Centre for New Industry

A Per Capita initiative

Submission to the Victorian Department of Energy, Environment and Climate Action: Offshore Wind Transmission in Gippsland and Portland Consultation

MAY 2023

percapita

FIGHTING INEQUALITY IN AUSTRALIA

About the Centre

The Centre for New Industry is an applied research centre that aims to propose policy solutions that support a mission-oriented approach to industrial policy, and advocate for economic diversification, decarbonisation and democratisation.

We believe that Australia needs a vision of the future that provides greater employment opportunities for workers and their families, greater stability and security for regional communities, and better equips Australia to respond and adapt to economic and industrial change.

About the Authors

Shirley Jackson is the Director of the Centre for New Industry and a renowned policy expert in the fields of industry policy, employment, and skills formation. His work has helped shape new approaches to industrial development and is widely cited by government and media sources. Shirley has extensive experience in not only thought leadership and public policy, but has spent a decade working in government engagement, political campaigning, and stakeholder relations. This expertise is grounded in years of lived experience relating to the issues that he is so passionate about.

Prior to his public facing work, Shirley spent years working in warehousing and logistics, hospitality, retail, academia, the print industry and being unemployed. These experiences have guided Shirley's research and policy work, and shaped his approach to inclusive, participatory methodologies.

Sam Ibrahim is a Research Economist at Per Capita, providing research and editorial support to projects across our research areas. Sam's research and policy interests include climate change, social justice, social security, and social policy. Prior to joining Per Capita, Sam was a Research Assistant at Swinburne University in the Information Systems for Social Impact research group. Sam is completed a Bachelor of Business Information Systems majoring in Business Analytics at Swinburne University.

Table of Contents

About the Centre *2*

About the Authors *2*

Executive Summary *4*

Background *5*

Structural adjustment and technological disruption 5

Wind Power 6

Latrobe Valley Authority 10

Regional Profiles *12*

Portland **12**

Renewable Energy Capacity 12

Housing 13

Enabling Infrastructure 13

Manufacturing 13

Gippsland **14**

Path to a Post-Carbon Victoria ***16***

Rebuilding Australia's Capacity: the opportunities of electrified industry **16**

Electrifying Industry **16**

Targeted Use of Social Procurement Policy **17**

Conclusions and Recommendations *20*

Continued funding and support for Gippsland's regional economy 20

Funding and support for Portland's regional economy 20

Create sector-specific industry plans 21

Support small and medium enterprises to take advantage of new supply chains 21

Increase government assistance for worker transition in the Gippsland and Portland regions 22

Executive Summary

External crises have major effects on national economies. Whether it's a resource crisis like the oil shock of the 1970s or a pandemic like COVID-19 that swept the world for two years, globally integrated, open market economies like Australia's are inherently susceptible to externalities.

However, these exogenous shocks are also a time for reflection and renewal. In the current context, Victoria is faced with a choice: on one hand, we can remain resolute in our continued belief that we can invest in natural gas and carbon capture technologies to combat a rapidly changing climate, and on the other is the sober realisation that, while our resource boom has undoubtedly boosted Australia's economic fortunes, it has also left our economy in a state of arrested development, entrenching our dependence on a single industry and reducing our capacity to address climate change.

We commend the Victorian government and VicGrid for walking the second path and taking seriously the challenge that climate change presents us with. The Government's commitment to targeted investment in renewables, strong state intervention into the energy market through the recently resuscitated State Electricity Commission (SEC) and the codified targets for offshore wind within the energy mix are nation leading initiatives.

However, there will need to be additional supports and investments made to ensure that these initiatives are able to deliver on their considerable promises, and ensure that the benefits of the transition to renewables are widely distributed to all stakeholders not just private shareholders.

We welcome the opportunity to participate in this crucial consultation and recommend that the government continues down the path it has established by investing in institutional oversight for state investment in offshore wind, targeted incentives for small to medium sized firms to enter new supply chains, a renewed focus on social procurement, the creation of sector specific industry plans and special funding for workers transitioning out of carbon intensive industries.

We believe that these reforms will ensure that offshore wind is sustainable, both ecologically and economically, and will be part of a prosperous future in Portland and Gippsland.

Background

Structural adjustment and technological disruption

It should not be surprising to any keen observer that the people who stand to be most affected by the shift from fossil fuels to renewable energy show hesitancy and significant concern about what it will do to jobs, prices, and energy security.[1] Our relationship to technological change has always been one of anticipation and anxiety in equal measure. The enticing promise of better, faster, and cheaper goods or services has driven technological growth for millennia. Yet, from the metallurgical advancements of the bronze age through to the renewable energy revolution of the 21st century, technological development has brought with it disruption, excitement and fear.

This is because technology is not a neutral force within the economy, but is rather embedded with the values, ideas, institutions, and power relations of the place and time in which it Is created.[2] The steam age brought with it a new method of industrialised production that brought people from the farms of their forebears to factories and mills in new cities founded on industry. It also saw a rise in industrial accidents, and a new growth of inequality and exploitation that led to social revolutions across Europe. Similarly, the rise of telecommunications in the computer age saw the descendants of those factory workers move into offices, and the line between work and home, which had been so hard fought for, began to blur as workers were more accessible and accountable than ever before through digital technologies.

