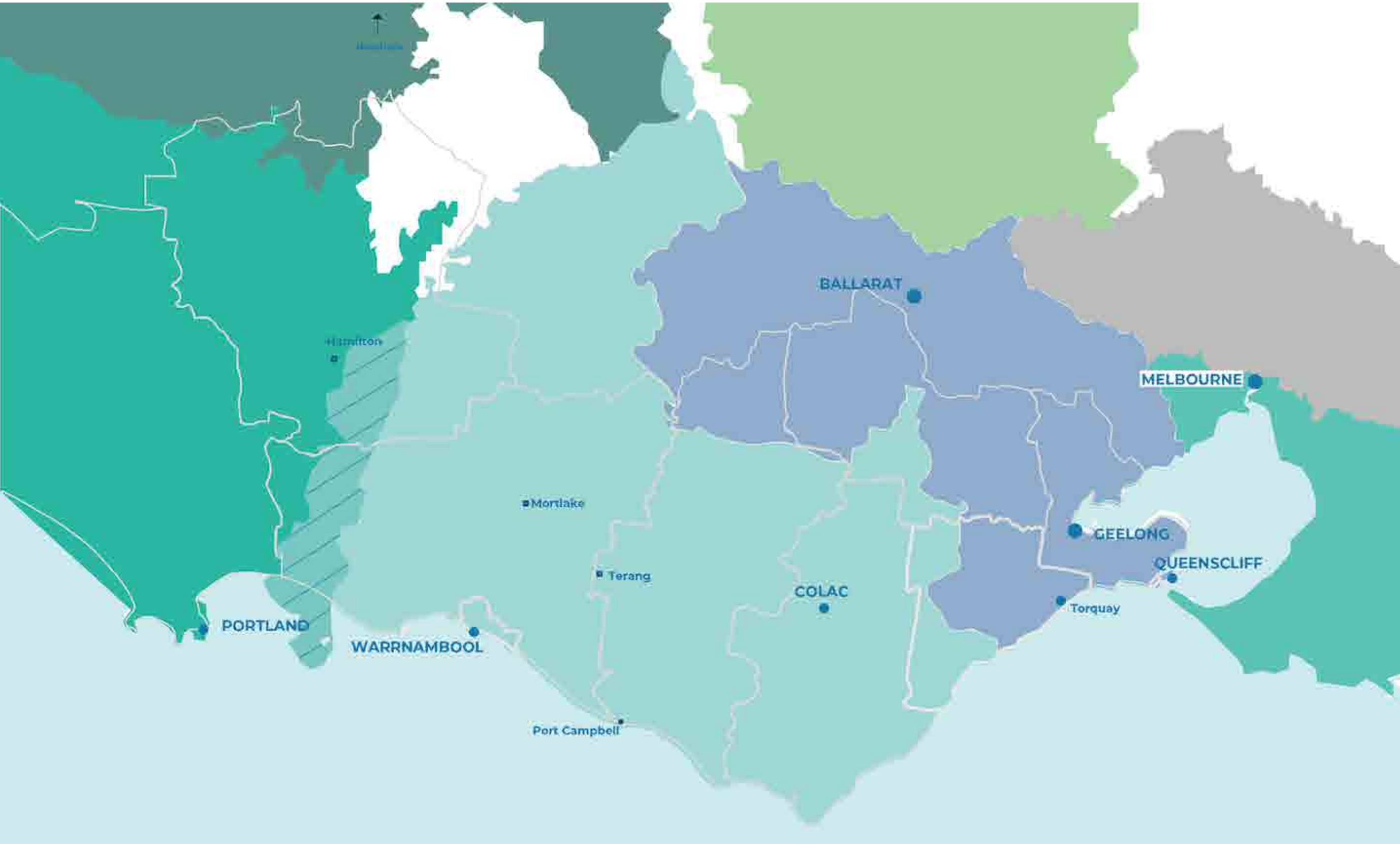


Acknowledgement

The authors of this Prospectus acknowledge and respect the Wadawurrung, Eastern Maar and Gunditjmara peoples as the original custodians of lands and waters of the Barwon South West region.

We recognise their deep spiritual connection to Country and their unique ability to care for Country. We honour Elders past and present whose knowledge and wisdom have ensured the continuation of culture and traditional practices.

Figure 1: Registered Aboriginal Parties (RAP) in the Barwon South West region



RAP LEGEND

- | | |
|--|---|
|  Wadawurrung Traditional Owners Aboriginal Corporation |  Dja Dja Wurrung Clans Aboriginal Corporation |
|  Eastern Maar Aboriginal Corporation |  Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation |
|  Both Eastern Maar and Gunditj Mirring Traditional Owners Aboriginal Corporations |  Bunurong Land Council Aboriginal Corporation |
|  Gunditj Mirring Traditional Owners Aboriginal Corporation |  Local Government Authority boundary |
|  Barengi Gadjin Land Council Aboriginal Corporation | |

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Why invest in the Barwon South West?

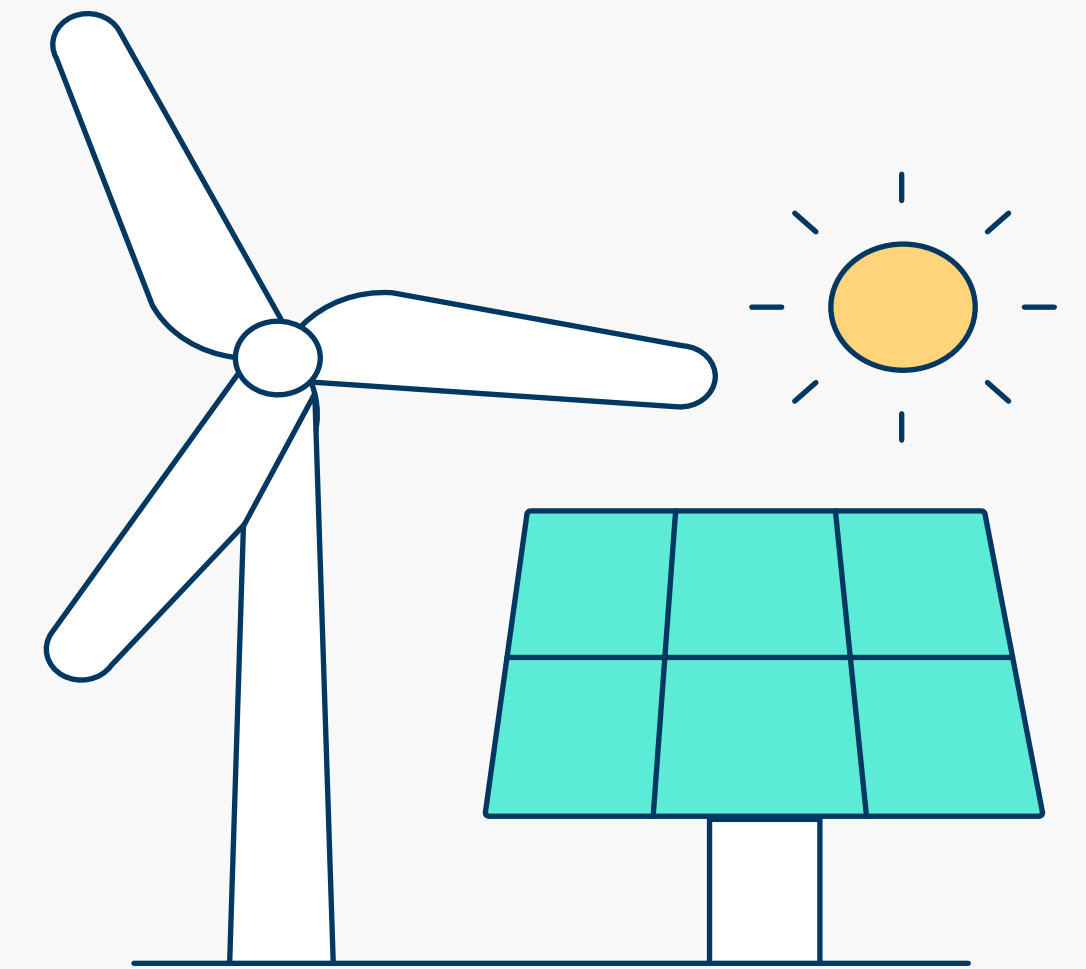
The Barwon South West region is firmly committed to a zero-emissions future and has the potential to become a hub for renewable hydrogen development.

This Prospectus represents the collective vision of over 40 organisations that are united in their mission to accelerate the national energy transition through the development of a local renewable hydrogen industry in the Barwon South West region.

Geelong, Victoria's largest regional city, located just one hour from Melbourne, will be the launchpad for a regional renewable hydrogen industry, with its robust industrial and manufacturing base, including refineries and its deep-water port. The city is home to Australia's first commercially scaled and publicly accessible hydrogen refuelling station, positioning the Barwon South West region at the forefront of the nation's hydrogen ambitions, particularly for the decarbonisation of the commercial road transport sector.

Portland, located approximately 360 kilometres west of Melbourne, will bookend the renewable hydrogen industry in the Barwon South West region. It is also an industrial hub, home to an aluminium smelter, a deep-water port, and a diverse range of agricultural and forestry activities. Situated within the South West Renewable Energy Zone, Portland also has access to abundant renewable energy resources, including both onshore and offshore wind, as well as solar energy potential, with local industries already exploring how to apply these natural advantages to renewable hydrogen initiatives.

The region's depleted underground gas storages, near Port Campbell, have the potential to store large volumes of renewable hydrogen, and support long-duration storage for Victoria. More critically, it could reduce the cost of producing hydrogen by utilising low-cost electricity (when there is high renewable generation and low demand).



Strategically located between Geelong and Portland, Deakin University's Hycel Technology Hub at Warrnambool has received financial backing from both the Australian and Victorian governments, further strengthening the region's technological and research capabilities, to support a local renewable hydrogen industry.

The Barwon South West region's combination of local expertise, well-established supply chains, and access to key offtake markets for renewable hydrogen, including road transport fuel, international shipping fuels, sustainable aviation fuels, long-duration energy storage and gas-fired power generation (GPG), positions the region as a prime investment destination for renewable hydrogen production.

With increasing domestic demand for renewable energy solutions and a clear pathway to leverage international export markets via access to three deep-water ports, the Barwon South West region is set to overcome the cost and scalability challenges faced by many other regions and realise its vision of a thriving renewable hydrogen industry.



