

The importance of 100% renewable energy by 2030 in Victoria

Summary of new research into the economic and social benefits of climate action



The future has arrived – and much sooner than many people expected. High quality research released before and after the May 2022 Federal election shows the value and importance of 100% renewable electric power grid in Victoria by 2030.

This briefing paper highlights key findings from this research to update public understanding of the opportunities for climate action in Victoria.

With smart and swift government action, Victoria can lead Australia in cutting emissions and producing and exporting clean energy. This can result in thousands of jobs and tremendous economic benefit. Australia and the world are moving beyond polluting fuels and the people of Victoria don't want to be left behind. Now is the time to seize these opportunities.

KEY FINDINGS

- The latest planning scenarios from the electricity grid operator anticipate 90% renewable electricity in Victoria and no coal by 2032, or nearly 100% by 2030 with the right policies and decisive action.
- Almost 24GW of emissions-free electricity capacity are planned in Victoria, about 6GW dispatchable – nearly five times what was anticipated just a few years ago.
- Including offshore wind commitments, these projects are expected to bring several thousand jobs to Victoria. Fully realising Australia's potential as a clean energy export powerhouse could create even more by 2040.
- 67% of voters in Victorian electorates said action on climate change was important for their vote at the 2022 federal election.
- 84% of Gippsland voters, and 80% of coal workers in Gippsland, favour government support for new clean energy industries.

MEETING THE SCALE AND PACE OF CHANGE

Research released over the past year show that with bold action Victoria can achieve coal-free electric power generation, and possibly 100% renewable power, by 2030. Importantly, these research efforts come from a range of sources and points of view. NSW's grid operator, Transgrid, the Australian Energy Market Operator (AEMO), the Grattan Institute, and the Blueprint Institute all agree that this kind of massive and rapid change is feasible – and desirable – for Victoria's power grid.

AEMO and Transgrid's planning scenarios now anticipate Victoria's grid being powered by at least 90% renewable energy and no coal by 2032 because renewables with storage have become so much more reliable and cheaper than coal.¹

This research also shows that with strong government policies and serious effort Victoria can have a reliable, coal-free power grid before 2030 with nil to very small cost increases. In fact, fast action that successfully transforms Australia and Victoria into a clean energy exporter would decrease costs.²

The rapid growth in renewables is already set to save households money. Modelling released by the Australian Energy Market Commission (AEMC) in November 2021 shows that an influx of renewables and battery storage is expected to reduce wholesale electricity prices by around 39% or \$207 in Victoria by 2024,³ – a welcome change from fossil's price volatility.

PROGRESS SO FAR

Victoria is already on track to beat a target of 50% renewable energy by 2030. But to meet the Paris Agreement obligations to limit global temperature rises to 1.5 degrees, Victoria must aim to cut emissions from the energy sector much faster. A key to doing this is to achieve 100% renewable electricity generation by 2030.

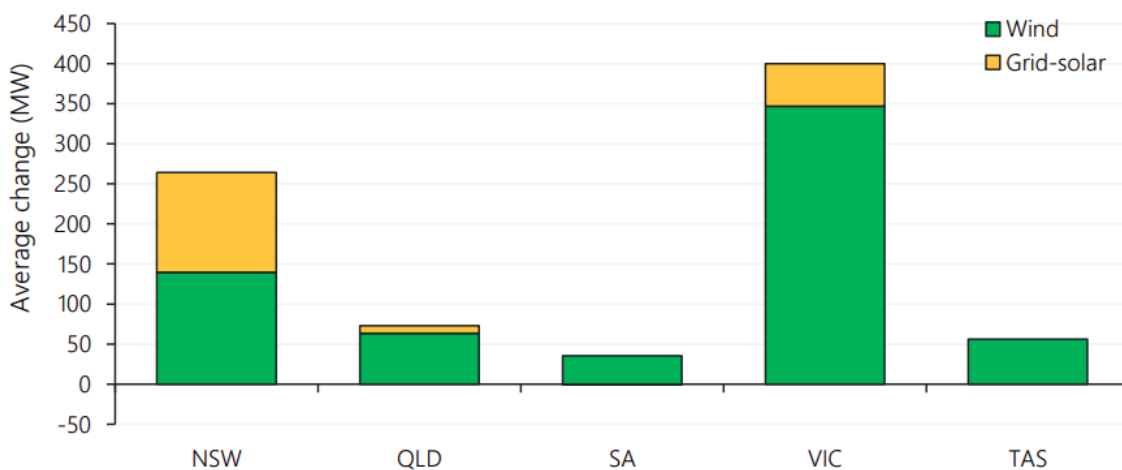
Victoria's big battery, the Victorian renewable energy targets, and other state government policies, and the federal renewable energy target have helped our state get where it is now. In 2021-22, renewable energy generated 29% of electricity in Victoria.⁴

