

The case for 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. New research released before and during the COP26 climate talks shows 100% renewable energy in Victoria is not only technically achievable within a few years, it's also economically, socially and politically desirable.

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. The world is 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

- Newly updated planning scenarios from the electricity grid operator anticipate 90% renewable energy in Victoria and no coal by 2030.
- There's almost 20GW of emissions-free electricity capacity in the pipeline in Victoria, about 6GW dispatchable – more than four times what was anticipated previously.
- Fully realising Australia's potential as a clean energy powerhouse could create 395,000 clean export jobs by 2040.
- 67% of voters in Victorian electorates say action on climate change will be important for their vote at the next 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

Several research reports released in the second half of 2021 show that Victoria can achieve coal-free electric power generation, and possibly 100% renewable power, by 2028.

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 largely anticipate Victoria's grid being powered by at least 90% renewable energy and no coal by 2030, since renewables have become so reliable and cheaper than coal.¹

This new research shows Victoria can be coal free before 2030 without any loss of reliability and with nil to very small cost increases. Moreover, fast action that successfully transforms Australia and Victoria into a clean energy exporter will produce cost decreases.²

The rapid growth in renewables is already set to save households money. New 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

PROGRESS SO FAR

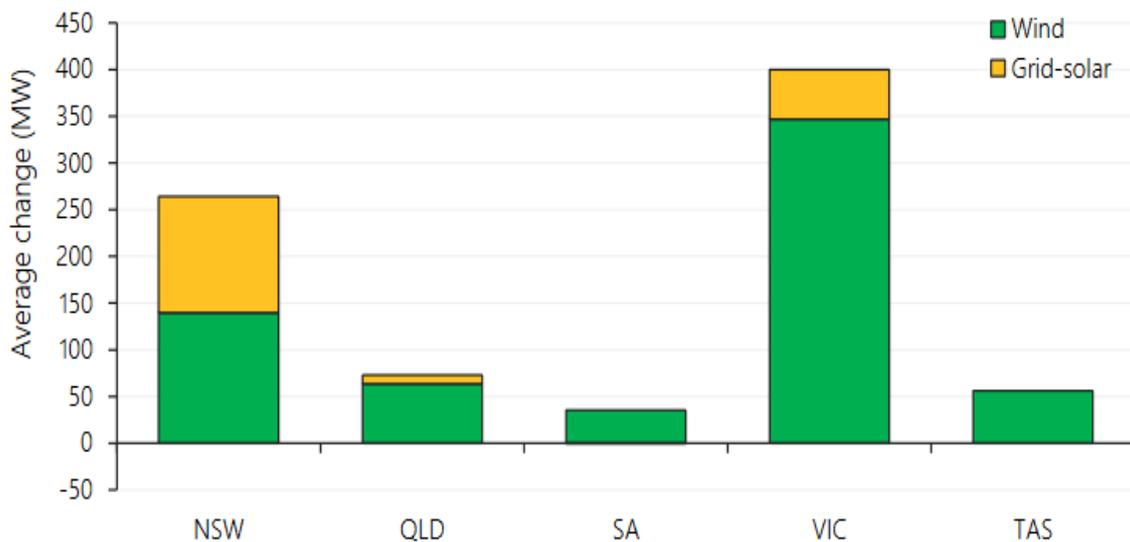
Victoria is already on track to beat a target of 50% renewable energy by 2030. But to meet the Paris Agreement obligations to limit global temperature rises to 1.5 degrees, Victoria must aim to cut emissions from the energy sector much faster, with a goal to achieve 100% renewable electricity generation 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 2019-20, renewable energy generated almost 25% of electricity in Victoria.

That's just the beginning. **There's almost 20GW of emissions-free electricity capacity in the pipeline in Victoria, about 6GW dispatchable – which is more than four times what AEMO's 2020 Integrated System Plan anticipated.⁴**

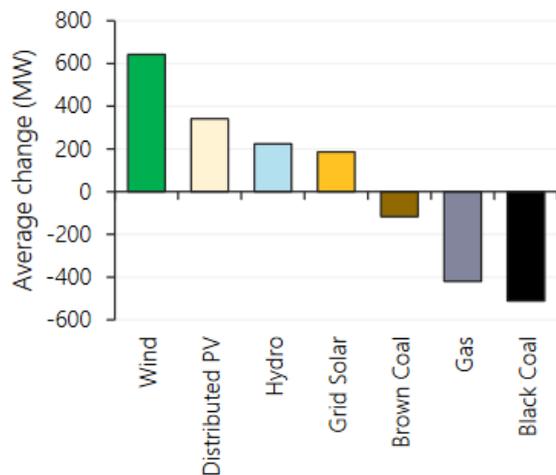
Over the past year (Q3 of 2020 to Q3 of 2021) Victoria led the nation in increases of clean, renewable power generated. (See Chart 1 below.) This resulted in decreases of electricity from burning fossil fuels, impacting the entire national energy market.⁵

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 before.⁶ (See Chart 2 below.)