[Energy.vic.gov.au/renewable-energy/renewable-hydrogen](https://energy.vic.gov.au/renewable-energy/renewable-hydrogen)



Regional demand for renewable hydrogen



Regional demand for renewable hydrogen

The Barwon South West region has unique characteristics that make it ideally positioned to grow a renewable hydrogen industry:

- Access to three major deepwater ports providing access to international shipping markets
- Major interstate freight routes connecting Victoria with South Australia and New South Wales
- Large scale food and fibre production zones demanding fertiliser and freight
- Access to two international airports requiring sustainable aviation fuels
- Large depleted underground gas storages offering a potential hydrogen storage option
- High quality electric transmission infrastructure and connection points into the National Electricity Market (NEM).

Accordingly, key demand opportunities for renewable hydrogen have been identified across its existing economic base:

- Road transport fuel
- International shipping fuel
- Sustainable aviation fuel
- Stabilising energy supply and replacing industrial gas usage.



See "Project Spotlights" for these sectors.



rdv.vic.gov.au/_data/assets/pdf_file/0008/2338244/BSW-Renewable-Hydrogen-and-Energy-Investment-Opportunity-Mapping-study.pdf



Road transport fuel



Opportunity in Barwon South West region

The freight and logistics sector contributes an estimated \$36 billion (a little over six per cent) to Victoria's Gross State Product (GSP) and employs around 240,000 full time equivalent positions across the state.

Analysis indicates that the sector has consistently made up around six to eight per cent of GSP over the past 20 years.

The Victorian freight task continues to grow every year and is estimated to increase from around 440 million tonnes in 2020-21 to 908 million tonnes by 2050-51 – more than doubling over 30 years between 2020 and 2050. As the freight task continues to grow, so too will the contributions of freight and logistics to the economy.

The Barwon South West region plays an essential role in the movement of goods across Australia and internationally. The Princes Highway (A1) and Western Highway (A8) run east-west across the region and connect to the Hume Highway (M31) via Geelong (M1). This major road network unlocks the South Australian, Victorian and New South Wales inter-state logistics corridor.

In addition to line haul road freight between capital cities and regional centres, the region hosts numerous in-region back-to-base fleet operations working across the agriculture, forestry and public transport sectors.

The freight industry is vital to the Barwon South West region as it serves as a key driver of economic growth, trade and regional development.

Signal of demand for renewable hydrogen

The shift towards zero emissions heavy vehicles for companies seeking to meet their emission pledges is accelerating and is presenting market opportunities for investors in renewable hydrogen production, distribution and transportation solutions. Current examples demonstrating this regional demand include:

- **Viva Energy's new energies service station project** (see page 12 of this Prospectus).
- **Warrnambool Bus Lines, Hydrogen Mobility Project** (see page 14 of this Prospectus).

As part of the Victorian Government's commitment to achieving net zero emissions by 2045, all new public transport buses ordered from 1 July 2025 will be zero emission buses (ZEBs) driving potential demand for renewable hydrogen.

ComfortDel Gro (CDC) is already taking the lead by introducing hydrogen-fuelled buses in the Geelong public bus network, demonstrating their viability.

Information on traffic volumes on major highways and freight routes in the region can be found via the link below:

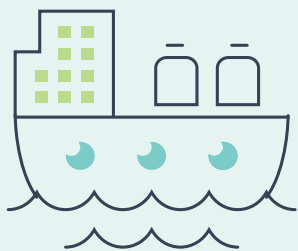


discover.data.vic.gov.au/dataset/traffic-volume

For more information on peak transport sector bodies:



vic.gov.au/transport-bodies-and-transport-legislation-under-act



Opportunity in Barwon South West region

The maritime shipping industry accounts for three per cent of global carbon emissions, and one of the most effective strategies for reducing emissions is to switch to alternative fuels.

With two deepwater ports at Geelong and Portland, and Australia’s largest container, automotive and general cargo port, the Port of Melbourne, located less than 100km from Geelong, the Barwon South West region provides an ideal strategic location to produce and transport renewable hydrogen and sustainable liquid fuels like green methanol.

All new supertankers are likely to have dual fuel intake capabilities, and Port of Melbourne, GeelongPort and Port of Portland present opportunities for green methanol (derived from renewable hydrogen and renewable carbon sources) and are ideal fuel bunkering points for ships passing through them.



Green hydrogen as an alternative fuel for the shipping industry (March, 2021) - [sciencedirect.com/science/article/abs/pii/S221133982030071X](https://www.sciencedirect.com/science/article/abs/pii/S221133982030071X)

Demand for renewable hydrogen

GeelongPort is Victoria’s second largest port handling 12 million tonnes of break bulk cargo and 600 vessels annually, facilitating over \$7 billion of trade and supporting 1,800 regional jobs. GeelongPort features 15 berths across two primary precincts, Corio Quay and Lascelles Wharf.

Graincorp operates its own wharf and ship loading systems for exports with the Port of Geelong. The shipping channels of GeelongPort have a declared depth of 12.3 meters, accommodating vessels with a draft of up to 10.8 metres at all tides and up to 11.7 meters with tidal assistance.

Port of Portland has six berths, with 5.4 million tonnes of exports and imports and 240 ships annually. They handle 45% of Victoria’s dry bulk cargo. The shipping channel has a depth of 12.9 metres. The Port of Portland has seven main cargoes (woodchips, logs, mineral sand, grain, livestock, bauxite and fertiliser).

Port of Melbourne is Australia’s largest container, automotive and general cargo port with around 3,000 vessels visiting annually. It has over 30 commercial berths. The Port handles 3.2 million TEU (20-foot equivalent units) annually, and over 900 new motor vehicles per day on average, with a world class automotive terminal at Webb Dock West. General cargo includes liquid bulk, dry bulk and breakup cargo, with international container terminals at Swanson Dock and Webb Dock East. The shipping channel depth is 14 metres.

In April 2023, a Memorandum of Understanding (MoU) was signed between Port of Melbourne, Maersk, ANL (a subsidiary of CMA-CCM), Svitser, Stolthaven Terminals, HAMR Energy and ABEL Energy to explore the commercial feasibility of establishing a green methanol bunkering hub at the Port of Melbourne. For more information on HAMR Energy’s Portland Renewable Fuels project, please see page 15.



Sustainable aviation fuel



Opportunity in Barwon South West region

Without any action (reduced air traffic; changes in aircraft technology; operations; zero-emission planes; sustainable aviation fuels (SAFs); and economic incentives) aviation's contribution to global carbon emissions is projected to rise to 50 gigatonnes of cumulative emissions between 2020-2050. Under a range of scenarios, the introduction of SAF could reduce these emissions significantly.



theicct.org/wp-content/uploads/2022/06/Aviation-2050-Report-A4-v6.pdf

SAF use is in its infancy in Australia, yet there is a huge potential demand. Despite the current cost of production, there is strong interest in SAF from the commercial sector and resultantly there is significant research and development underway, including pre-feasibility studies for production.

Avalon Airport and the Avalon Industrial Precinct are located within the Barwon South West region, with good transport links and existing relationships to Melbourne Airport, the second busiest airport in Australia. These provide a ready-made launching pad for exploration of SAF application in Australia.

The Barwon South West region also has a range of sustainable biomass and feedstock sources compatible with SAF production, including a thriving forest industry. The Forestry Green Triangle zone, located in the heart of the Barwon South West region, represents 17% of Australia's plantations (about 328,000 hectares in 2019-20). Plantation residue is an underutilised resource that could be redirected to biomass feedstock.



gtfih.com.au/

Demand for renewable hydrogen

Avalon is the second busiest airport in Victoria with eight aircraft parking bays. Located 55kms southwest of Melbourne and 23kms north-east of Geelong it services around 900,000 passengers per year. Avalon Airport hosts the Australian International Airshow every two years and is expanding its role as a critical logistics hub with a new \$8 million freight facility. The airport also has a significant industrial precinct with the likes of AMDA Foundation, Australia Post, Cotton-on, Fit-My-Car, Hanwha, Pet Stock, Powercor and Provenir currently leasing space in the precinct.

Tullamarine is the primary airport servicing Melbourne. Located 23km north-west of Melbourne city centre, the airport services more than 35 million passengers every year.

Viva Energy is leading projects supporting the uptake of SAF in Australia. The company is importing SAF into Geelong, blending it with Jet Aviation Fuel and transporting batches of this product by truck to East Sale (in Victoria's east) for use by the Australian Defence Force.



vivaenergy.com.au/media/news/2025/viva-energy-strengthens-saf-position-for-the-australian-defence-force

Viva Energy announced in February 2025 the reconditioning of an existing fuel tank and associated distribution infrastructure at their Pinkenba terminal to supply SAF to Brisbane Airport. It includes the development of a book and claim system enabling customers to claim the environmental benefits of SAF without necessarily purchasing the physical fuel. This \$4.94 million project received \$2.39 million in funding from the Australian Renewable Energy Agency (ARENA).



Long-duration energy storage / Underground hydrogen storage



Opportunity in Barwon South West region

Underground Gas Storage (UGS) is a critical asset in balancing the supply demand chain of energy across the year, particularly in managing peak winter demands.

The Barwon South West region features a number of depleted underground gas fields that present a potential opportunity for large scale hydrogen storage, allowing hydrogen production to occur at optimum times (i.e. when energy prices are low).

Iona, owned and operated by Lochard Energy, is the largest independent provider of gas storage services to the East Coast gas market of Australia and can store up to 23.5PJ of gas underground.

For more information, refer to Lochard Energy's Project Spotlight on page 15.

Demand for renewable hydrogen

Renewable gases like biomethane and renewable hydrogen are the most likely technologies to decarbonise the industrial and gas-fired power generation sectors.

The Victorian Government is seeking to establish an Industrial Renewable Gas Guarantee – that is, a Victorian market-funded certificate scheme earmarked to commence in 2027. The Victorian Government is consulting on a proposed target of at least 4.5PJ per year by 2035, with a final decision on the target yet to be made.