Ultimately, we need to be cautious when dealing with the question of technological change, but also be cognisant of potential opportunities. This idea was famously outlined by Austrian economist Joseph Schumpeter, who described the process as *creative destruction*, whereby "industrial mutation… incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one".[3]

While his theory has been widely cited and applied to describe technological displacement and job creation across the developed world, the realities of the Australian situation have been inconsistent. The technological disruption of the manufacturing industry and its supply chain has been happening since the 1960s, and the resulting fall in manufacturing jobs as a proportion of the Australian economy has been consistent since the 1980s (Figure 1).

The climate crisis represents not only an opportunity to contribute to a cleaner future, but also to reinvest in this crucial value-adding sector of the economy and rebuild our soverign capabilities in manufacturing.

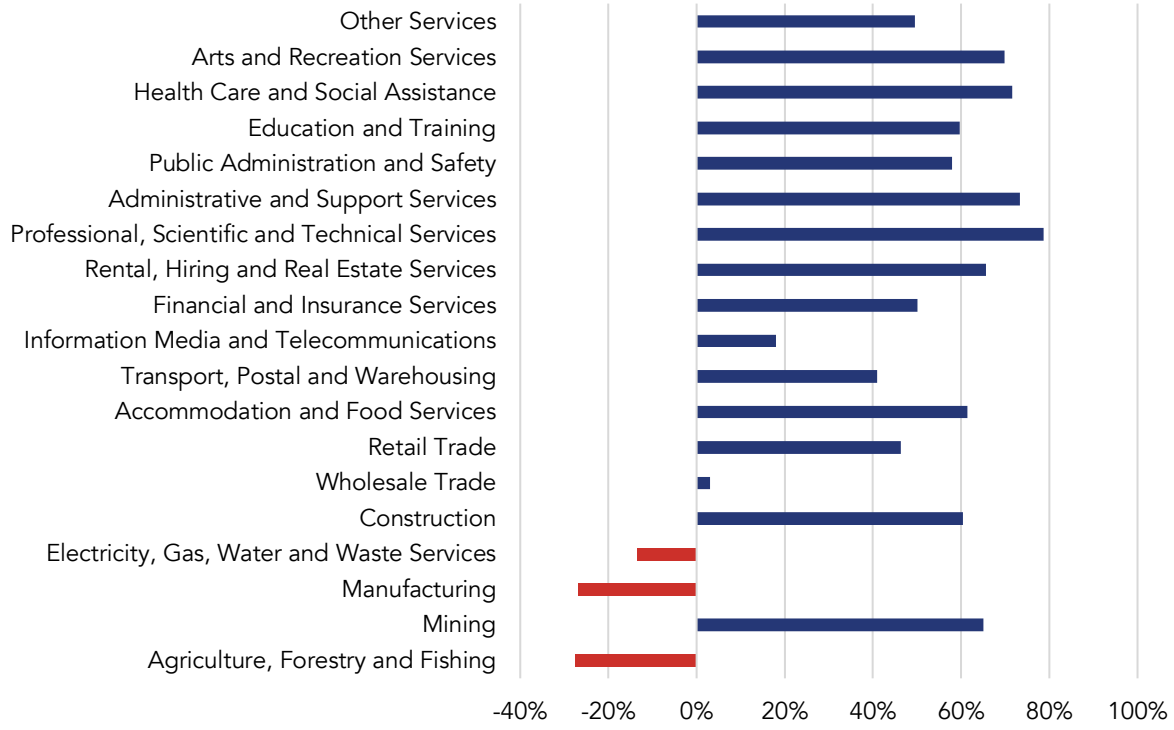
---

[1] Energy Consumers Australia. (2021). Sentiment Survey - June 2021. https://ecss.energyconsumersaustralia.com.au/sentiment- survey-june-2021/featured-content/

[2] Mueller, G. (2021). Breaking things at work: the Luddites are right about why you hate your job. Verso., pp.22-31; Sadowski, J. (2020). Too smart : how digital capitalism is extracting data, controlling our lives, and taking over the world. MIT Press., pp.4-11

[3] Schumpeter, J. (1942). Capitalism, Socialism and Democracy. Taylor & Francis., pp. 82-3

Figure 1.
Industrial Change, by Employment (1984 – 2023)



Source: ABS, Labour Force, Detailed, Quarterly, Table 05.

Wind Power

Wind turbines harness resources through kinetic energy, as the wind turns the blades of the turbine generating power with each rotation. These turbines are complex mechanical structures, and contain a number of component parts, including:[4]

- Nacelle: the box located on the top of the tower, made of fiberglass, that contains approximately 8,000 subcomponents and connects them to the rotor. The size and weight of the nacelle vary depending on capacity (75 tonnes for a 2 megawatt (MW) turbine);
- Rotor and blades: the rotor is typically composed of three rotor blades, the rotor hub that holds the blades in position as they turn and a pitch mechanism that allows the blade to rotate in the direction of the wind, maximising its capacity to harness wind;
- Tower: the nacelle is mounted on the top of a high tower that allows using the best winds and avoiding obstacles. Towers for large wind turbines may be either tubular steel towers, concrete towers, or lattice towers; and
- Additional parts: transformers, capacitors, cables, inverters, microprocessors, heat resistors, meters and other electrical equipment.

