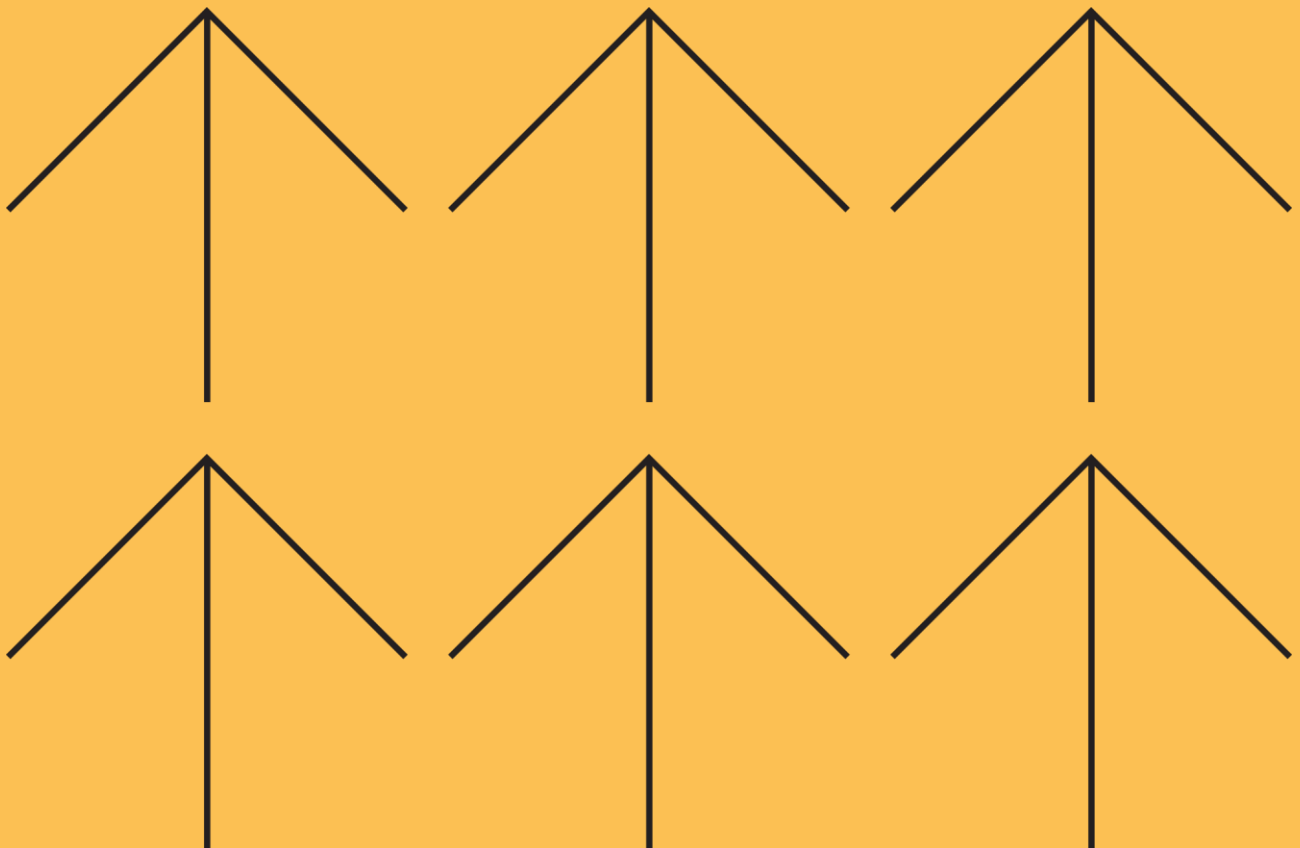


Northern Grampians Shire Council

Energy Transition Action Plan

Position Paper

January 2023



Context

Australia's energy system is undergoing a profound transition to a new, carbon free state in response to the threat of climate change. The energy transition will affect every business and household as our energy supplies move away from fossil fuels to renewable energy sources.

This transition creates a wide range of opportunities and challenges, including for the Northern Grampians Shire Council (NGSC), its residents and businesses. Key questions that arise for NGSC in light of this transition include:

- * How can the NGSC benefit from the transition?
- * How can NGSC support businesses to transition to renewable energy and leverage opportunities arising from the transition for the benefit of businesses and residents?
- * How can the NGSC avoid potential downsides of the transition?

The NGSC already hosts significant energy infrastructure and sits in the Western Victoria Renewable Energy Zone. The NGSC hosts the Bulgana wind farm and battery, and the planned Western Renewables Link will pass through the southern part of the NGSC, creating an opportunity for new renewable energy projects. The NGSC includes high quality wind and solar resources.

Moreover, electricity and gas price variability and the development and implementation of new energy systems will eventually impact everyone in the NGSC. It is therefore critical that NGSC is proactive in maximising the benefits of the energy transition for its community.

Project Outline

NGSC is seeking to develop an Action Plan that will see the Shire harness the transition to renewable energy to benefit its communities and make the most of its opportunities. The Action Plan should respond to the priority energy needs of the community and businesses. This response would enable the NGSC to prepare for and pursue current and future opportunities that in turn maximise the community benefit from energy investments in the NGSC region.