Modelling as part of the Gas Substitution Roadmap confirms that across a range of scenarios, hydrogen and biomethane use grows through the 2030s and 2040s, particularly for industrial users.



energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap

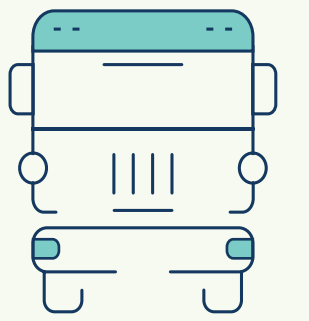
aemo.com.au/energy-systems/gas/gas-forecasting-and-planning/victorian-gas-planning-report



Project Spotlights



Project Spotlight



Viva Energy Hub - new energies service station



The new energies service station came into operation in mid-2025.

The 2.5MW electrolyser can generate up to 1000kg per day of renewable hydrogen for use by a diverse fleet of hydrogen vehicles. It is Australia's first commercially scaled public renewable hydrogen refuelling station.

The Viva Energy Hub services a fleet of heavy fuel cell electric vehicles across a number of industry partners including Toll Group, ComfortDelGro Corporation Australia (CDC), Cleanaway and Barwon Water – showcasing the use of hydrogen to power transport operations such as road freight, public transport, municipal waste management, water treatment and general fleet.

The project received a \$34 million grant from the Australian Renewable Energy Agency (ARENA) as part of ARENA's Advancing Renewables program and the Victorian Government also contributed \$1 million to the project via the Renewable Hydrogen Commercialisation Pathways Fund.





Project Spotlight



Transport operations powered by renewable hydrogen



CDC is at the forefront of the transition to environmentally conscious public transport. Today it operates one of Australia's largest hybrid bus fleets, with a total of 50 buses in Melbourne, as well as eight electric buses operating in Melbourne's south-eastern suburbs. CDC will operate two hydrogen powered fuel cell electric buses in Geelong. CDC's sister company, Metroline in the UK, has operated 22 hydrogen buses since 2021.



Barwon Water is pursuing sustainable and innovative initiatives as it seeks to achieve net zero emissions by 2030. With its operations already powered by 100% renewable electricity, the corporation is focused on decarbonising its vehicle fleet. A hydrogen-fuelled prime mover will support a circular economy initiative, transporting organic waste that will be converted into products for the agriculture sector. As a regional leader, Barwon Water's experience will inform the hydrogen plans of a range of government agencies.



Cleanaway has an extensive network of vehicles that keep waste management operations moving across Australia. With one of Australia's largest fleets, Cleanaway are pursuing a range of solutions to incrementally decarbonise, working with local and international partners. Cleanaway is trialling the use of two hydrogen fuelled municipal waste collection trucks across its operations in Geelong.



Toll Group will operate two hydrogen-powered prime movers deployed for heavy freight haulage across metropolitan Melbourne and regional Victoria. These two FCEV prime movers make up part of Toll Groups continued investment into zero-emissions fleets including 28 battery electric heavy vehicles supported by ARENA's Driving the Nation program.



vivaenergy.com.au/energy-hub/hydrogen-refuelling-in-australia



Project Spotlight



Warrnambool Bus Lines - Hydrogen Mobility Project



In response to the Victorian Department of Transport's Zero Emissions Bus Trial and Transition Plan, and the imminent requirement for zero-emission buses to replace the existing diesel fleets, Warrnambool Bus Lines is seeking to transition its urban route fleet of 12 buses servicing the Warrnambool, Port Fairy and Allansford area in South West Victoria, to hydrogen.

The project would see an entire operational fleet run on renewable hydrogen. It intends to include the complete hydrogen value chain activities of renewable energy procurement, hydrogen production, storage, refuelling, depot and maintenance.

Warrnambool Bus Lines would be responsible for the provision and maintenance of the hydrogen fuel cell vehicles. Air Liquide Australia would be responsible for hydrogen production, compression and the provision of storage and hydrogen refuelling equipment. The project would be based at a dedicated site co-located with the Hycel Technology Hub at Deakin University's Warrnambool campus, directly adjacent to the Princes Highway and rail freight corridor. Deakin University would be responsible for the supply of land and utility services, as well as supporting the transition with workforce development and training requirements, social license framework and harnessing research and development opportunities.

Preliminary design and engineering studies have been completed and the project proposal has been submitted to Victoria's Department of Transport and Planning for consideration.



vic.gov.au/zero-emissions-bus-trial-and-transition-plan



Hycel Technology Hub - Hydrogen Technology Applications



hycel



Hycel Technology Hub is a purpose-built research, commercialisation and training facility designed to support the hydrogen fuel cell industry to innovate and scale.

Hycel Technology Hub provides:

- specialist fuel cell testing equipment enabling fuel cell testing from 50W to 10kW
- integrated high-flow hydrogen supply system
- provision for industry co-location
- research labs that take innovations from lab scale to real world trials.

Hycel's partnerships with PACCAR Kenworth, Warrnambool Bus Lines and AMSL Aero are focused on supporting the transition of Australia's heavy mobility to hydrogen. By providing specialist fuel cell testing and validation equipment, Hycel is supporting the development of higher-powered fuel cells that are tailored for Australian conditions.

The 2,200m² Hycel Technology Hub, is strategically located in Warrnambool at the heart of the Barwon South West and along a key transport corridor.



Kenworth T680 fuel cell prime mover in Hycel's Technology Integration Bay



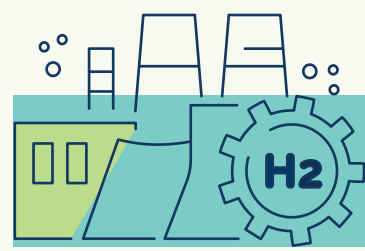
Hycel's G400 fuel cell test station



Hycel's 110kW fuel cell (pre-commissioning)



Project Spotlight



Lochard Energy's H2RESTORE Project (Port Campbell)



The H2RESTORE project aims to commercialise the storage of hydrogen in existing depleted gas reservoirs.

Large scale underground hydrogen storage may assist in reducing the cost of producing hydrogen, by utilising low-cost electricity, likely generated during times of high renewable generation and low demand.

The stored hydrogen can be used as a deep energy reserve to support the National Electricity Market (NEM) during times of energy supply shortages. It could also provide a consistent supply of lower-cost hydrogen to the emerging clean fuels industry and other hard to abate sectors.

H2RESTORE's large-scale storage allows energy to be "shifted" from periods of abundant renewable supply in summer to provide power during low renewable generation in winter.

Lochard Energy is currently undertaking an 18-month feasibility study to assess the viability of the project, including early stakeholder engagement, and is targeting commercial operation of underground hydrogen storage to occur in the early 2030s.

The project received \$2 million in funding from the Australian Renewable Energy Agency (ARENA) as part of ARENA's Advancing Renewables program.



lochardenergy.com.au/our-projects/h2restore/



HAMR Energy's Portland Renewable Fuels Project



HAMR's flagship development, the Portland Renewable Fuels project, is a world scale renewable methanol development in the Portland region, with a target capacity of 300ktpa.

Located in Portland, Victoria, the plant will be strategically located near the Green Triangle, Australia's largest forestry region. The innovative renewable fuels project utilises biomass and renewable hydrogen to produce low carbon methanol.

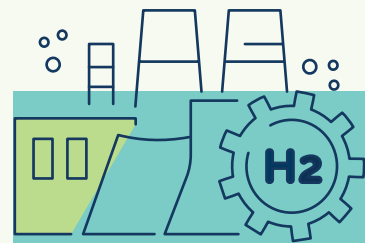
Leveraging locally sourced biomass and nearby onshore wind resources, the project aims to create a sustainable, low-carbon methanol that can be transported to local and international customers via the Port of Portland or via road and rail.

The methanol will be used to support hard to abate sectors such as aviation, shipping and chemicals, to be decarbonised. When completed, the projects decarbonisation benefits will be equivalent to taking 80,000 cars off the road.

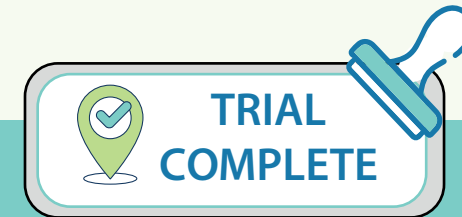
The Victorian Government is supporting the Portland Renewable Fuels Project with \$500,000 for a feasibility study through its Portland Diversification Fund.



Project Spotlight



Austeng's Crematoria Burner System



Austeng, an innovative engineering business based in Geelong, has successfully trialled the operation of an existing crematorium burner system using a blend of hydrogen and natural gas without significant changes to the existing burner and gas train.

The technology can seamlessly and reliably switch between natural gas and blended hydrogen gas as a fuel source. Austeng gained regulatory approval for the technologies' use from Energy Safe Victoria.

It enables the first step for the crematoria industry to transition to the use of renewable hydrogen and is an apt reflection of Austeng's reputation for working with clients to deliver world-class innovative solutions to complex engineering challenges.

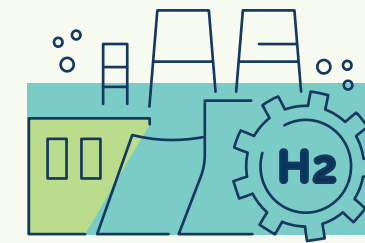
The Victorian Government provided \$100,000 in funding support for this project through the Renewable Hydrogen Business Ready Fund.



austengcc.net.au/hydrogen_burner_demonstration



Austeng's Lead Engineer with the demonstration burner switching to run on a gas/H2 blend.



Toyota & EODev



EODev, Toyota Motor Corporation Australia, Blue Diamond and New Zero Equipment teamed up to showcase a hydrogen-powered, reliable energy solution at the 2024 Formula1 Australian Grand Prix in Melbourne.

Large events typically depend on diesel generators, which contribute to both emissions and noise pollution. In contrast, this initiative used four EODev GEH2® hydrogen-powered generators to provide clean, quiet, and efficient energy throughout the event.

Over the four days, approximately 180kg of hydrogen was consumed, which is equivalent to around 1,300L of diesel, and saved 3.5 tons of CO2.

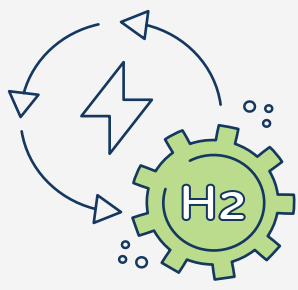
This technology has already been deployed at other major events in Victoria, large construction sites needing remote power, and will soon be trialled at a Barwon Water treatment plant, which is currently powered by a large diesel generator. The Viva Energy Hub is playing a key role in enabling reliable renewable hydrogen supply in the region, opening the door for the wider deployment of this and other hydrogen-powered technologies.