[4] International Renewable Energy Agency. (2018). Renewable Energy Benefits: Leveraging Local Capacity for Onshore Wind. In *Irena*. /publications/2017/Jun/Renewable-Energy-Benefits-Leveraging-Local-Capacity-for-Onshore-Wind

Each of these parts take considerable skill and expertise to produce and requires significant investment to be able to produce them at scale.

The production of wind turbines is already underway in Australia. Notably, in 2019 the Victorian government officially opened the *Vestas Renewable Energy Hub* (VREH) in the old Ford Factory in Geelong, on the south-western coast of Port Philip Bay. The Finnish wind turbine manufacturer Vestas was connected to local supply chains and experienced workers through a partnership with Geelong manufacturer Marand Precision Engineering and was awarded a contract to assemble 100 turbine hubs and 50 drive trains for the 180-megawatt *Berrybank* and the 336-megawatt *Dundonnell* wind farms.

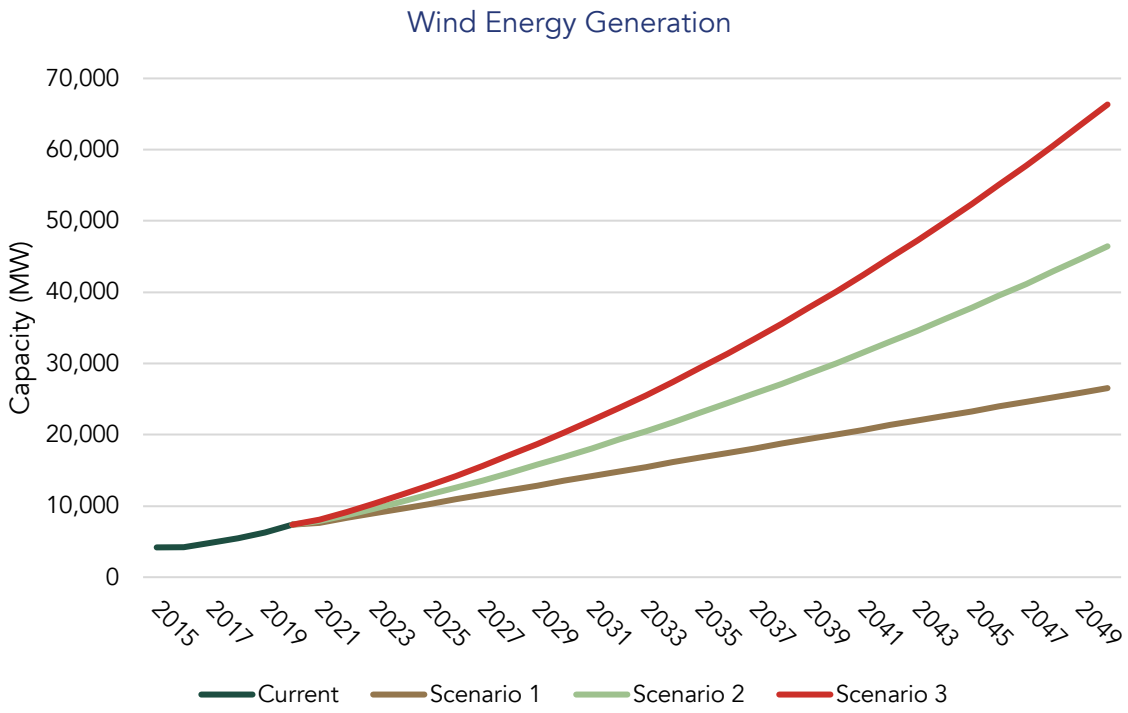
The announcement was the result of years of industry policy planning for the expansion of renewable energy in Victoria. These two wind farm developments utilise the locally assembled wind turbines, which are supported by the Victorian Government's ambitious Renewable Energy Target (VRET). This target not only legislates renewable energy generation of 25% by 2020, 40% by 2025, and 50% by 2030, but supports businesses to hire and train locals in partnership with Federation University. This initiative also contains a collaborative research project with Deakin University, which will look at further development of carbon fibre for wind turbine blades to be more productive. While this initiative conforms to many of the practices outlined in previous sections of this report, if we are to increase our capacity to harness Australia's considerable wind resources we must scale up production.

Victoria has recently taken another leap forwards, announcing a world class industry policy for the offshore wind industry.[5] The policy applies the thinking outlined in Section 1 of this report, and has the potential to create 6,100 jobs across the Gippsland region in Eastern Victoria, including up to 3,000 ongoing jobs following the development and construction phase.

Currently, wind energy accounts for approximately 9.9% of Australia's overall electricity generation. Following the principles outlined in Section 1 of this report, we have modelled three scenarios for an increase in the amount of energy generated by wind through to 2050, based on current data (See *Figure 2*). Three scenarios are projected: the first captures a scenario where targets are set and assistances given to increase renewables profile in Australia's energy mix. The second assumes that nothing changes and our renewable energy grows at the current rate, with minor support. The third models a stagnating domestic investment, and a lack of government action.

Figure 2.

[5] Victorian Government. (2022). *Offshore Wind: Policy directions paper march 2022* (Issue March).