The Action Plan should align to existing NGSC and regional strategies and plans with a strong emphasis on economic development. In particular, the Action Plan should be closely aligned with the NGSC's Economic Development Strategy. This strategy is founded on three guiding principles:

1. **Growth from within** by focusing on existing regional strengths, protecting and enhancing our comparative advantages, building on existing investment and momentum and focusing on the innovation potential of mature sectors and competitive areas.
2. **Focusing on what attracts people** by creating places where people thrive, want to live and visit.
3. **Being strategic by**
 - a. ensuring strong civics, data driven decisions, strong leadership and a high capacity for stakeholder engagement and implementation.
 - b. Being tactical and strategic - broad, long-term strategies that set the overarching direction/objectives for economic development. Identify short-term, tactical actions that address specific barriers or challenges to attaining the longer-term vision, direction/objectives.

- c. Being focused - target areas that are both big enough to offer opportunities and small enough to be tangible, visible improvements to spur investment. Over time, small focus areas can be expanded to build on successes.

The delivery of an Action Plan and collateral will support the NGSC through the transition, including maximising opportunities and developing the Western Victoria Renewable Energy Zone and associated infrastructure.

Project Methodology

This Position Paper (the Paper) has been prepared by Grantus and Proud Mary Consulting as a foundational document that sits behind the Action Plan. It contains a variety of key background information intended to inform the development of the Action Plan.

The preparation of this Paper has combined knowledge from a range of inputs. The Paper combines information related to the local context of the NGSC and the broader context of the energy transition in Victoria. Early in the project, local and regional stakeholders with energy interests were identified. We phone surveyed a range of local businesses, renewable energy developers, NGOs and government agencies. We also talked to other local councils in Victoria to understand and learn from their experiences of the energy transition. This engagement helped clarify issues most relevant to the community and identify opportunities to maximise the benefits of the transition. This stakeholder engagement was complemented with desktop research that analysed materials from key bodies such as the Victorian Department of Energy, Environment and Climate Action (DEECA) and the Clean Energy Council.

Based on stakeholder engagement and desktop research, the Paper identifies potential energy actions for NGSC. These actions have been designed to address the natural advantages of the NGSC and its community. The Paper recommends a strategic approach that responds to priority energy needs and opportunities. Its recommendations are aligned with existing plans, particularly with the principles of the NGSC's Economic Development Strategy. The actions identified have been designed to be achievable for the NGSC to implement.

Issues Identified

This section sets out key themes that have arisen during the development of the Paper. These issues have been identified through research, engagement with local community stakeholders, businesses and discussions with external stakeholders such as energy developers and government agencies.

Renewable energy development will accelerate

The pace of the Australian energy transition is ramping up as demand for renewable energy increases. The response is in part due to: increasing costs for coal and gas fired generation, the ageing of the nation's coal fired power stations and their increasing unreliability, and growing attention on the need for emissions reductions.

The Commonwealth Government has legislated a target of reducing Australia's CO₂ emissions by 43% by 2030, and net zero emissions by 2050¹. The Victorian Government has adopted an emissions reduction target of 50% by 2030². The Victorian Government has also legislated a target of 50% renewable energy use in the State by 2030³. It has also recently announced an intention to legislate a target of 95% renewable energy use by 2035⁴.

The Australian Energy Market Operator (AEMO) is responsible for operating the National Energy Market (NEM), which is a wholesale electricity market and a physical power system. AEMO is also responsible for planning the future of the NEM. Every two years, AEMO updates its Integrated System Plan (ISP) for the NEM. The 2022 ISP sets out several scenarios for the NEM's transition.⁵ The ISP's expected energy transition to 2050 shows that grid scale solar and wind power generation would increase *more than two and a half times* between 2022 and 2030, and *nine-fold* between 2022 and 2050. The number and variety of initiatives and announcements related to the energy transition grows almost weekly. In 2022:

- * Queensland announced a rapid transition to renewable energy including the closure of all coal fired power stations in the State by 2035;
- * New South Wales established five renewable energy zones and new grid access arrangements to support renewable energy growth; and
- * In Victoria, AGL announced the closure of the Loy Yang A coal fired power station in 2035, ten years earlier than it had previously planned, and the State Government has announced large, new energy

Expected energy transition to 2050

('Step Change' scenario)

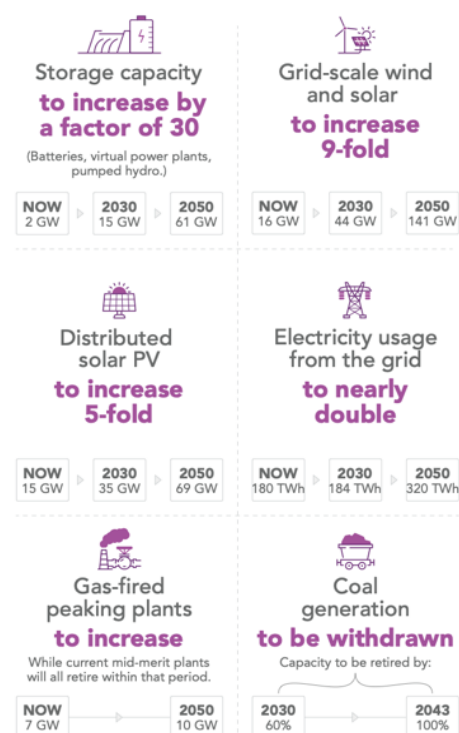


Figure 1: AEMO ISP Overview

¹ Climate Change Act 2022 (Cth).

² DEECA "Climate Action Targets" (2022) available at: <https://www.climatechange.vic.gov.au/climate-action-targets>.

³ Renewable Energy (Jobs and Investment) Act 2017 (Vic).

⁴ DEECA "Victorian Renewable Energy and Storage Targets" (2023) available at: <https://www.energy.vic.gov.au/renewable-energy/victorian-renewable-energy-and-storage-targets>.