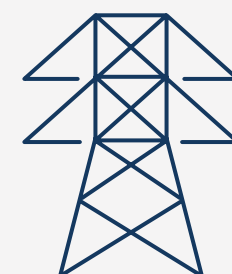
Hydrogen power solution for the Melbourne Grand Prix in 2024.



Key enablers to **support** renewable hydrogen production



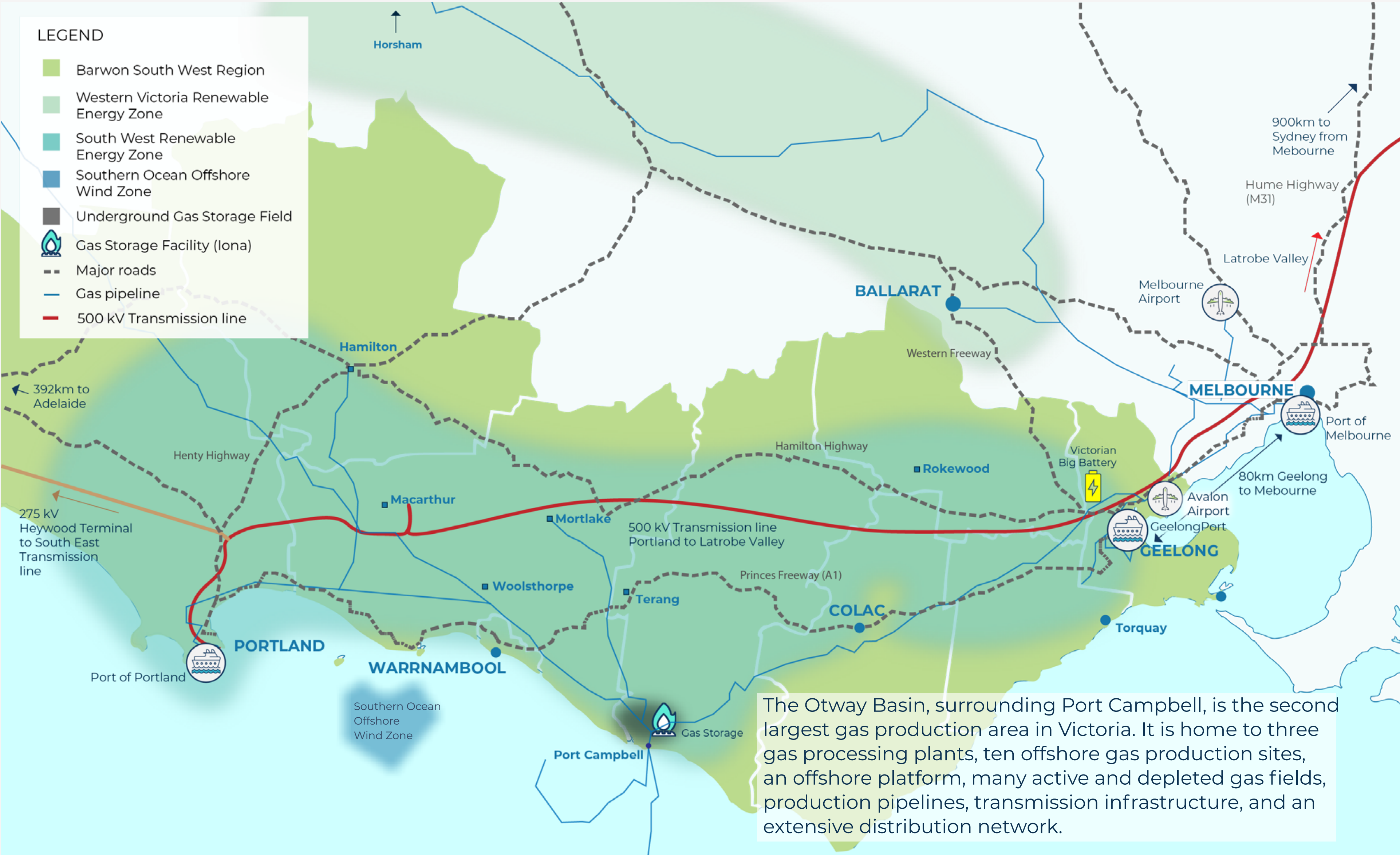
Renewable energy infrastructure

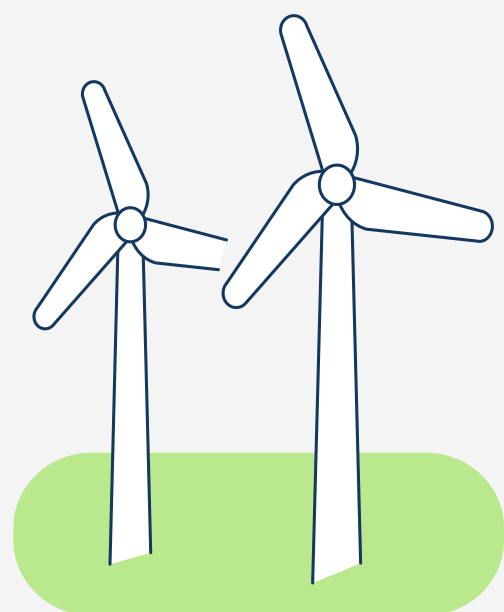


A 500kV transmission line links the Portland Aluminium smelter to the Latrobe Valley via the major demand centres of Geelong and Melbourne. There is also a 275kV transmission line connecting Portland to South Australia via the Heywood interconnector.

The Southern Offshore Wind Zone has the potential to bring up to 2.9GW of electricity into the state, potentially enabling large-scale renewable hydrogen production in key regions and unlocking further sector opportunities, such as green methanol production.

As a potential flexible source of demand, electrolyzers can help offset investment in network augmentation and improve the commercial prospects of renewable energy projects. They can become an important part of our future grid as Victoria progresses towards 95% renewable electricity by 2035.





Renewable electricity capacity

3GW

Committed or in operation
in the South West Victoria
Renewable Energy Zone*

1.9GW

Committed or in operation
in the Western Victoria
Renewable Energy Zone*

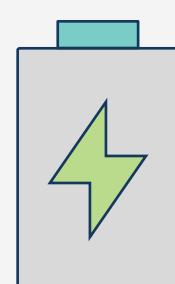


Potential underground gas storage of

23.5PJ

Electricity infrastructure

The Barwon South West region has excellent land assets and the capacity for large-scale renewable energy generation, together with supporting grid infrastructure. There are more than ten active wind farms across the region, including four of Victoria's five biggest wind farms located near Portland, Macarthur, Woolsthorpe and Rokewood.



These wind farms, and the region's smaller solar arrays, are complemented by a 300MW battery installed at the Moorabool Terminal station approximately 13km northwest of Geelong.

Large areas of the Barwon South West region have been designated as Renewable Energy Zones and an Offshore Wind Zone by the Australian Government, signalling significant expected growth in renewable energy generation.

Transmission network upgrades are underway across Victoria as part of the Victorian Transmission Investment Framework. These upgrades will modernise the grid, improve reliability, and enable greater access to renewable energy.

If all new projects planned or under construction come to fruition, the Barwon South West region's renewable energy capacity could rise from 1,835MW (plus 300MW of battery storage) to over 11,000MW (plus 645MW of battery storage) - making use of the region's plentiful solar and wind supplies*.

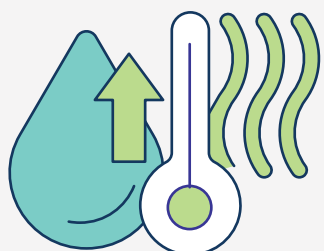
Gas infrastructure

Lochard Energy own and operate the Iona Gas Plant and underground storage facility at Waarre near Port Campbell. Iona is the largest independent provider of gas storage services to the East Coast gas market of Australia and can store up to 23.5PJ of gas underground.

Lochard Energy's H2RESTORE project (see page 15 of this Prospectus), could enable lower cost hydrogen production as early as 2032.



*Source: aemo.com.au/-/media/files/major-publications/isp/2024/appendices/a3-renewable-energy-zones.pdf