Source: Authors calculations, based on current data from Clean Energy Council, 2022.

In order to calculate the potential employment gains from investment in local wind turbine production, we used the methodology utilised by the International Renewable Energy Agency (IRENA), reproduced below (

Table 1).

Table 1.

Wind Turbine Employment Gains

Types of Work	Nacelle (Days of work)	Blades (Days of work)	Tower (Days of work)	Monitor and control system (Days of work)	Total by occupation (Days of work)	Total FTE per year (Days of work)
Factory workers	5,890	3,400	2,850	300	12,440	34
Health and safety experts	620	125	300	30	1,075	3
Logistic experts	620	125	300	30	1,060	3
Quality control experts	620	125	300	15	1,060	3
Marketing and sales personnel	480	290	230	45	1,045	3
Industrial engineers	480	227	232	15	1,004	3
Administrative personnel	480	113	230	45	868	2
Management	185	110	90	-	385	1
Telecommunication and computer engineers	-	-	-	15	15	0
Regulation and standardisation experts	-	-	-	15	15	0
Total	9,375	4,515	4,532	510	18,967	52

Source: Authors calculations based on International Renewable Energy Agency, 2018, p. 26.

The figures used by IRENA are based on the production of enough materials to create a 50MW wind farm. When these figures are measured in full time equivalency (FTE), there are approximately 52 jobs required to produce the materials contained within a wind farm that can produce 50MW.

Additional opportunities exist in the operation and maintenance (O&M) of offshore wind projects, like the much-anticipated *Star of the South* project in Victoria. Globally, employment in O&M of offshore wind farms increased by 7% in 2020 and projections estimate that these jobs will increase by 25% by 2025 and by as much as 45% within the decade.[6] In Victoria alone, the growth of offshore wind projects in line with the VRET will result in more than 3,000 ongoing O&M jobs,[7] primarily in electrical and metal trades. Recent Australian research estimates that 43% of ongoing work in the offshore wind industry will be made up of technical and trade occupations, providing a much needed pipeline of work that maps well against the existing skills base in the energy sector.[8]

By 2050, using the projections above, anticipated employment gains are between 27,596-68,991 workers over the next 30 years in order to produce the additional energy generation, in particular, the installation of offshore wind offers unique opportunities to build a sustainable and secure energy base in the post-carbon economy.

Latrobe Valley Authority

The Latrobe Valley is a district in the Gippsland region of eastern Victoria, centred on the three regional towns that surround the Latrobe river: Moe, Morwell and Traralgon. For generations, this region has been the heart of Victoria's electricity system, home to coal fire power stations including the Energy Brix station (closed in 2014), the Hazelwood station (closed 2017), as well as the Yallourn and Loy Yang A & B stations, which are all slated to close by or before 2030.

Following the closure of Hazelwood in 2017, the Latrobe Valley Authority was created in response to a campaign led by local community members, trade unionists and

---

[6] Rystad Energy. (2021, February 19). *Hiring wave coming: Offshore wind staff demand to triple by 2030, hundreds of thousands needed*. https://www.rystadenergy.com/newsevents/news/press-releases/hiring-wave-coming-offshore-wind-staff-demand-to-triple-by-2030-hundreds-of-thousands-needed/

[7] Perkins, M., Toscano, N., & Sakkal, P. (2022, March 4). Victorian offshore wind farms to drive jobs and Premier's innovation agenda. *The Age*. https://www.smh.com.au/environment/climate-change/offshore-wind-farms-underpin-premier-s-plans-for-bold-reform-20220304-p5a1th.html

[8] Briggs, C., Hemer, M., Howard, P., Langdon, R., Marsh, P., Teske, S., & Carrascosa, D. (2021). *Offshore Wind Energy in Australia*. *July*.

environmental activists to save the Valley.[9] This state government authority has since led the way in planning for industrial transformation, with community involvement at the forefront of its operations.[10]

The Authority not only consults the community on decision-making, but provides resources and support for community-led initiatives, from business creation to mine rehabilitation. In its first three years of operation, it helped stimulate $99m in new investment within the region that created 2,500 new jobs. During this period, the local unemployment rate, which has been relatively high by national standards for three decades or more, fell by nearly 4%.

The Authority has also provided a number of additional services, including a 'worker transition service', which provided assistance and guidance to former coal station workers with a range of supports including access to specialised re-training opportunities, financial planning and individual case management. It also provided specialised support to firms operating within the Valley, through targeted assistance and tax incentives as well as prioritising local firms to engage in government contracting work. There were also special funds to support local businesses to enter new supply chains across a range of industries.

Additionally, the Authority has provided numerous grants and supports for community building projects across youth, sports and recreation and cultural portfolios.

While it is hard to measure the long-term impacts of the Authority's activities, given the Authority has only been operating for five years, the early results have been impressive. Most importantly, the Authority was the result of community led action, and it continues to work closely with local community members to deliver on local issues. This model provides great insight for what other coal-dependent communities might need to successfully navigate future powers station closures and the economic insecurity that follows them.