⁵ AEMO "Integrated System Plan" (2022) available at: <https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/2022-integrated-system-plan-isp.pdf?la=en>, p 32.

storage targets. The Victorian Government has also announced that they intend to bring back a reimagined version of the State Electricity Commission⁶.

Renewable energy interest in the NGSC will increase

This transition will mean more renewable energy development in Western Victoria, including within the NGSC. There are several reasons the NGSC is likely to be a hotspot for the energy transition.

First, the NGSC has high quality wind and solar resources.

Second, the existing main transmission line runs through the NGSC and is set to be upgraded as part of the Western Renewables Link (as shown in Figure 2 below). The energy transition will require significant investment in new electricity transmission infrastructure. In the NGSC, the Western Renewables Link is a proposed new 190km overhead high-voltage electricity transmission line that will carry renewable energy from Bulgana in western Victoria to Sydenham in Melbourne's north-west. The Western Renewables Link is critical to unlocking the renewable energy potential of Victoria as the state transitions to clean energy. The Environmental Effects Statement is currently being prepared. Construction is expected to commence mid-2024 and be completed in 2026.

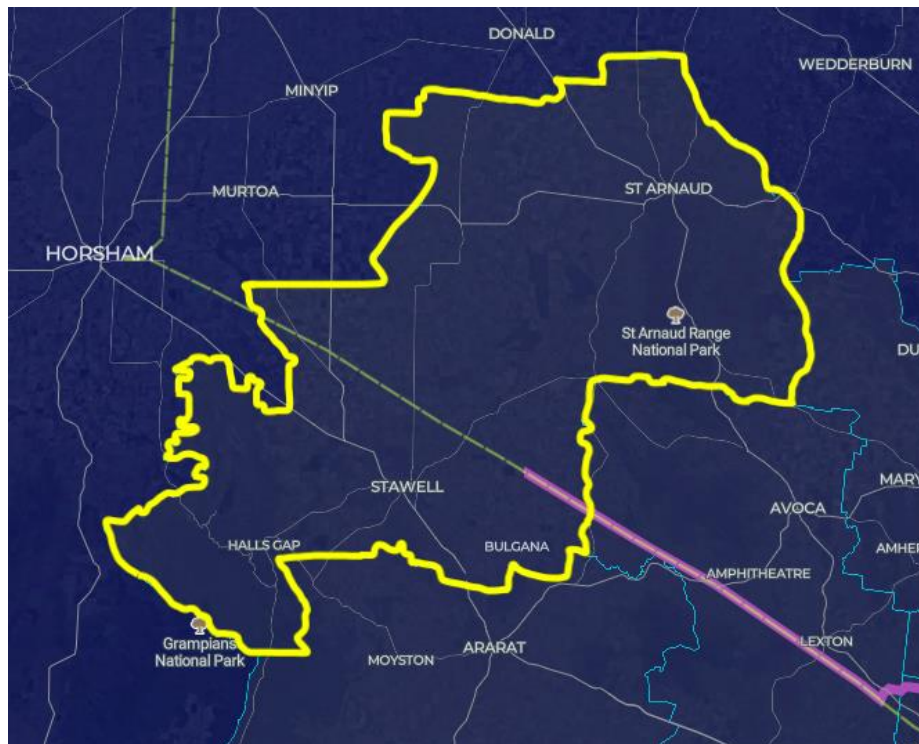


Figure 2: A map of the Northern Grampian NGSC (outlined in yellow) with the proposed route for the Western Renewables Link (purple) and the existing transmission line (green).

Third, the NGSC is relatively sparse with plenty of farmland, away from major cities.

Fourth, the NGSC already hosts several renewable energy generation projects and is aware of a number of developers seeking to connect more projects to the grid.

⁶ Victorian Government "State Electricity Commission Victoria" (2023) available at: <https://www.vic.gov.au/state-electricity-commission-victoria>.

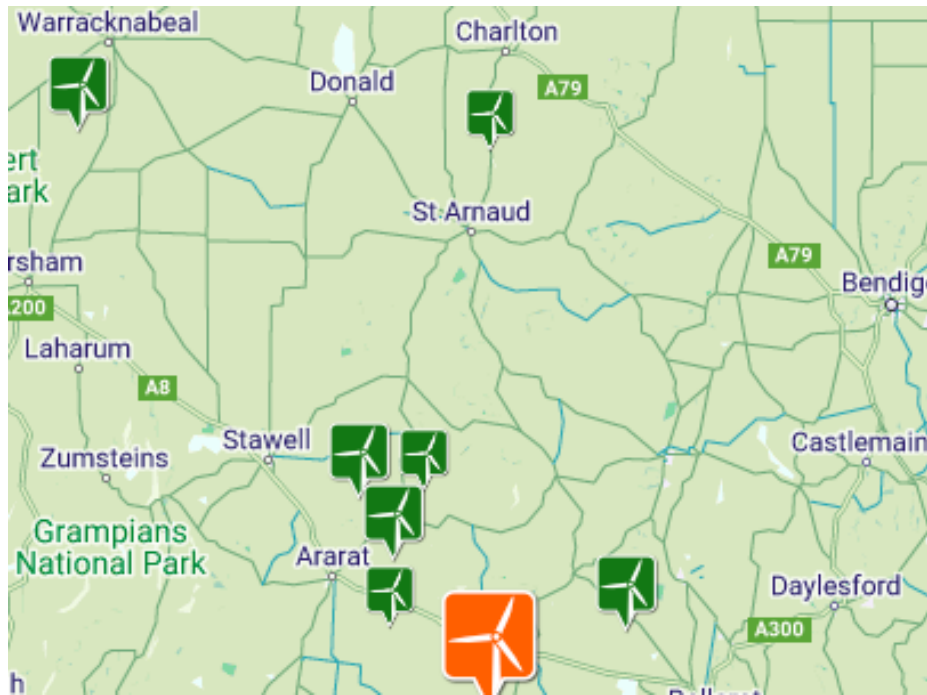


Figure 3: Current and proposed wind farms in the NGSC area. Source: <https://reneweconomy.com.au/large-scale-wind-farm-map-of-australia/>.