Change in supply – Q3 2021 versus Q3 2020



Renewable power is more reliable than ever and is cheaper, cleaner, and safer than coal.⁷

It's clear from these milestones that the energy transition is happening more quickly than assumed at the time 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 2022 federal and state elections.

ECONOMIC OPPORTUNITIES

The earlier Victoria takes action to transition to renewable energy and cut emissions, the less it will cost and the more benefits we'll see. Government actions direct energy markets⁸ and as demand for renewable energy continues to grow domestically and internationally, the level of 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 developed with community input. 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.⁹

Switching to a renewable energy system promises to deliver trillions of dollars globally,¹⁰ and Australia – including Victoria – is well positioned to benefit domestically and by exporting renewable energy through fuels such as green hydrogen and ammonia produced from renewable electricity, green ammonia as a feedstock for fertilisers, or metals used in batteries or produced with renewable power instead of coal.¹¹

Getting to 100% renewable energy in Victoria by 2028 and nationally by 2030 could create over 20,000 new long-term jobs in Australia.¹² Going further and fully realising our potential could create 395,000 clean energy export jobs by 2040.¹³

Smart policies can bring more of those clean energy jobs to our state.¹⁴ 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.

VICTORIANS WANT URGENT ACTION

Concern over climate change has grown since the bushfires of 2019-20 and through the COVID crisis, and Victorians plan to make their voices heard with their votes.

High quality and representative polling from the Lowy Institute and YouGov 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 say action on climate change will be important for their vote at the next federal election.**¹⁵
- Three-quarters of Australians (74%) say 'the benefits of taking further action on climate change will outweigh the costs'.¹⁶
- 91% of Australians think the government should subsidise renewable energy.
- 70% of Australians think the government should increase its commitments to address climate change.¹⁸
- 63% of Australians support banning new coal mines and reducing Australian coal exports to other countries.¹⁹
- **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.**²⁰

CONCLUSION AND RECOMMENDATIONS

Given the enormous social, economic and environmental benefits of immediate and sustained action on climate change, all federal political parties should commit to a national plan to slash 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 2030.²¹

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 federal election commitments to:

- **Deliver 100% of our electricity from sun, wind and other renewable power and storage by 2030**
- **A national plan to clean up transport and drive the shift to electric vehicles**
- **Ending public funding for coal, oil and gas**

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, 2021 Inputs, Assumptions and Scenarios Report; 2021 Electricity Statement of Opportunities.
- 5 Australian Energy Market Operator 2021, [Quarterly Energy Dynamics Q3 2021](#), p.23, fig. 36
- 6 Australian Energy Market Operator 2021, [Quarterly Energy Dynamics Q3 2021](#), p.18, fig. 24
- 7 Australian Energy Market Operator 2021, [Quarterly Energy Dynamics Q3 2021](#).
- 8 Economics of Energy Innovation and System Transition (EELST) Consortium 2021, [Underestimation of the impacts of decarbonisation policies on innovation to create domestic growth opportunities](#).
- 9 Accenture 2021, [Sunshot: Australia's opportunity to create 395,000 clean export jobs](#).
- 10 Way et al, Institute for New Economic Thinking 2021, [Empirically grounded technology forecasts and the energy transition](#).
- 11 Way et al, Institute for New Economic Thinking 2021, [Empirically grounded technology forecasts and the energy transition](#).
- 12 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.
- 13 Accenture 2021, [Sunshot: Australia's opportunity to create 395,000 clean export jobs](#), p.4
- 14 Transgrid 2021, [Energy Vision: A clean energy future for Australia](#).
- 15 YouGov 2021, [Australia's Biggest Climate Poll](#).
- 16 Lowy Institute 2021, [Climate Poll](#)
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- 19 Lowy Institute 2021, [Climate Poll](#)
- 20 Blueprint Institute 2021, [Voices from the regions polling data](#).
- 21 Climate Council 2021, [Aim High, Go Fast: Why Emissions Must Plummet This Decade](#)