[9] Ziffer, D. (2021, November 8). Latrobe Valley coal community already looking to future as COP26 delegates discuss end of fossil fuel - ABC News. *ABC News*. https://www.abc.net.au/news/2021-11-08/coal-burning-future-fuel-emotions-in-regional-communities/100596172

[10] Latrobe Valley Authority. (2019). *Transitioning to a strong future. November 2016.*

Regional Profiles

Portland

Portland is a thriving town in Victoria's southwest with a long and significant history and is considered the birthplace of Victoria, with the first European settlers arriving in the early 1830s. The town is close to the heritage-listed Budj Bim Cultural Landscape, containing one of the world's most extensive and oldest aquaculture systems.

From that rich and diverse history, Portland has grown to become a base for manufacturing, food, fibre, forestry and agricultural exports.

Portland is a major contributor to the Victorian economy. It has:

- A strong industry presence with a skilled and adaptable workforce.
- A skilled manufacturing base specialising in renewable energy, marine engineering and logistics.
- Aluminium exports contributing approximately 30% of Victoria's export revenue.
- A natural deep-water port importing and exporting 26 different cargoes and 45% of Victorias's dry bulk goods to over 30 countries.
- Stability for the national electricity grid through existing infrastructure and demand.
- Expansive renewable energy sources (geothermal, wave and wind) and a secure water source critical for hydrogen power.
- Access to research and studies at Deakin University and South West TAFE.

Renewable Energy Capacity

Portland is set to be a major source of stable offshore wind energy. Projects such as Alinta's planned Spinifex windfarm will boost Victoria's capacity to meet climate action targets and provide sufficient energy to support the transition to a green Portland Aluminium smelter.

Nearly 20% of the state's skilled labour, trades, technicians and managers within the Renewable Wind Energy sector (300FTE) are based in Portland.

In support of Australia's carbon reduction targets, all Australian energy ministers share a vision for a clean, innovative, safe and competitive hydrogen industry that benefits all Australians. Portland has potential to be a major global player in hydrogen by 2030, as outlined in the National Hydrogen Strategy.

Portland's access to engineering skills, academic capability, renewable energy, sustainable water supplies and local and international transport routes mean the city is ideally placed to support the National Hydrogen Strategy. In recognition of this, a range of proponents are actively progressing feasibility studies.

Housing

Infrastructure Australia's Regional Strengths and Infrastructure Gaps Report identifies housing and accommodation as critical to attracting and retaining residents and workers. While Portland is well positioned to capitalise on people relocating to the area, we must ensure that there is adequate land is available for new subdivisions.

>> Funding support for infrastructure to encourage investment in housing development.

Enabling Infrastructure

Investments in enabling infrastructure such as freight rail, air, freight facilities, electronic vehicle charging stations and digital connectivity will provide Portland's industries and manufacturing businesses with resources to continue to invest in Portland and create future-oriented jobs. Portland should be recognised as a Sustainable Regional Manufacturing Hub that leads development in sustainable and innovative technologies.

>> Investment beyond the business case to upgrade the Maroona to Portland rail line to meet modern standards and freight tasks for 23 TAL with a minimum speed of 80km/h.

Manufacturing

Portland boasts a $1.2 billion manufacturing industry with skilled trades and technician workers, which make up 18% of the total workforce – well above the Victorian average.

The skilled manufacturing workforces of local businesses such as Portland Aluminium, Keppel Prince, Mibus Bros and Precision Engineering, combined with Portland's strategic location and natural advantages, such as the deep-water port, position Portland s as Victoria's Sustainable Manufacturing Hub.

The city already services a thriving cross-border region and is ideally located between Melbourne and Adelaide. 'Made in Australia' has never been more important and provides an opportunity to boost the Victorian economy at a critical time by creating jobs using local content to produce vital goods and securing supply chains from within.

The changing geo-political landscape has had a significant effect on supply chains for the building, construction and manufacturing industry. It is therefore necessary to shift the emphasis away from imports to locally made products. Portland's manufacturing sector has a large skilled workforce able to respond to emerging opportunities, especially in the area of advanced manufacturing and renewable energy.

>> Establish a Sustainable Regional Manufacturing Hub that supports building and keeping jobs local.

Gippsland

Gippsland stretches from the outer east of Melbourne to the far east of Victoria – an area of more than 41,600 square kilometres. It's home to more than 291,000 people, including formally recognised Traditional Owner groups, Gunaikurnai and Bunurong, and Traditional Owner groups in the Far East Gippsland region who have lived, worked and cared for this country and its resources for thousands of years.

For more than a century the Latrobe Valley has been the powerhouse of Victoria – generating the electricity required to keep the lights on and industry functioning by powering a thriving Victorian economy. The building, operation and maintenance of the power stations and the associated coal mines provided a source of pride, community identity, employment and economic activity. The workforce that has grown around this industry is highly skilled and has been instrumental in delivering the benefits accrued by all of Victoria.

Mining, including minerals and oil and gas extraction, is the region's largest economic contributor – and is almost 63 per cent larger as a share of regional output than the Victorian average. Whilst mining ranks 15th in number of employees (around 3,000 compared to more than 16,000 in healthcare and over 15,000 in construction), associated supply chain businesses reliant on the coal mining and power generation industries are also significant employers. Energy Australia estimates that each Yallourn Power Station worker generates an additional 4 to 5 jobs in the region.[11]

The Gippsland region is strongly associated with coal mining and electricity generation in the western part of the region; the Latrobe Valley contains almost all of Victoria's coal reserves and is home to the state's brown coal mining and power generation industries. There is also a significant offshore oil and gas industry. The Grantville-Nyora area is a major supplier of sand and stone products to the construction industry in Melbourne. The eastern part of Gippsland possesses vast timber resources which supports a significant timber, pulp and paper manufacturing sector. While Gippsland's energy production is closely linked to brown coal, there are good prospects for renewable energy, particularly wind and geothermal.