Fifth, the Victorian Government has identified Renewable Energy Zones (REZs) for the State, indicating the Western REZ as a priority zone, covering large parts of the NGSC.



Figure 4: Map of Victorian REZs. Source: <https://www.energy.vic.gov.au/renewable-energy/renewable-energy-zones>.

The Victorian Government will be focussing its efforts to develop Victoria's renewable energy industry in these zones.

As the Western Renewables Link project progresses, renewable energy developers will become increasingly interested in accessing the transmission line by developing in areas close to the Link, including in the NGSC.

Relative to the number of renewable energy developments occurring across Victoria and Australia, the NGSC has had few proposals. Of the developments that have occurred, the community, by and large, have been supportive. This has not been the case in a number of other localities, with several councils calling for 'no new development'. A number of local councils are now taking a negative position on new renewable energy developments, threatening new investment in their region. Some of this negative attention has come from planning being managed by the state government and local communities being left out of conversations and decision making. These energy projects are a significant investment for the region, and some locals believe that few benefits have been left for the communities impacted. Energy is exported to the grid while their bills increase, and profits from the development may be exported overseas.

Councils across Victoria are grappling with renewable energy developments. Some councils are more welcoming than others. Councils that have a position or guidance on how to work with proponents are likely to achieve a better overall outcome for their communities.

One of the most important aspects of renewable energy developments will be effective engagement. Some of the criticism and concerns locals, councils and landowners have about renewable energy developments revolve around the engagement processes undertaken to date. If the NGSC advocates on behalf of its community, appropriate, timely and factual information can be disseminated.

Action 1: NGSC to prepare documentation to give guidance to staff and their community on how they will approach renewable energy developments. This could be in a position/policy on climate change, emissions reduction and economic development and could indicate support for developments only where effective community engagement and support is obtained.

One of the most important aspects of renewable energy developments will be effective engagement. Some of the criticism and concerns locals, councils and landowners have about renewable energy developments revolve around the engagement processes undertaken to date. If the NGSC advocates on behalf of its community, appropriate, timely and factual information can be disseminated.

Action 2: NGSC to act as a lead advocate for the community in discussions regarding new renewable energy developments.

Shared benefits

Renewable energy development often creates opportunities for benefit-sharing by developers with the local community. Benefit sharing is defined as sharing the rewards of a project with the local community and aiming to integrate a development into a community by contributing to future vitality and success of the region⁷. The rationale behind benefit sharing acknowledges the impact developments have on communities and is founded on a desire to establish and maintain positive long-term connections to an area⁸. Benefit sharing requires careful consideration of how a project can add value in a local area and what it takes to be a welcomed development⁹. For example, developments can provide significant regional opportunities for jobs and economic activity¹⁰.

Both direct and legacy benefits should be considered. Direct benefits are immediate, transactional and straightforward, respond to what the community wants and provide immediate wins¹¹. Legacy benefits are

⁷ Clean Energy Council "A Guide to Benefit Sharing Options for Renewable Energy Projects", p 3.

⁸ Ibid.

⁹ Ibid.

¹⁰ DEECA "VRET2 Community Engagement and Benefit Sharing Guide Launch FAQ".

¹¹ DEECA "VRET2 Community Engagement and Benefit Sharing Guide", p 19.

larger, longer-term and aimed at delivering strategic local benefits to a local community¹². Whilst transactional elements are important, benefit sharing should be more than transactional and should understand and respond to a community's needs and aspirations¹³.

There are actions the NGSC can take to increase the likelihood these benefits are strategic and long-lasting. To achieve these kinds of benefits, objectives need to be established based on a sound understanding of community needs¹⁴. Coordinating strategic benefit sharing is strongly supported by DEECA. No longer are developers expected to just create a pool of funds to be shared on local projects¹⁵. Both the Commonwealth and State governments are working on protocols for benefit-sharing and improving social licence. The NGSC has the opportunity to be more proactive and facilitate discussions, promote projects for sponsorship and identify initiatives to help developers improve benefit sharing outcomes and increase their social licence to operate in your area.

Action 3: NGSC to identify initiatives to improve wider community benefit sharing outcomes and lead engagement with project developers and government authorities to articulate what the NGSC is seeking from renewable energy development.

Business opportunities

The construction and operation of new renewable energy facilities will create jobs and economic development opportunities in the region. There are steps now that the NGSC can take to maximise and leverage these future opportunities to support regional economic development.

NGSC should be mindful, however, of the risk of the emergence of a boom-and-bust development cycle. There is a risk that, with uncoordinated development, there may be several projects being built at the same time, making demands on the same staff, contractors and local supplies and services. Poorly managed development may result in temporally uneven investment pipelines, resulting in negative effects on local communities. For example, a boom in renewable energy project construction would increase already high demands for worker accommodation in the region, pushing up housing costs and rents for locals.