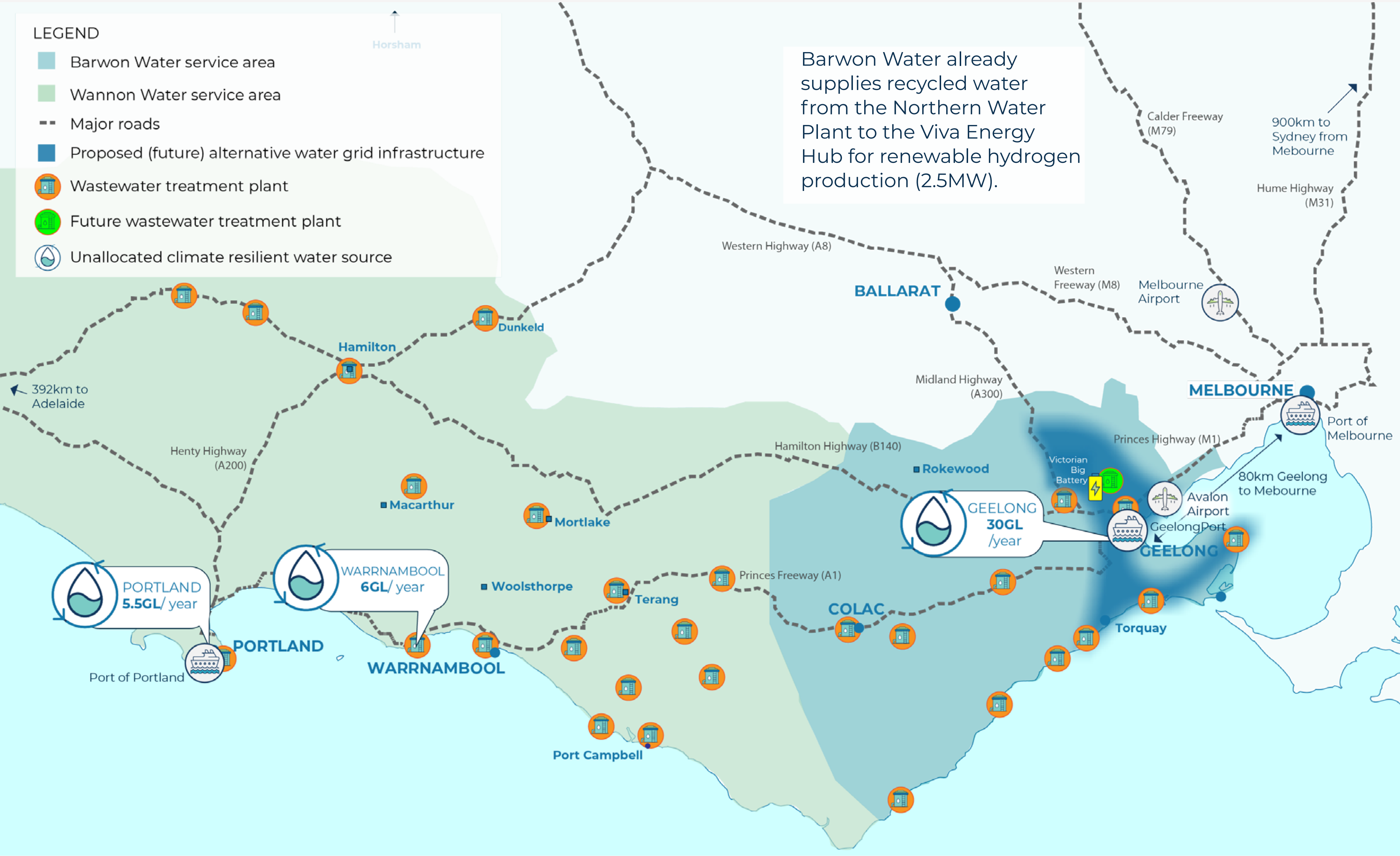
Climate resilient water sources

The Victorian Government's policy position is that sustainable water sources such as recycled water, desalinated water and stormwater, are to be used for renewable hydrogen production in preference to other sources of water that could impact existing water users or the environment.

Both water service providers in the Barwon South West region strongly support decarbonisation and renewable hydrogen initiatives. Barwon Water and Wannon Water manage a range of strategic water and sewerage assets across the region that support industry growth. They have an existing portfolio of industry customers with bespoke services tailored to suit individual needs.

There are various water resource options available across the region, and water corporations have a clear understanding of infrastructure investment requirements to achieve a range of desired outcomes.

Working collaboratively, Barwon Water and Wannon Water can support investors to identify suitable water sources and possible shared benefits for the region.



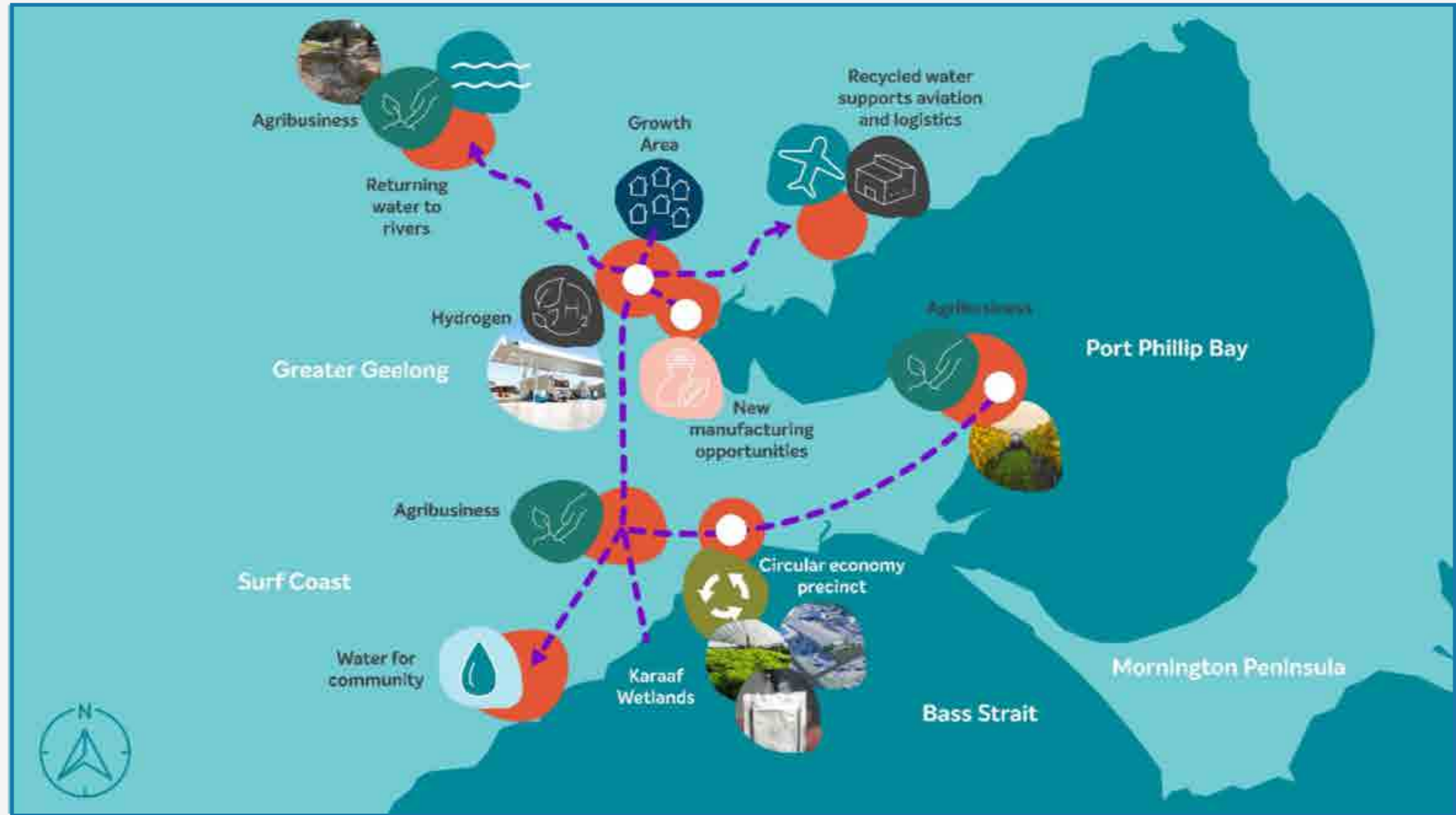
Geelong and surrounds - Barwon region



Barwon Water is making significant investment in new water infrastructure to service expected growth in the northern and western growth areas of Geelong. Large Scale Alternative Water Grid (LSAWG) infrastructure will connect new and existing water reclamation plants in the north of Geelong with a large existing plant to the south, giving greater access to more reliable and sustainable alternative water sources, including 26GL of recycled water per annum.

The LSAWG specifically aims to support renewable hydrogen opportunities, by providing a reliable source of alternative water for electrolysis. Other expected regional benefits include agribusiness opportunities, support for housing growth, more climate resilient water and return of water to rivers and Traditional Owners.

The LSAWG concept design is well advanced, based on investigations of existing alternative water demand. Barwon Water is now actively seeking investment to enhance the planned LSAWG infrastructure, opening doors to further opportunities for sustainable growth across industry and agriculture in the region.



Warrnambool, Portland and surrounds - South West region



The Portland region has an appetite for economic diversification, with the Victorian Government implementing a Portland Economic Diversification Plan and subsequent Portland Diversification Fund – supporting projects in a place-based approach to diversification which will facilitate growth and resilience in the Portland/Glenelg Shire economy.

An \$85 million upgrade to the Warrnambool Sewage Treatment Plant is currently underway. The project supports economic growth and prosperity of South West Victoria and will help secure the region’s future as a popular and attractive region for investment.

An effluent management strategy is also under development. The strategy will consider long-term community expectations relating to management of treated effluent from the Warrnambool Sewage Treatment Plant which currently discharges to the ocean.

There are growing calls for effluent to be treated to a higher standard and reused for beneficial purposes.

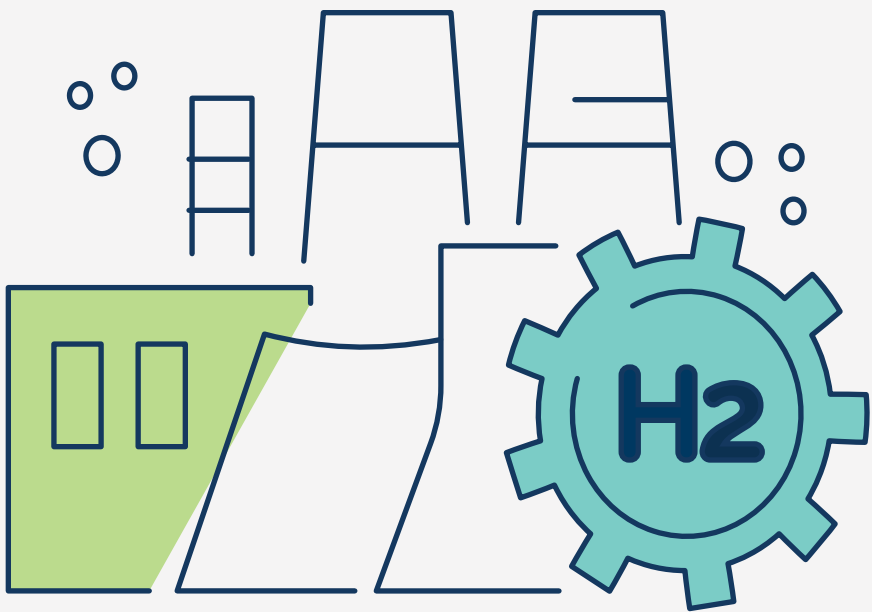
With appropriate investment, Wannon Water foresee opportunities to utilise treated effluent as a sustainable source of water for industry, including hydrogen production.



Workforce, skills and training

The Barwon South West workforce has proven itself to be readily adaptable. Sophisticated tertiary and vocational upskilling frameworks have been successfully harnessed to develop a ready-made workforce for emerging industries.