In March 2022, the Latrobe Valley Authority (LVA) was asked by the Victorian Government to lead the development of a transition plan for the Latrobe Valley.

Since then, the LVA has been listening to individuals, community groups, peak organisations, employers, industry groups, unions, Traditional Owners, professional bodies, education and training providers and local government to hear and understand the views of Gippslanders on what is important to them.

Many parts of Gippsland are experiencing significant economic and social transition. A lot of the changes are interconnected.

---

[11] Energy Australia (2021) *Yallourn Fact Sheet*, accessed online 15 May 2023.

Key stakeholders have consistently voiced the need for a cohesive and united approach; one that recognises the distinct strengths and characteristics of communities across Gippsland. As a place-based organisation, the LVA has a deep appreciation of the need to encourage collaboration and partnerships across the region.

The Latrobe Valley and Gippsland Transition Plan is being developed in the knowledge that a core focus of the work will be supporting those communities most directly affected by the transition. In order to be successful, it will require the support and engagement of people right across the region.

Gippsland's unique combination of natural beauty, rich resources and vibrant communities make it a great place to live, work and visit. The energy, tourism and food and fibre sectors can prosper and thrive, if we embrace change. Our health and community services are now the biggest employers in the region and will continue to grow as government and the private sector continue to invest in the wellbeing of Gippslanders.

Gippsland has been designated as a Renewable Energy Zone and the first declared Offshore Wind Zone in Australia, and the Victorian Government has re-established the SEC. There is already a $54 billion pipeline of more than 25 large renewable energy projects proposed for Gippsland. While this represents significant opportunity, it also signals the decentralisation of power generation in the region and further evidence that our traditional roles and identity will continue to evolve.

Despite the uncertainty, there are reasons for optimism. The 2026 Commonwealth Games will generate significant social and economic activity across Gippsland. The transition to a clean economy will require a skilled workforce. The Victorian Skills Authority (VSA) projects that 12,925 new workers will be required across Gippsland by 2025, with even greater skills demand beyond that to service the pipeline of renewable energy projects. This will create opportunities for transitioning workers and build a pathway for future employment for young people and those who are underemployed, unemployed or not participating in the labour market.

Gippsland's Aboriginal people have skills and knowledge that will help shape the way industries are changing to embrace more sustainable and climate-friendly practices. Partnering with Aboriginal communities to support their self-determination and share in their skills and knowledge will be key to a successful transition.

Path to a Post-Carbon Victoria

Rebuilding Australia's Capacity: the opportunities of electrified industry

The decline in manufacturing across Victoria has become a source of shame shame. Despite 83% of Australians expressing a desire to see more manufacturing jobs in Australia,[12] our nation's leaders have allowed the industry to contract over a number of decades. Contrary to popular belief, the manufacturing industry is readily adaptable to modern market economies. In particular, the German example offers insights into how this valuable sector can be essential to economic success.

Germany is the world's most manufacturing-intensive economy, and the is key to Germany's sustained growth. While Victorian manufacturing employs about 7.2% of all workers and contributes around 6.6% of our GSP, Germany's manufacturing industry accounts for approximately 23% of GDP and employs one in five German workers.[13]

Sadly, where sophisticated, forward-thinking economic planners in Germany seek to develop services to complement export strategy, others across Australia develop services to make up for a lack of export strategy. To succeed in the post-carbon economy, Victoria must develop and diversify its industrial base by engaging in smart, modern industry planning. It is not enough to merely produce products with a smart industrial agenda, we need to decarbonise our industrial footprint. In short, we need to electrify our industries as well as our home.

Below are some examples of the way Victoria could increase its manufacturing footprint in a way that adds value to our already considerable comparative advantage in raw material extraction and production.

Electrifying Industry

Australian inventor and author Dr. Saul Griffiths has recently outlined the unique opportunity that Australia has to lead the world in the electrification of industry.[14] If we are to seize the opportunity of a renewed manufacturing profile, the energy needs of industry will grow substantially and increase the economies of scale possible for our electricity grid.

Throughout economic history, the ability to power industrial machinery has been essential to economic function and growth.[15] Where first industry ran on the power of people and beasts of burden, the 19th century saw the rise of steam technology driven by coal fired burners. Since then steam has given way to electricity, but coal has remained its source. The carbon emissions from our industrial heating processes, particularly in the smelting of

---

[12] Wade, M., & Ting, I. (2017, February 6). Australians almost united in their desire to manufacture more at home. *The Sydney Morning Herald*. https://www.smh.com.au/politics/federal/the-one-political-view-that-unites-australians-20170203-gu54f4.html

[13] Dettmer, A., & Wieladek, A. (2019). Australia Rebooted.

[14] Griffith, S. (2022). The Big Switch: Australia's electric future. Schwartz Books.