To avoid this, development that can be staged will provide a smoother and more consistent experience for local communities. Councils can work with developers and State authorities to smooth the development pipeline, articulate how socioeconomic development will progress after the 'boom' period, how adverse consequences will be mitigated, and how the benefits of the 'boom' can be evenly distributed.¹⁶ This should be discussed in terms of benefit sharing and improving the developers' social licence to operate in the area.

Councils can work with residents, stakeholders, developers and private sector actors to mitigate boom and bust impacts. For example, councils can use their relationships to develop cooperative strategies for managing boom and bust impacts which can include establishing and maintaining dialogue between agencies, the public and developers to learn more about uneven development and its implications¹⁷.

For example, the small regional town of Wonthaggi is the location of Victoria's desalination plant. During peak construction, the build required 7,000 workers. The impact on the local community had both positive and negative effects. After construction was complete, the majority of workers left, leaving businesses and communities on their own to readjust.

¹² Ibid.

¹³ Ibid, p 23.

¹⁴ Clean Energy Council "A Guide to Benefit Sharing Options for Renewable Energy Projects", p 44-46.

¹⁵ DEECA "VRET2 Community Engagement and Benefit Sharing Guide", p 17.

¹⁶ Ibid.

¹⁷ Ibid.

The State government is seeking better ways to improve benefit sharing and supporting the long-term benefit of communities where renewable energy investments are being made. Liaising with Government on this matter will support local businesses and the long-term interests of the NGSC.

Action 4: NGSC to advocate to the State Government during planning and scoping phases that a development pipeline or staged approach to development will support local communities in a way that maximises local economic benefit.

Most jobs from renewable energy project development are created during the construction phase. There is an opportunity for NGSC to showcase local businesses available to supply project developers. Providing a 'concierge' service in this way will make it easier for developers coming to the region to find local suppliers and therefore contribute to regional economic development. One tangible way Councils can provide this service is by curating a capability statement for specific sectors within the region. These statements help point developers in the direction of local businesses that can supply their needs by identifying which businesses are relevant and providing an overview of the goods and services they offer. The example from the LaTrobe Valley below in Figure 5 shows how such information can be set out in an easily accessible format.

LATROBE VALLEY Industry Profile

LaTrobe City
 a new energy

COMPANY	SERVICE											
	PROJECT MANAGEMENT	MECHANICAL ENGINEERING	ELECTRICAL ENGINEERING	STRUCTURAL ENGINEERING	MECHANICAL DESIGN	PROCESS DESIGN	IT AND SYSTEM DEVELOPMENT	PRESSURE VESSEL FABRICATION	STEEL PLATE FABRICATION	STAINLESS STEEL AND ALLOY FABRICATION	FLUID POWER	ALUMINIUM FABRICATION
ADRI	*	*	*	*	*	*	*	*	*	*	*	*
ALL FORM INDUSTRIES	*	*	*	*	*	*	*	*	*	*	*	*
ASCLEAR PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
BEVERIDGE WILLIAMS	*	*	*	*	*	*	*	*	*	*	*	*
BMC WELDING AND CONSTRUCTION PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
DEER PARK OIL TOOLS	*	*	*	*	*	*	*	*	*	*	*	*
DRILLTEC	*	*	*	*	*	*	*	*	*	*	*	*
FARMING LANE ENGINEERING	*	*	*	*	*	*	*	*	*	*	*	*
GENERTECH	*	*	*	*	*	*	*	*	*	*	*	*
GHD	*	*	*	*	*	*	*	*	*	*	*	*
SUPPLAND CNC CUTTING	*	*	*	*	*	*	*	*	*	*	*	*
HACON	*	*	*	*	*	*	*	*	*	*	*	*
IRL TECHNOLOGY GROUP PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
HYDRAULIC AND PNEUMATIC	*	*	*	*	*	*	*	*	*	*	*	*
HYDRO AUSTRALIA	*	*	*	*	*	*	*	*	*	*	*	*
JH ENGINEERING PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
KENNEDY TRAILERS	*	*	*	*	*	*	*	*	*	*	*	*
LATROBE VALLEY INDUSTRIES	*	*	*	*	*	*	*	*	*	*	*	*
LENDLEANE INFRASTRUCTURE SERVICES	*	*	*	*	*	*	*	*	*	*	*	*
MECHANICAL MAINTENANCE SOLUTIONS	*	*	*	*	*	*	*	*	*	*	*	*
ON SITE MACHINING AND PIPELINE SERVICES	*	*	*	*	*	*	*	*	*	*	*	*
OAM OPERATIONS AND MAINTENANCE	*	*	*	*	*	*	*	*	*	*	*	*
PNE GROUP VICTORIA	*	*	*	*	*	*	*	*	*	*	*	*
PLATINUM ELECTRICIANS GIPPSLAND	*	*	*	*	*	*	*	*	*	*	*	*
PRIMAWEED ENGINEERING	*	*	*	*	*	*	*	*	*	*	*	*
PRO DRAFT	*	*	*	*	*	*	*	*	*	*	*	*
PROBUSTESS GROUP	*	*	*	*	*	*	*	*	*	*	*	*
QUALITECH ENGINEERING PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
ROTARAB PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
SARETECH	*	*	*	*	*	*	*	*	*	*	*	*
SMC	*	*	*	*	*	*	*	*	*	*	*	*
STABLE AUSTRALIA PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
SUPERIOR ENERGY SERVICES (AUSTRALIA)	*	*	*	*	*	*	*	*	*	*	*	*
TOP WELDING AND CONSTRUCTION	*	*	*	*	*	*	*	*	*	*	*	*
TRADEWELD	*	*	*	*	*	*	*	*	*	*	*	*
TRARALGON INDUSTRIES	*	*	*	*	*	*	*	*	*	*	*	*
TRUSTWELD ENGINEERING	*	*	*	*	*	*	*	*	*	*	*	*
UNION HYDRAULICS PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
VINCENT PAINTING CONTRACTORS	*	*	*	*	*	*	*	*	*	*	*	*
WELDTOK PTY LTD	*	*	*	*	*	*	*	*	*	*	*	*
ZCC ANTENNAS	*	*	*	*	*	*	*	*	*	*	*	*

Figure 5: example from the LaTrobe Valley Capability Statement brochure¹⁸.