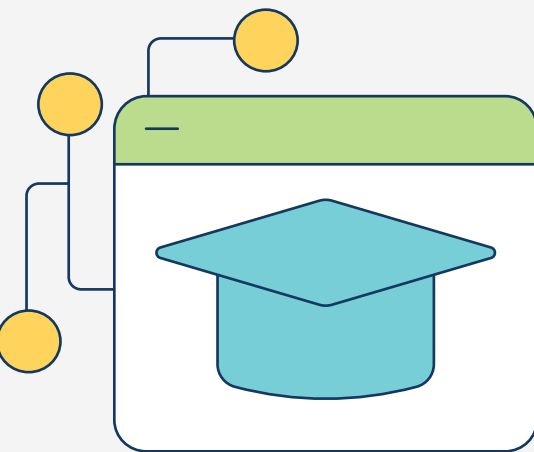
There are well developed tertiary and vocational education providers, from Deakin University to South West TAFE, ready to work with industry to develop workforce skills in new and emerging industries such as renewable hydrogen.



Hydrogen Worker Training Centre

In partnership, the Victorian and Commonwealth Governments will co-fund the establishment of the Renewable Hydrogen Worker Training Centre. Through a forthcoming open and competitive selection process, up to \$18 million in grant funding will be available for a lead partner to deliver the Centre.

Harnessing the track record and expertise of training and education experts across the region, and building on existing hydrogen initiatives already underway, this could be an opportunity for the Barwon South West region to further embed its skills and workforce capabilities.



\$18 million

Renewable Hydrogen Worker Training Centre

Leading Edge Manufacturing Capability

The Barwon South West region is renowned for its leading-edge manufacturing and engineering capabilities, and these can play a vital role in supporting an emerging hydrogen sector.

Local manufacturers with key capabilities such as Geelong Galvanizing, Marand, IXL Group, Breakwater Metaland, Integra Systems, and engineering firms like Brockman Engineering, Austeng, GHD, Worley and Prince Engineering are well positioned to provide the skills and capabilities needed.

The region's capability to support large-scale projects, coupled with its strategic location and access to key supply chains (energy, mining, defence, precision engineering for aerospace and advanced manufacturing) make it an ideal base for the renewable hydrogen industry to flourish.



South West TAFE and Hycel - Partnered to deliver Skilled Workers



South West TAFE (SWTAFE) is co-located with Hycel at Deakin University's Warrnambool campus and leverages its location in one of Victoria's prime renewable energy zones to foster strong industry partnerships that address evolving workforce demands. For example, in collaboration with

industry leaders and academic experts, SWTAFE has developed a unique course focused on safely operating heavy fuel cell vehicles. Together, Deakin and SWTAFE are leading hydrogen workforce development in Australia, as evidenced by the following initiatives:

- SWTAFE is developing Australia's first hydrogen heavy vehicle training package
- SWTAFE and Hycel co-founded the National TAFE Hydrogen Forum, a group of 15+ national organisations assembled to coordinate a unified approach to generating consistent training outputs.
- In partnership with the Australian and NZ Council for Fire and Emergency Services, Hycel delivered Australia's first national training for emergency responders
- Hycel is developing six short courses for engineers in partnership with Engineers Education Australia
- Hycel developed a nationally aligned school curriculum for primary and high school students and is developing accompanying teacher training.



deakin.edu.au/hycel

The Gordon - Clean Energy Hub



The Gordon, one of Victoria's premier regional TAFEs, has been skilling Geelong's workforce since the late 1800's.

The Gordon is currently developing a Renewable & Clean Energy Innovation Training Hub for the Barwon Region and Western Victoria, focused on delivering industry-relevant training aligned with federal and state clean energy priorities.

The hub will support the upskilling of the workforce in advanced manufacturing, electrotechnology, carpentry/construction, plumbing/high risk, natural environment, sustainable logistics and cyber security to meet the growing demand for skills in renewable energy and energy efficiency technologies and provide school to work pathways, in conjunction with the Geelong Tech School.

The development and implementation of the Hub at The Gordon's East Campus will support multiple program areas within Education Excellence and is designed as a collaborative investment between Geelong Tech School, government, industry and The Gordon.





Industry research and development capacity

Deakin Hycel - Supporting industry with R&D

hycel



Hycel is Deakin's industry-led response to Australia's hydrogen opportunity and has a hands-on approach to real-world usage in hydrogen.

With four areas of focus – hydrogen technology adoption, materials and manufacturing, education and social licence – the Hycel team are primed to work with cross sector partners to tackle technological challenges and develop research pathways and product solutions.



Hycel's bespoke hydrogen facility, Hycel Technology Hub, is a hydrogen research, testing, and training facility that provides unique research infrastructure to develop next-generation fuel cells from lab scale to real world trials under the one roof.

The facility is also an education and training centre, providing opportunities for school, vocational, tertiary, professional and community hydrogen education.

Hycel leverages Deakin's renowned expertise in advanced materials and manufacturing, engineering, energy systems, IT, artificial intelligence, techno-economics and social sciences and is complemented by world-leading infrastructure.

Deakin University - Funding opportunities through REACH



**DEAKIN
UNIVERSITY**

Deakin University's Recycling & Clean Energy Commercialisation Hub (REACH) program is Australia's largest clean energy and recycling advanced manufacturing ecosystem.

One of six Commonwealth Trailblazer programs, REACH facilitates the development of greener supply chains and collaborates with industry partners to pioneer a sustainable circular economy.

The Program supports industry partners to develop innovative solutions and transform ideas into commercial reality and capture market opportunities that grow Australia's sovereign manufacturing capability in a range of areas including renewable hydrogen.



deakin.edu.au/research/research-partnerships/geelong-future-economy-precinct/reach



Strong support for a renewable hydrogen industry



Spirit of regional collaboration

The Barwon South West region has strong and established networks of industry and community leaders and advocates who are ready to support investment in the renewable hydrogen sector.

Together, these regional leadership and collaboration groups have already helped to generate significant change in the region, bringing new industry, development and opportunity to their local communities. They can help to facilitate the emerging renewable hydrogen industry by acting as powerful advocates to both government and community.



The Great South Coast Regional Partnership and Barwon Regional Partnership established by the Victorian Government in recognition that local communities are in the best position to understand the challenges and opportunities faced by their region.



South West Victoria Alliance sees government, industry and community working together for the benefit of communities across the central and western areas of the Barwon South West, including the shires of Colac-Otway, Corangamite, Glenelg, Moyne, Southern Grampians and the City of Warrnambool.



Regional Development Australia Barwon South West collaborates with all levels of government, regional leaders and businesses to identify opportunities to leverage Australian Government programs that will increase economic activity in the region. It engages across nine local government areas in the region to align regional priorities and drive economic development.



G21 Geelong Region Alliance is the formal alliance of government, business and community organisations working together to improve the lives of people within the Geelong region across five municipalities – Colac Otway, Golden Plains, Greater Geelong, Queenscliffe and Surf Coast. G21 supports the delivery of projects that benefit the region across municipal boundaries and is a platform for the region to speak with one voice to all levels of government.



Committee for Portland is an initiative of leading business, local government and community leaders within Portland. The committee was established in 2007, with the view to advocate and facilitate the future development of Portland and surrounding areas to be a vibrant and economically sustainable community.



The Committee for Geelong (CfG) provides strategic leadership and influence to leverage the economic potential of the Geelong city region, to make Geelong a world class place. As an independent, non-partisan, membership-based organisation, the CfG work collaboratively with an authoritative group of stakeholders and influencers to support the city-region's growth.

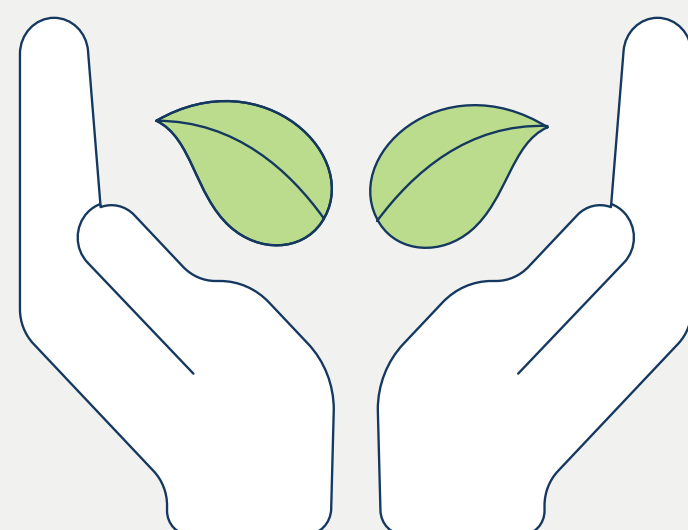


Pathway to self-determination

The Barwon South West region upholds the Victorian Government's commitment to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and First Peoples, to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

The region also supports the Victorian Government's position that there is an obligation for industry and government to create genuine partnerships with Traditional Owners and First Peoples as part of our collective once-in-a-generation renewable energy transition and transformation, to ensure that their self-determining rights and interests are upheld.

In the spirit of self-determination, the authors of this Prospectus sought comment from each of the Registered Aboriginal Parties for inclusion here.



Wadawurrung Healthy Country Plan in full - [Wadawurrung.org.au/_files/ugd/d96c4e_72611327c6a54d3198c0499ac5c26e54.pdf](https://wadawurrung.org.au/_files/ugd/d96c4e_72611327c6a54d3198c0499ac5c26e54.pdf)

Wadawurrung Traditional Owners Aboriginal Corporation



Wadawurrung
Traditional Owners
Aboriginal Corporation

Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC) recognises that the energy transition is crucial to reduce the impacts of climate change on *dja* (Country).

Renewable hydrogen is an emerging low-emissions technology and WTOAC would like to work with proponents, industry and government on projects taking place on Wadawurrung *dja* (Country).

While WTOAC understands the need for the energy transition to maintain a safe climate we also acknowledge the harm and impact that these projects will have on Wadawurrung *dja* (Country). Strong partnerships and benefit sharing enables Wadawurrung Traditional Owners to prevent and reduce harm to *dja* (Country) and proactively care for *dja* (Country).