That's just the beginning. With the recently announced offshore wind projects there's almost 24GW of emissions-free electricity capacity anticipated to be operating in Victoria by 2030, about 6GW dispatchable – which is about five times what AEMO's 2020 Integrated System Plan anticipated.⁵

Over the past year (Q3 of 2021 through Q2 of 2022) Victoria has been second in the nation for increases of clean, renewable power generated (See Chart 1 below.) This resulted in decreases of electricity from burning fossil fuels, impacting the entire national energy market.⁶

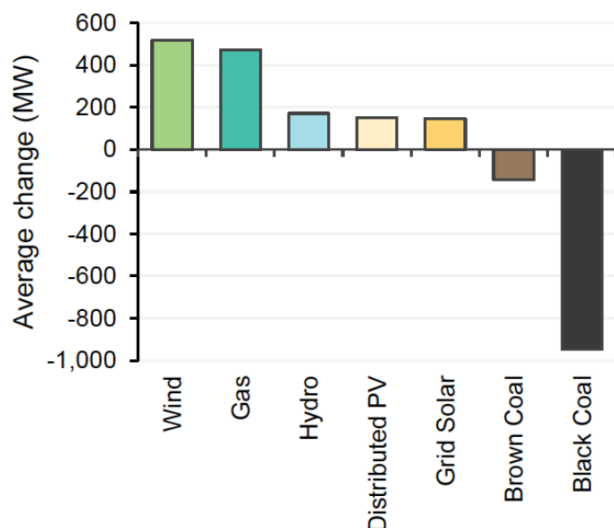
Chart 1

Average change in VRE generation – Q3 2021 versus Q3 2020



Operators began to decrease use of coal and gas-fired power stations in 2019, and then accelerated the decline in response to more wind and solar than ever before⁷ (See Chart 2 below).

Change in supply – Q2 2022 versus Q2 2021



Unplanned and planned outages of fossil generating stations combined with unusually high gas and coal prices set the stage for the NEM's power crisis in May and June 2022. The very low cost of wind, solar, and battery power combined with newly available demand response abilities kept the crisis from being even worse. Victoria's Big Battery played a critical role keeping the lights on during the winter energy crisis when fossil plant unreliability jeopardised the grid and sent prices soaring.⁸

Installation and usage of batteries for grid storage and reliability have risen sharply in the first half of 2022, consistently demonstrating their value as they outperform old fossil fuel systems.⁹ Renewable power with storage is more reliable than ever and is cheaper, cleaner, safer, and more reliable than coal or gas.¹⁰

These milestones show how the energy transition is happening more quickly than assumed when Victoria's target of 50% renewables by 2030 was set. The changed context demands a more ambitious target of 100% renewable electricity generation by 2030. Victoria is well-positioned to provide leadership through increased climate policy commitments going into the state election.

ECONOMIC OPPORTUNITIES

The earlier Victoria takes action to transition to renewable energy and cut emissions, the less it will cost and the more benefits Victorians will receive. Government actions direct energy markets and as demand for renewable energy continues to grow domestically and internationally, government leadership will play a big role in determining how much of the future clean energy export market we are able to capture.

This leadership must start with a clear and coherent policy framework that includes targeted financial support, measurable targets with milestones, and strategies to achieve these targets developed cooperatively with communities. Strategies should include community support programs such as dedicated transition authorities, like the Latrobe Valley Authority, with representatives from government, industry and unions to help manage the disruptive impacts of the transition on workers and regions with carbon-intensive industries.¹¹

Switching to a fully renewable energy system promises to deliver trillions of dollars globally,¹² and Australia – including Victoria – is well positioned to benefit domestically and by exporting renewable energy through fuels such as green hydrogen produced from renewable electricity, green ammonia used as a fuel or a feedstock for fertilisers, or metals used in batteries or produced with renewable power instead of fossil fuels.¹³

Getting to 100% renewable energy in Victoria by 2030 and nationally by 2030 could create over 20,000 new long-term jobs in Australia.¹⁴ Going further and fully realising our potential could create 395,000 clean energy export jobs by 2040.¹⁵

Smart policies can bring more of those clean energy jobs to our state.¹⁶ With coal-burning power stations responsible for 40% of the Victoria's greenhouse gas emissions, any credible effort to tackle climate change must rapidly phase out coal, our largest single source of pollution. Doing so in the right way can offer significant job opportunities in Victoria's regions, such as the Latrobe Valley.¹⁷

VICTORIANS WANT URGENT ACTION

Concern over climate change has grown since the bushfires of 2019-20, through the COVID pandemic, and catastrophic flooding in NSW and QLD in 2021-22. Victorians made their voices heard with their votes in the May 2022 federal election and plan to make their voices heard again in the November 2022 state election.