[15] Malm, A. (2016). Fossil capital : the rise of steam power and the roots of global warming. Verso.

metals, accounts for 42m tonnes of carbon dioxide, approximately 8% of our total national emissions.[16]

Currently, Australia's manufacturing sector accounts for nearly a third of all energy consumed within Australia, and two-thirds of this energy comes from fossil fuels. Electricity only provides 20% of energy use in the industry and it is primarily utilised for lighting and other utility purposes. However, heating is where the most energy-intensive work occurs, and where most of the fossil fuel use is stimulated. If we replace the use of coking coal and coal- or gas-fired electricity with renewable energy generation, by increasing the amount of on-site PV coupled with an increase in the renewable energy capacity of the grid, we can wipe out 42m tonnes of carbon emissions almost immediately. Similarly, by using electrified heat pumps and industrial induction heating, industrial demand for coking coal can be reduced to zero.

As Beyond Zero Emissions has shown comprehensively, the use of renewable electricity in industry has numerous benefits.[17] Electrification offers benefits in speed, efficiency, capacity and versatility, and can reduce the energy needed to produce the same industrial output by upwards of 50%.

This has flow on benefits to the overall cost of production, and allows savings made on industrial energy bills to be reinvested in additional workers and capacity, creating more community wealth in the long term.

Targeted Use of Social Procurement Policy

Social procurement is the act of embedding responsibility for the provision of social good, equity and/or justice in government contracts and "leverage the purchasing power of projects to create social value".[18] This can broadly encompass any requirement placed on firms successful in the tender process, which adds value to society while carrying out the primary business of the government contract. Typically, this practice includes the implementation of employment ratios for disadvantaged groups, requiring certain levels of domestically produced goods and services to be used within the supply chain or ensuring that additional actions are taken to ensure best practices in areas of concern, from waste management to subcontracting.

Social procurement reimagines the value that government spending can produce and focuses on getting the greatest social value per dollar spent. Traditionally, social procurement policies in Victoria have been primarily utilised in the construction sector, as

---

[16] Lord, M. (2018). Electrifying Industry, 2018 – Zero Carbon Industry Plan. Technical Report, Beyond Zero Emissions. http://bze.org.au, p. 17

[17] Ibid., pp26-7

[18] Loosemore, M., Alkilani, S. Z., & Murphy, R. (2021). The institutional drivers of social procurement implementation in Australian construction projects. *International Journal of Project Management*, *39*(7), 750.

governments of all levels have sought to add value to key infrastructure projects. However, recent research finds that "the untapped potential of social procurement to address growing social inequity and entrenched disadvantage is significant and largely unknown".[19]

Regardless of the unknown limits of this potential, there is evidence to suggest that there are significant social and economic benefits to be gained from engaging in this innovative practice. Firstly, it encourages firms to collaborate and create new relationships with both traditional market actors and organisations that might not have been considered through ordinary market mechanisms, challenging 'industry norms, pathway dependencies and institutional imperatives' to create new opportunities to innovate and grow.[20]

Secondly, it reduces barriers to entry for traditionally disadvantaged job seekers (notably women, Indigenous people, migrants and ex-offenders), which both increases the human capital potential of projects and reduces structural long-term unemployment by providing employment opportunities to workers who are more likely to spend prolonged periods out of work.[21]

Finally, and perhaps most importantly, social procurement has a normalising effect on the sector it targets, embedding the expectation that social good should be a regular part of operation, which recent research shows is unlikely to occur spontaneously in industries without social procurement practices from government.[22]

Additionally, it's important to define the 'local' aspect of local content requirements. In the context of decarbonising our economy, it is imperative that these requirements be centred on the communities, regions, workers, and firms who are most likely to be affected by the shift away from fossil fuels. Fortunately, a workable and considered model for social

---

[19] Loosemore, M., Higgon, D., & Osborne, J. (2020). Managing new social procurement imperatives in the Australian construction industry. *Engineering, Construction and Architectural Management*, *27*(10), 3075–3093. https://doi.org/10.1108/ECAM-11-2019-0643

[20] Barraket, J. (2020). The Role of Intermediaries in Social Innovation: The Case of Social Procurement in Australia. *Journal of Social Entrepreneurship*, *11*(2), 194–214. https://doi.org/10.1080/19420676.2019.1624272; Loosemore, M., Higgon, D., & Osborne, J. (2020). Managing new social procurement imperatives in the Australian construction industry. *Engineering, Construction and Architectural Management*, *27*(10), 3075–3093. https://doi.org/10.1108/ECAM-11-2019-0643

[21] Loosemore, M., Alkilani, S., & Mathenge, R. (2020). The risks of and barriers to social procurement in construction: a supply chain perspective. *Construction Management and Economics*, *38*(6), 552–569. https://doi.org/10.1080/01446193.2019.1687923