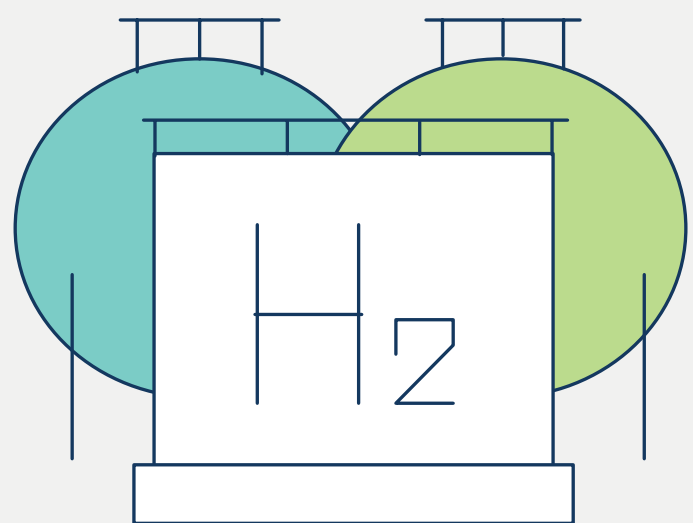
WTOAC is the representative body for Wadawurrung Traditional Owners and works to support Wadawurrung Traditional Owner aspirations. WTOAC's Paleert Tjaara Dja – Let's Make Country Good Together 2020-2030 Wadawurrung Country Plan (*Paleert Tjaara Dja*) is the collective dream and direction for the future of Wadawurrung People and *dja* (Country). We invite proponents, industry and government to support and achieve our principles for projects either in development, or operating, on Wadawurrung *dja* (Country).

Our principles are:

- A commitment to *koling wada ngal* (walk together) through the energy transition and work towards *Paleert Tjarra Dja*
- Free, Prior and Informed Consent
- Meaningful engagement through the lifecycle of a project, including from the initial planning stages
- Strong commitment to protect and strengthen tangible and intangible cultural heritage
- Procuring WTOAC's services and First Nations services through the lifecycle of the project
- Commitment to learn from Wadawurrung Traditional Owners through cultural education
- Meaningful self-determined benefit sharing and partnership opportunities, including revenue sharing.



Clear policy commitment



15-30M
tonnes of renewable hydrogen annually
by 2050

Both nationally and locally, there are firm commitments to renewable hydrogen being part of our zero-emissions future.

National hydrogen strategy

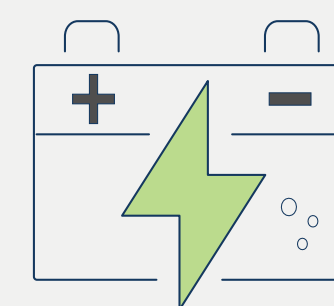
Australia is committed to producing at least 15 million tonnes of hydrogen annually by 2050, with a stretch goal of 30 million tonnes annually. The nation's hydrogen strategy envisages 3GW of electrolyser capacity by 2030, expanding to an impressive 150GW by 2050. This ambitious national plan is further supported by Commonwealth Government funding, with a clear target of achieving a Net Zero Victorian Economy by 2045.

This national energy transition that is necessary to achieve these goals presents a unique investment window in a region that is actively advancing toward a cleaner, more sustainable energy future.

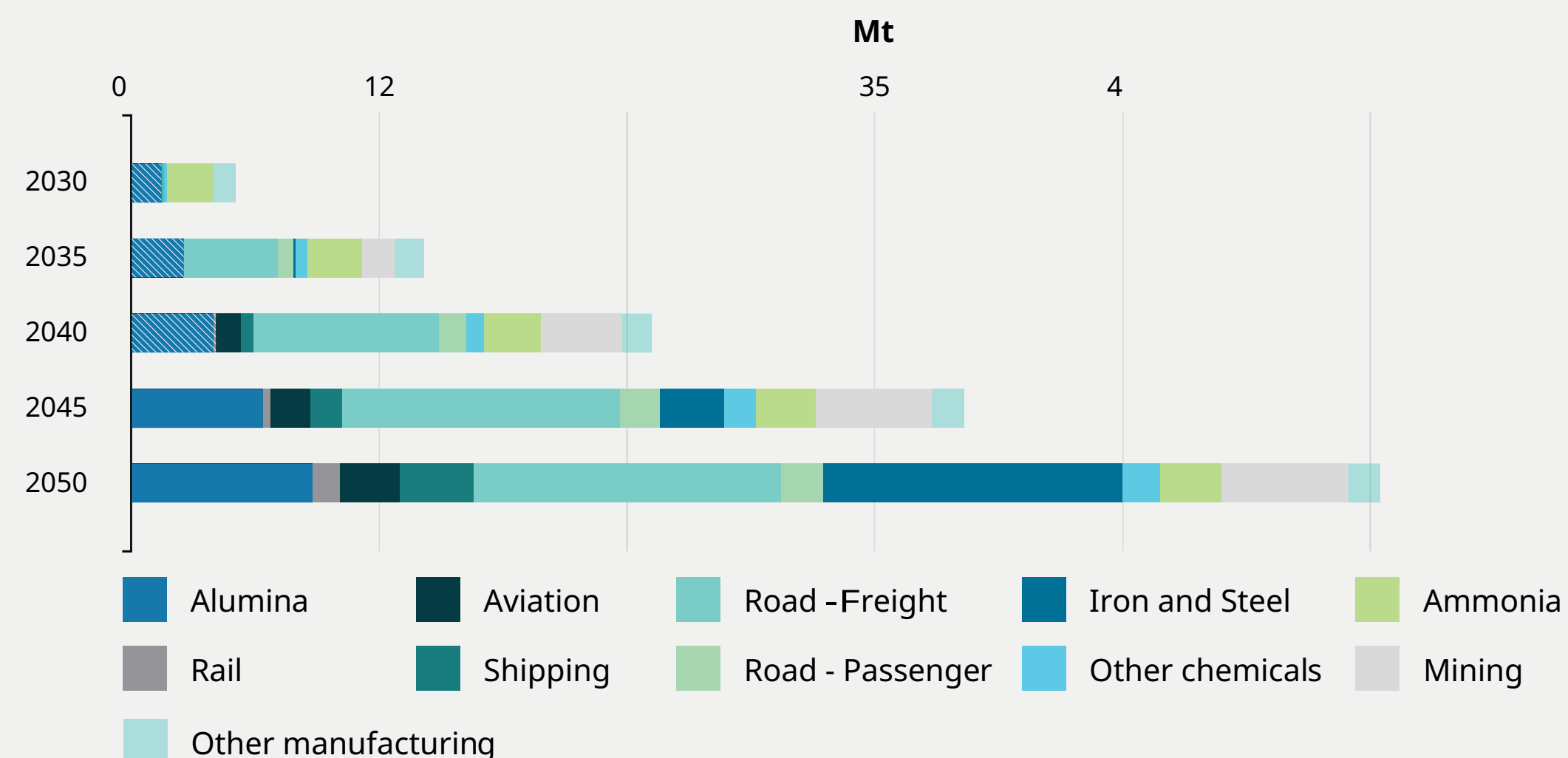
New national funding support for renewable hydrogen

The Commonwealth Government announced another \$2 billion for a second round of its Hydrogen Headstart program in the 2024-25 Federal budget, bringing total program investment to \$4 billion. The Commonwealth Government also legislated \$6.7 billion over ten years to a hydrogen production tax incentive (HPTI), which will provide a \$2 per kilogram tax credit for renewable hydrogen produced at facilities expected to reach Final Investment Decision by 2030. The incentive is available to projects for up to ten years.

3GW
electrolyser
capacity needed
by 2030



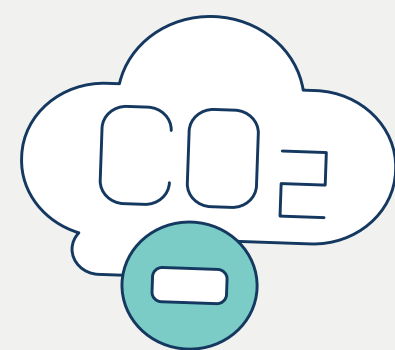
150GW
electrolyser
capacity needed
by 2050



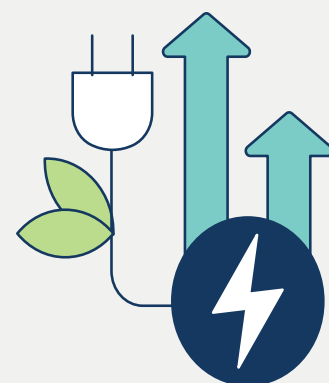
Source: National Hydrogen Strategy 2024 (p63)



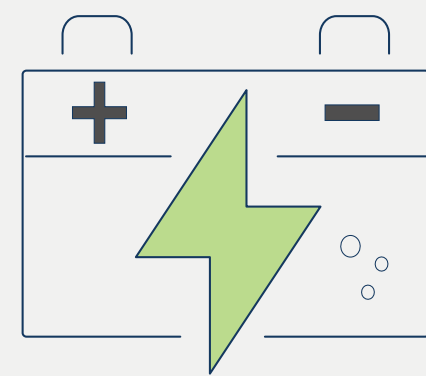
dcceew.gov.au/energy/publications/australias-national-hydrogen-strategy



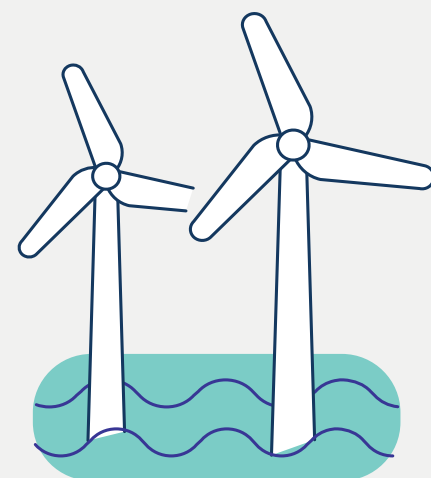
**Net zero
emissions**
for Victoria's
economy by
2045



95%
**renewable
electricity**
by 2035



6.3GW
energy storage
by 2035



9GW
offshore wind
by 2040

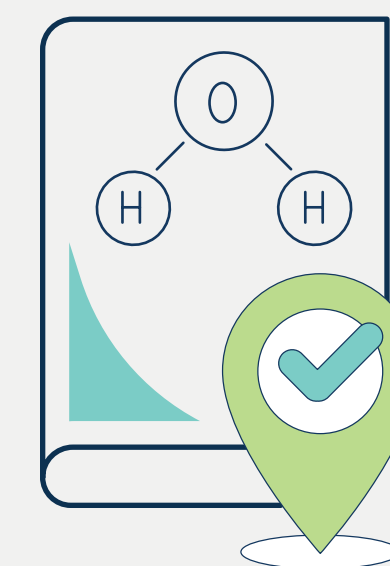
Locally, Victorian Government policy and targets are driving investment

Victoria's ambition to achieve net zero emission by 2045, with a 75-80% reduction in emissions by 2035, presents a significant challenge, requiring comprehensive action across all sectors. Renewable hydrogen and other renewable fuels will play a critical role.