High quality and representative polling from the Lowy Institute, YouGov, and the Blueprint Institute shows that Victorians, like all Australians, are united in a desire for governments to take serious action to address climate change.

- **67% of voters in Victorian electorates said action on climate change would be important for their vote at the next federal election,¹⁸ and their votes demonstrated that.**
- Two-thirds of Australians (67%) and Victorians (68%) recognise the benefits of taking further action on climate change will outweigh the costs.¹⁹
- 90% of Australians think the government should subsidise renewable energy.²⁰
- 77% of Australians think the government should increase its commitments to address climate change.²¹
- Nearly two-thirds of Australians support banning new coal mines (65%) and reducing Australian coal exports to other countries (63%).²²
- **84% of Gippsland voters, and 80% of coal workers in Gippsland, favour government support for new clean industries such as green hydrogen. 73% of Gippsland voters support redirecting fossil fuel subsidies to large-scale renewable energy, including almost half of Gippsland coal workers.²³**

CONCLUSION AND RECOMMENDATIONS

Given the enormous social, economic and environmental benefits of immediate and sustained action on climate change, all Victorian political parties should commit to a state plan for world-leading decreases in climate pollution this decade.

Using a carbon budget approach and taking into account our national circumstances, the Climate Council has recommended Australia should cut greenhouse gas emissions by 75% by 2030.²⁴

As a bare minimum, Australia must match the 2030 climate targets of the United States, the United Kingdom and trading partners such as the European Union and Japan.

This would include state election commitments to:

- **Deliver 100% of our electricity from sun, wind and other renewable power and storage by 2030**
- **A state plan to clean up transport and drive the shift to electric vehicles, including smart actions to support increasing the supply of EVs in Vic and the rest of Australia**
- **Ending public funding for coal, oil, and gas**
- **Leading the energy ministers to meaningful national energy reforms to create market rules that encourage rapid investment to rapidly increase clean power on the grid and clean vehicles available for Victorians**

ENDNOTES

1. Australian Energy Market Operator 2021, Inputs, Assumptions and Scenarios Report & Transgrid 2021, Energy Vision: A clean energy future for Australia.
2. Australian Energy Market Operator 2021, National Energy Market Statement of Opportunities (ESOO). Importantly, all analysts anticipate retail prices remaining below the historical peaks seen in 2019/20. Transgrid 2021, Energy Vision: A clean energy future for Australia.
3. Australian Energy Market Commission November 2021, Residential electricity price trends report (Victorian fact pack)
4. Australian Energy Market Operator 2021 and 2022, 2021 Inputs, Assumptions and Scenarios Report; 2021 Electricity Statement of Opportunities, 2022 Integrated System Plan. AEMO NEM data dashboard at <https://aemo.com.au/Energy-systems/Electricity/National-Electricity-Market-NEM/Data-NEM/Data-Dashboard-NEM>
5. Australian Energy Market Operator 2021, 2022 Inputs, Assumptions and Scenarios Report; 2021 Electricity Statement of Opportunities.
6. Australian Energy Market Operator 2021, Quarterly Energy Dynamics Q3 2021, p.23, fig. 36
7. Australian Energy Market Operator 2021, Quarterly Energy Dynamics Q3 2021, p.18, fig. 24
8. AEMO Quarterly Energy Dynamics Q2 2022, section 1.3.6
9. AEMO Quarterly Energy Dynamics for Q2 2022 at section 1.5
10. Australian Energy Market Operator 2021, Quarterly Energy Dynamics Q3 2021.
11. Accenture 2021, Sunshot: Australia's opportunity to create 395,000 clean export jobs.
12. Way et al, Institute for New Economic Thinking 2021, Empirically grounded technology forecasts and the energy transition.
13. Way et al, Institute for New Economic Thinking 2021, Empirically grounded technology forecasts and the energy transition.
14. Transgrid 2021, Energy Vision: A clean energy future for Australia, p.26, fig 14. (Net jobs by 2030 comparing 'Current trends' and 'Deep decarbonisation' scenarios. Deloitte Access Economics. (2020) A new choice: Australia's climate for growth estimates that a similar pathway would result in a net gain of 1.3 million jobs and net GDP increase of \$4.1 trillion by 2070.
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16. Transgrid 2021, Energy Vision: A clean energy future for Australia.
17. See, for example, Blueprint Institute's 'Breaking New Ground: Challenges and opportunities of a changing energy landscape in regional Australia – Latrobe Valley, Victoria,' and Accenture 2021 Sunshot, among others
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22. Lowy Institute 2021, Climate Poll
23. Blueprint Institute 2021, Voices from the regions polling data.
24. Climate Council 2021, Aim High, Go Fast: Why Emissions Must Plummet This Decade