Action 5: NGSC to prepare and maintain a NGSC capability statement brochure for project developers that sets out the details of local relevant businesses that will be able to support developments in a range of ways (e.g. labour, material, expertise).

There will be some longer-term opportunities for maintenance employees once facilities are operating. For example, wind turbine technicians play a crucial role in the ongoing maintenance of wind farms by repairing and maintaining turbines. Australia's first renewable energy training tower was opened in 2022 at Federation University Australia in Ballarat. The university operates a wind turbine technician apprenticeship and expects to eventually train over 600 people a year to provide a pipeline of skilled

¹⁸ https://www.latrobe.vic.gov.au/City/Invest_in_Latrobe/Latrobe_Valley_Industry_Profile

workers for the fast-growing renewables sector¹⁹. The investment in these facilities demonstrates the increasing awareness of employment opportunities created by the energy transition.

Action 6: NGSC to lead long-term skill identification with developers. NGSC to identify opportunities for project developers to train local workers for long-term maintenance jobs.

Energy costs

Energy costs have risen dramatically in the recent past. Electricity and gas prices are becoming an increasing burden for businesses and households. This is threatening the viability of some businesses which, in response, are looking for lower cost alternative energy sources.

Although there is interest in pursuing alternative sources of energy, in many cases, the upfront cost of rooftop solar for businesses and householders is prohibitive. This means that the interest in alternative energy sourcing does not always translate to tangible change for businesses or the region. Providing support to these businesses in their search for alternatives is very likely to increase the uptake of options such as rooftop solar. This would enable businesses to reduce their energy spending in the long-term whilst also reducing the carbon footprint of the NGSC.

Environmental Upgrade Finance is one way councils can support local communities to attain finance for alternative energy sources. Environmental Upgrade Finance is an agreement in which a building owner borrows money for environmental upgrades from a financier and then repays the loan amount through the council rates system. Eligible projects that can be funded in this way include upgrades that improve the environmental performance of a building, for example by installing solar panels. Forty-two Councils in Victoria currently offer Environmental Upgrade Finance.

Action 7: NGSC to consider providing Environmental Upgrade Finance to NGSC businesses.

There is a range of programs currently offered that support local communities to take advantage of alternative energy opportunities. A few of these include:

Solar Victoria²⁰

Solar Victoria delivers a range of the Victorian Government's renewable energy programs, including the Solar Homes Program and the Solar for Business Program. Under the Solar Homes Program, eligible households can receive rebates for solar panels (up to \$1,400), solar hot water and heat pump hot water systems (50%, up to \$1,000), and solar batteries (up to \$2,950). The program is also running a Virtual Power Plant pilot, designed to connect Victorian households and reduce their energy costs by maximising renewable energy from rooftop PV. Under the Solar for Business Program, eligible businesses can apply for a \$3,500 rebate to install a solar panel system and have the option to take advantage of an interest-free loan up to \$5,000.

Victorian Energy Upgrades for Households²¹

Victorian Energy Upgrades for Households supports households to upgrade their appliances and equipment to reduce power bills and energy-related greenhouse gas emissions. Available products include

¹⁹ Acciona "Australia's first renewable energy training tower officially opened at Federation University", available at: https://www.acciona.com.au/updates/news/australia-s-first-renewable-energy-training-tower-officially-opened-at-federation-university/?_adin=02021864894.

²⁰ <https://www.solar.vic.gov.au/>.

²¹ DEECA "Victorian Energy Upgrades for Households" (2023) available at: [https://www.energy.vic.gov.au/for-households/victorian-energy-upgrades-for-households#:~:text=The%20Victorian%20Energy%20Upgrades%20\(VEU,water%20heating%2C%20and%20draft%20sealing](https://www.energy.vic.gov.au/for-households/victorian-energy-upgrades-for-households#:~:text=The%20Victorian%20Energy%20Upgrades%20(VEU,water%20heating%2C%20and%20draft%20sealing).

lighting, heating and cooling and draft sealing. To access discounts, households must engage an accredited provider authorised to install Victorian Energy Upgrades products.

Victorian Energy Upgrades for Business²²

The Victorian Energy Upgrades for Businesses program discounts a wide range of energy-efficient products for eligible businesses. Most Victorian businesses are eligible for the program. Approximately 100 of Victoria's largest energy users are exempt. As with the Households program, businesses can access the program by engaging an accredited provider authorised to install Victorian Energy Upgrades products. The program includes a wide range of products such as lighting, heating, motors, refrigeration and ventilation fans, and has expanded to also provide subsidies to businesses to replace inefficient gas boilers with energy-efficient electric alternatives.

Action 8: NGSC to identify and promote to NGSC businesses and residents funding, financing and program opportunities for renewable energy as they become available.

Transport of the future

Over time, fossil fuels will be replaced with renewable energy sources in our transport fleet of cars and trucks. These alternative power sources will include renewable energy for battery electric vehicles and hydrogen fuel for heavier vehicles. This transport transition is likely to increase in scale and speed over time, with the federal and state governments pursuing policies to support it such as electric vehicle incentives.