Victoria has legislated renewable energy targets (95% by 2035) creating the right investment framework to support an emerging renewable hydrogen economy.

Renewable Energy Projects over 1MW or more installed capacity can also access fast-tracked approvals under the Victorian Government's Development Facilitation Program (DFP).

The Barwon South West region is poised to play a pivotal role in Australia's energy transition, making now the ideal time for investors to capitalise on the significant opportunities emerging within this dynamic sector.





Renewable hydrogen needed for Victorian industry

Renewable gases will play a critical role in meeting Victoria's commitment to be net-zero by 2045, by decarbonising residual fossil gas usage in Victoria's industrial and Gas Power Generation (GPG) sectors.

The Gas Directions Paper proposes the establishment of an Industrial Renewable Gas Guarantee, a Victorian market-funded certificate scheme commencing in 2027. The Victorian Government is consulting on a target of at least 4.5PJ by 2035, with a final decision on the target yet to be made.

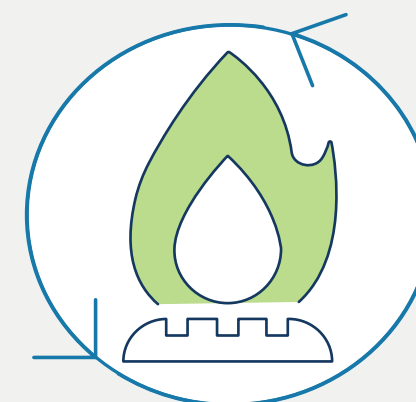
Guarantee of Origin Scheme

The Guarantee of Origin (GO) scheme is an internationally aligned assurance scheme being developed to track and verify emissions associated with hydrogen and renewable electricity made in Australia. GO is a voluntary scheme for producers to verify the carbon intensity of their product. A digital certificate is issued that travels through the supply chain until it is sold, and the certificate is consumed.

The GO scheme lays the groundwork for policies to drive investment in low carbon industries. It will also provide hydrogen buyers with the necessary emissions credentials and help them in meeting their environmental disclosure obligations.



cer.gov.au/schemes/guarantee-origin



The Victorian Government is consulting on a renewable gas target of at least

4.5PJ by 2035





Your gateway to the
**Barwon South
West region**



Guidance for investors

Barwon South West is open for business and ready for new renewable hydrogen initiatives. We look forward to working together to build a thriving industry.

Ensuring a successful investment

Social licence for new initiatives can be driven by commitment to generating region-wide environmental and social benefits.

Identification of suitable renewable electricity from readily available sources that can be utilised for production of renewable hydrogen is critical.

Sustainable water resources such as recycled water, desalinated water or unallocated groundwater are available for use. Early engagement with renewable energy and water suppliers is key to help realise shared benefits at a region-wide level.

Traditional Owners should be involved early, via meaningful engagement that looks for opportunities to further their strategic objectives and/or enable First Nations benefits sharing.

The Barwon South West region has a history of renewable energy projects impacting communities in a variety of ways but with limited long-term tangible local benefit. There is a regional expectation that proponents will actively and respectfully engage and listen to communities' ideas and feedback.

Some of the benefits community want and expect from renewable energy investments in the region include access to reliable and cheap power; improved local jobs, education and training; meaningful investment in community initiatives (e.g. scholarships, early childhood services, housing).

How we can help: Investment advice and support

The Department of Energy, Environment and Climate Action is available to provide policy guidance, facilitation and engagement support, in coordination with other departments and agencies, via the Business and Industry Engagement team at: BLE@deeca.vic.gov.au

The Victorian Government has also established a streamlined, single entry point for business on all investment-related engagements within the Victorian Government.

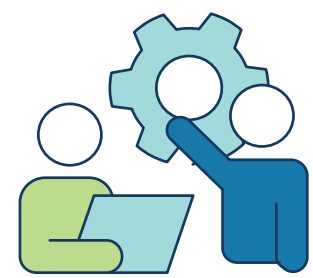
For further information and to register your investment project visit:



invest.vic.gov.au/how-we-can-help/planning/investment-gateway

The Victorian Government can provide project support including:

- Business case and market entry support
- Client and partner introductions
- Support to identify suitable sites
- Support with identifying development approval pathways
- Access to financial and strategic assistance
- Skills assistance and talent acquisition
- Global investor support
- Digital innovation and investor engagement
- Strong coordination across government agencies.



Key contacts to assist new hydrogen proponents

Investment support

- Regional Development Victoria: One stop shop to facilitate investment in rural and regional Victoria and access to intel on Government funding.
✉ information.geelong@rdv.vic.gov.au
💻 rdv.vic.gov.au
- Department of Energy, Environment and Climate Action (DEECA): Responsible for renewable hydrogen policy development.
✉ renewable.hydrogen@deeca.vic.gov.au
- Department of Transport and Planning Office: Development Facilitation Program - responsible for large scale project approvals and planning.
☎ 1800 950 088
✉ development.facilitation@transport.vic.gov.au
- Regional Development Australia: Collaborates with all levels of government, regional leaders and businesses to identify opportunities to leverage Australian Government programs that will increase economic activity in the region.
☎ 1800 950 145
✉ rda.barwonsouthwest@rdv.vic.gov.au
💻 rda.gov.au
- Australian Renewable Energy Agency (ARENA): Access to Federal Government Funding via Hydrogen Headstart program and Hydrogen Production Tax Incentive.
☎ 1800 804 838
💻 arena.gov.au

Key enablers for renewable hydrogen

- Barwon Region Water Corporation: Water services utility for the Barwon region.
✉ info@barwonwater.vic.gov.au
- Wannon Water Corporation: Water services utility for the South West.
✉ info@wannonwater.com.au
- VicGrid: coordinating the planning and development of Victoria's Renewable Energy Zones and transmission infrastructure to support the transition to renewable energy.
✉ vicgrid@deeca.vic.gov.au
- Australian Energy Market Operator (AEMO): manage electricity and gas systems and markets across Australia, helping to ensure Australia have access to affordable, secure and reliable energy.
✉ support.hub@aemo.com.au



Key contacts to assist new hydrogen proponents

Advocacy & Chambers of Commerce

- Committee for Geelong
📞 03 5227 8075
✉️ cfg-admin@committeeforgeelong.com.au
- Committee for Portland
📞 0429 556 830
✉️ admin@committeeforportland.com.au
- SouthWest Victoria Alliance
📞 0400 430 584
✉️ info@southwestvictoriaalliance.com.au

Local Government Planning Offices

- | | |
|---------------------------|---|
| • City of Greater Geelong | ✉️ contactus@geelongcity.vic.gov.au |
| • Queenscliffe | ✉️ info@queenscliffe.vic.gov.au |
| • Surf Coast | ✉️ info@surfcoast.vic.gov.au |
| • Golden Plains | ✉️ enquiries@gplains.vic.gov.au |
| • Colac Otway | ✉️ inq@colacotway.vic.gov.au |
| • Corangamite | ✉️ shire@corangamite.vic.gov.au |
| • Moyne | ✉️ moyne@moyne.vic.gov.au |
| • Warrnambool | ✉️ contact@warrnambool.vic.gov.au |
| • Glenelg | ✉️ enquiry@glenelg.vic.gov.au |
| • Southern Grampians | ✉️ council@sthgrampians.vic.gov.au |

Training, Education and social licence

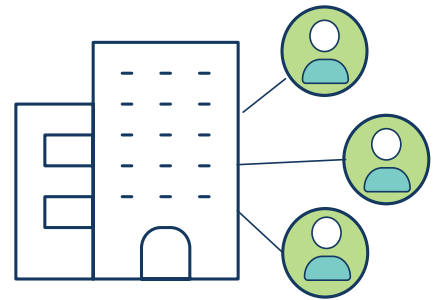
- SW TAFE
📞 1300 648 911
✉️ learn@swtafe.edu.au
- Hycel
✉️ hycel@deakin.edu.au
- The Gordon
📞 1300 862 572
✉️ courinfo@gordontafe.edu.au

Pathway to self determination

- Eastern Maar
📞 0427 271 937
✉️ admin@easternmaar.com.au
- Gunditj Mirring
📞 (03) 5527 1427
✉️ reception@gunditjmirring.com
- Waddawurrung
📞 (03) 4318 6333
✉️ admin@wadawurrung.org.au



Contributors to this Prospectus



A group of regional stakeholders, united by a shared commitment to sustainability and economic growth, has guided the development of this Prospectus.

The Oversight Committee – led by Barwon Water, Wannon Water, the Victorian Department of Energy, Environment and Climate Action, Regional Development Victoria, Regional Development Australia and Deakin University – acknowledges and thanks the almost 40 organisations who contributed to the development of the Prospectus (listed below).

The Oversight Committee also recognises the foundational work completed by Deakin University, and funded by Regional Development Australia, via the Barwon South West Renewable Hydrogen and Energy Investment Opportunity Project in early 2024, which identified the need for this Prospectus.

Contributing organisations:

- | | | |
|--|---|---|
| <ul style="list-style-type: none">• Avalon Airport• Australian Hydrogen Council• Barwon Water• BMW• City of Greater Geelong• Colac Otway Shire• Committee for Geelong• Countrywide Hydrogen• Deakin University• Department of Energy, Environment and Climate Action• Future Fuels CRC• Geelong Manufacturing Council• Glenelg Shire Council | <ul style="list-style-type: none">• Gordon TAFE• HAMR Energy• HDrive• Incitec Pivot• Invest Victoria• Prince Engineering• Lochard Energy• Moyne Shire• Pacific Energy• Port of Portland• Regional Development Victoria• Sustainability Victoria• South West TAFE• Toll Group | <ul style="list-style-type: none">• Toyota• Viva Energy• Vline• Wannon Water• Warrnambool Bus Lines• Warrnambool City Council. |
|--|---|---|

OVERSIGHT COMMITTEE