[22] Loosemore, M., Alkilani, S. Z., & Murphy, R. (2021). The institutional drivers of social procurement implementation in Australian construction projects. *International Journal of Project Management*, *39*(7), 750–761. https://doi.org/10.1016/j.ijproman.2021.07.002; Loosemore, M., Alkilani, S., & Mathenge, R. (2020). The risks of and barriers to social procurement in construction: a supply chain perspective. *Construction Management and Economics*, *38*(6), 552–569. https://doi.org/10.1080/01446193.2019.1687923; Loosemore, M., Denny-Smith, G., Barraket, J., Keast, R., Chamberlain, D., Muir, K., Powell, A., Higgon, D., & Osborne, J. (2020). Optimising social procurement policy outcomes through cross-sector collaboration in the Australian construction industry. *Engineering, Construction and Architectural Management*, *28*(7), 1908–1928. https://doi.org/10.1108/ECAM-04-2020-0221; Loosemore, M., Higgon, D., & Osborne, J. (2020). Managing new social procurement imperatives in the Australian construction industry. *Engineering, Construction and Architectural Management*, *27*(10), 3075–3093. https://doi.org/10.1108/ECAM-11-2019-0643

procurement already exists. The Queensland government's 2017 social procurement strategy, *Backing Queensland Jobs*, defines four levels of locality to be considered, in descending order, when procuring content for major projects.[23] If adapted (see *Table 2*), this strategy could have substantial benefits for Victorian industry in the downstream supply chains.

Table 2.
A Potential Victorian Procurement Strategy

Local Zone 1	**Prioritise suppliers that maintain a workforce whose usual place of residence is located with a 125km radius of where the goods and service are to be supplied.**
Local Zone 2	If a suitable local supplier does not exist within 125km, priority will be given to suppliers in the local region.
Local Zone 3	If a suitable supplier does not exist within the local region, consideration will be extended to supplier within Victoria.
Local Zone 4	If a suitable supplier does not exist within Victoria, consideration will be extended to suppliers within Australia.

The benefits of social procurement become essential when considering the challenge that a shift to a post-carbon economy presents. We must ensure that we not only move swiftly beyond our traditional reliance on fossil fuels, but that the communities who were dependent on carbon heavy industries are not left behind.

A successful social procurement strategy for the energy transformation would have strict training ratios in which one out of every ten workers was either an apprentice, a trainee, or a recent graduate; would preference workers from coal and other fossil fuel dependent regions; and would have strict requirements to utilise domestic goods and services throughout the supply chain. By utilising social procurement strategies that ensure members of affected communities have new jobs to go to, and by maximizing local content, we can ensure that the benefits of this shift to a post-carbon economy can be spread equally throughout society and produce value for local stakeholders as well as shareholders.

[23] Queensland Government. (2017). *Backing Queensland Jobs: Quality local jobs for Queensland.*

Conclusions and Recommendations

In order to address the twinned economic and climate crises that are confronting the state, political and administrative leadership are key to the long-term success of offshore wind projects in both Gippsland and Portland. It is imperative that we make significant and carefully structured changes to the way we manage our economy, to ensure that the transformation from fossil fuels to renewables is one that shares the resulting prosperity equally across society.

Drawing on the mission-oriented approach to industrial development, there is an opportunity to build political consensus and trust in a vision for the future that provides prosperity and security for all Victorians. To create a mission oriented-approach to industry policy for the post-carbon economy, we recommend that the Victorian government implement the following measures.

Continued funding and support for Gippsland's regional economy

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

Funding and support for Portland's regional economy

VicGrid, governments, community and industry should collaborate on the creation of potential skills/training pathways, supply chain mapping and social procurement as the offshore wind industry develops. These initiatives should be aimed at supporting Portland's economic growth as the region's coal plants retire over the coming decades. Following the success of the Latrobe Valley Authority, we recommend a similar body be founded for Portland along with ongoing funding and support for bodies such as Regional Development Victoria, the Committee for Portland, and local councils and shires to continue this important work.

Create sector-specific industry plans

In order to reach net zero by 2050, representatives, from government, industry and the union movement should work to establish industry plans for wind turbines, photovoltaics, lithium batteries, electric vehicles, and green steel, including supply chain mapping. These plans should include incentives and disincentives (including mechanisms like carbon pricing), investment opportunities and community wealth-building strategies that will maximise community benefit in the face of structural adjustment. They should consider the skills mix available and any potential gaps that will need to be filled, the complementarities that are achievable in the supply chains, and local content requirements to encourage maximum benefit to the community.

These should include concrete plans to electrify industry and implement the introduction of onsite PV, electric heat pumps and induction heating where applicable, to reduce the use of fossil fuels in heating and processing.

Support small and medium enterprises to take advantage of new supply chains

To build sustainable opportunities for investment in a post-carbon economy, strategic support should be made available to small and medium enterprises (SMEs) to make the most of new opportunities. These supports could be delivered in the form of specialised investments made through a new SME Adaption Fund (with requirements to consult and negotiate with unions and local communities) as well as offering assistance by specialised teams of consultants employed by the Transformation Authority. This assistance should include a range of services, from helping connect SMEs to domestic and foreign primary producers through to assisting them with the creation of energy efficiency and decarbonisation plans for their internal operations.

By creating attractive supply chain opportunities for primary producers and supporting SMEs to be prepared for inclusion in new industries, Australia stands to benefit substantially as every dollar spent on the adjustment creates additional economic activity downstream in the supply chain. This multiplier effect will be felt in employment, productivity and ultimately in revenue which will help to make these measures cost-neutral over time.

Increase government assistance for worker transition in the Gippsland and Portland regions

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