The Victorian Government's transport sector emissions reduction pledge is part of the State's climate change strategy. The pledge includes actions to reduce emissions and paves the way to a future of cleaner transport, aiming to fast-track Victoria's transition to net-zero emissions transport and maximise co-benefits.²³

Key targets within the pledge include:

- * Zero emission vehicles (ZEVs) will make up 50 per cent of all new light vehicle sales by 2030
- * All new public transport bus purchases will be ZEVs from 2025
- * 400 ZEVs will be added to the Victorian Government fleet by 2023
- * Active transport will make up 25 per cent of mode share by 2030.

Key steps along the path to net-zero transport include²⁴:

- * Electrification of vehicles.
- * Investment in sustainably produced biofuels.

²² DEECA "Victorian Energy Upgrades for Businesses" (2022) available at <https://www.energy.vic.gov.au/for-businesses/victorian-energy-upgrades-businesses>.

²³ Department of Transport and Planning "Transport sector emissions reduction pledge" available at <https://transport.vic.gov.au/our-transport-future/climate-change/transport-sector-emissions-reduction-pledge>.

²⁴ ARUP, "The journey to net-zero: Inspiring climate action in the Australian transport sector" available at: https://roads.org.au/wp-content/uploads/Journey-to-net-zero_Final_ForWeb.pdf. p 5.

- * The development of a green hydrogen industry to transition long distance, heavy haulage road and rail stock towards zero-emissions.

Actioning these key steps will need to be supported by a range of policy and governance infrastructure such as a coordinated and strategic national approach; policy, investment and incentives at state and federal levels; and support for collaboration, capacity building and education across all levels²⁵.

The Grattan Institute has recommended the following key milestones for achieving net-zero transport in Australia by 2050²⁶:

- * Mandatory fleet emissions standards for the sale of all new light vehicles towards zero emissions by 2035.
- * Remove inefficient taxes and regulations slowing the uptake of zero-emissions vehicles.
- * Ensure convenient vehicle charging available near all dwellings by 2030.
- * Establish a renewable fuel standard for diesel, aviation fuel and shipping fuel by 2025.

Significant amounts of work will be required to progress the transport transition if it is to occur in line with federal emissions reduction targets. Key elements of the transition, such as hydrogen technology, remains relatively immature. For example, the construction of Australia's first hydrogen fuel cell research and development facility will not be complete until late-2023²⁷. This facility will focus on developing fuel cells for heavy vehicles.

This transition will be supported across multiple levels of government. For example, the Victorian government's Destination Charging program provided \$5 million in grants to establish a public electric vehicle fast-charging network across Victoria²⁸. This program sought to make EV fast-charging technology readily available at destination locations and ensure access to fast-charging across the state.

Charging stations are being rolled out across the State and will become increasingly important for locals and visitors alike. A hydrogen fuelling network has yet to take shape but will play an important role in the NGSC's transport future.

Action 9: NGSC to seek opportunities to participate in State and Commonwealth funded renewable energy transport initiatives to provide the new energy transport fuels of the future in the NGSC.

²⁵ Ibid, p 8.

²⁶ Grattan Institute "Towards net zero: Practical policies to reduce transport emissions", available at: <https://grattan.edu.au/report/towards-net-zero-practical-policies-to-reduce-transport-emissions/>.

²⁷ Deakin University "Works begin at Australia's first hydrogen research and development facility" available at: <https://www.deakin.edu.au/about-deakin/news-and-media-releases/articles/works-begin-at-australias-first-hydrogen-research-and-development-facility>.

²⁸ DEECA "Destination Charging Across Victoria Program" (2023) available at: <https://www.energy.vic.gov.au/grants/destination-charging-across-victoria-program>.

Hydrogen

Clean hydrogen is a nascent industry that has the potential to assist with economy-wide decarbonisation. Clean hydrogen adoption will require a concerted effort to overcome existing barriers by building demand, achieving low-cost hydrogen production at scale and reducing transport costs²⁹. Hydrogen is being considered for a wide range of applications such as reducing transport and industrial emissions and replacing Liquified Natural Gas. Given the breadth of potential applications, much work is needed to understand the potential role of hydrogen more fully across these varied and diverse opportunities. As such, current focus in the industry is centred around research, development and piloting.

Case Study: Deakin University's Hydrogen Fuel Cell Research and Development Facility, Warrnambool

Australia's first hydrogen cell research and development facility is being constructed at Deakin University's Warrnambool campus, with completion expected in late 2023. Hydrogen cells create electricity using hydrogen as fuel. The Hycel Technology Hub will be an essential element of Deakin's existing hydrogen research and innovation program and will include specialised fuel cell assembly and testing equipment, training facilities, and spaces for education and demonstration activities. The facility will look at a range of hydrogen applications, starting with transport.

This example highlights that to attract hydrogen-related government funding, actors need to have a compelling range of reasons that sets them apart from others. In Deakin's case, their existing expertise and work in the hydrogen space has assisted them in attaining \$9M of co-funding from the Victorian Government.

The Commonwealth government has created a National Hydrogen Strategy, and many states have their own initiatives that focus on developing the hydrogen industry (e.g. Victoria's Renewable Hydrogen Industry Development Plan). The National Hydrogen Strategy identifies hydrogen hubs to centralise the location of production, export and use of hydrogen to create demand, build at scale and reduce costs³⁰. The Commonwealth government currently has funding for seven hydrogen hubs. The only currently funded hydrogen hub in Victoria will be in the LaTrobe Valley. This location has been chosen due to its large range of potential use and supply applications. The Commonwealth government is also developing a Guarantee of Origin scheme for hydrogen³¹. This assurance scheme would track and verify where a hydrogen product has come from, how it was made, and its lifecycle carbon intensity.

Australia's progress on hydrogen is varied across a range of industry development goals. Ammonia production, heavy transport, remote power generation and mining vehicles are most likely to progress faster than other areas³². There is currently limited activity on the use of hydrogen for industrial heat³³. For many uses of hydrogen, it will take time to develop and trial cost effective technologies and build demand. It is expected that progress will initially be slow but will ramp up as costs decrease and adoption of new technologies becomes more widespread³⁴.

Action 10: NGSC to stay abreast of relevant developments in the energy sector, such as hydrogen.

²⁹ Department of Industry, Science, Energy and Resources, "State of Hydrogen" 2021, p iii.

³⁰ Ibid, p iii.

³¹ Clean Energy Regulator "Guarantee of Origin" (2023) available at: [https://www.cleanenergyregulator.gov.au/Infohub/Markets/guarantee-of-origin#:~:text=The%20Guarantee%20of%20Origin%20\(GO,such%20as%20metals%20and%20biofuels.](https://www.cleanenergyregulator.gov.au/Infohub/Markets/guarantee-of-origin#:~:text=The%20Guarantee%20of%20Origin%20(GO,such%20as%20metals%20and%20biofuels.)

³² Department of Industry, Science, Energy and Resources, "State of Hydrogen" 2021, p 18.

³³ Ibid, p 14.

³⁴ Ibid, p vii.

Action 11: NGSC to develop a framework for deciding on which investments it will support and to what extent.

Other opportunities

The renewable energy transition is unfolding rapidly. This Position Paper has identified key high-level opportunities available to industry, the community and the NGSC. There will be many more opportunities for the NGSC to be actively involved in and it will need to decide how it responds, supports or rejects opportunities. The NGSC is relatively small and can't support paying skilled employees to assess the technical and financial viability of every proposal it sees.

NGSC will need to be selective in which programs and initiatives it can support. It will also need to remain aware that by not being able to actively pursue every project, it needs to be able to demonstrate a proactive and development focused NGSC if it is to achieve the objectives set out in the NGSC's Economic Development Strategy.

Action 12: NGSC to establish stronger links with the regional DEECA office, advocacy bodies and industry support agencies to support the NGSC in assessing any new renewable energy proposal or initiative in the NGSC.

Implementing the Action Plan

Thoughtful implementation of the Action Plan is critical to maximising its success in delivering the desired outcomes. Retaining a principled basis for the implementation of the Action Plan is a key element of this. As such, the principles of the Economic Development Strategy (growth from within, focussing on what attracts people and being strategic) will remain crucial in delivering the Action Plan. Taking this principled approach will ensure the implementation of the Action Plan remains closely aligned with the broader aspirations of the NGSC.

To further support the central aim of bolstering the local economy, the NGSC should engage businesses. This engagement would ensure that businesses are kept up to date on developments in the energy transition that are relevant to the NGSC and are part of an ongoing discussion as to how the transition can support their interests. This periodic engagement would ensure that the Action Plan is adaptive, and able to adjust according to experience and changes in business wants and needs.

Another key element of successful implementation will be participation by the NGSC in local, regional and State networks and forums to identify opportunities for the NGSC. This will put the NGSC in a position from which it can advocate for the regions' interests and ensure they are reflected in decision-making at higher levels. For example, the Victorian Transmission Investment Framework identifies local councils as a key stakeholder to engage to provide an avenue for local communities to provide input around location and amount of transmission/generation/storage infrastructure³⁵.

³⁵ VicGov "Victorian Transmission Investment Framework", p 52.

Action Priorities

The list below sets out the priority level of each identified action, based on a range of factors such as ease of completion and relative size of impact.

Short-term

- **Action 3:** NGSC to identify initiatives to improve wider community benefit sharing outcomes and lead engagement with project developers and government authorities to articulate what the NGSC is seeking from renewable energy development.
- **Action 5:** NGSC to prepare and maintain a NGSC capability statement brochure for project developers that sets out the details of local relevant businesses that will be able to support developments in a range of ways (e.g. labour, material, expertise).
- **Action 7:** NGSC to consider providing Environmental Upgrade Finance to NGSC businesses.
- **Action 11:** NGSC to develop a framework for deciding on which investments it will support and to what extent.

Medium-term

- **Action 1:** NGSC to prepare documentation to give guidance to staff and their community on how they will approach renewable energy developments. This could be in a position/policy on climate change, emissions reduction and economic development and could indicate support for developments only where effective community engagement and support is obtained.
- **Action 4:** NGSC to advocate to the State Government during planning and scoping phases that a development pipeline or staged approach to development will support local communities in a way that maximises local economic benefit.
- **Action 6:** NGSC to lead long-term skill identification with developers. NGSC to identify opportunities for project developers to train local workers for long-term maintenance jobs.

Ongoing

- **Action 2:** NGSC to act as a lead advocate for the community in discussions regarding new renewable energy developments
- **Action 8:** NGSC to identify and promote to NGSC businesses and residents funding, financing and program opportunities for renewable energy as they become available.
- **Action 9:** NGSC to seek opportunities to participate in State and Commonwealth funded renewable energy transport initiatives to provide the new energy transport fuels of the future in the NGSC.
- **Action 10:** NGSC to stay abreast of relevant developments in the energy sector, such as hydrogen.