



**RACE TO THE TOP:
AUSTRALIA'S CLEAN
ENERGY MOMENTUM**

Thank you for making an impact.

The Climate Council is 100% independent and community-funded. We rely on word-of-mouth and donations from the general public to provide reliable and quality research, socialise it and then campaign for the solutions we need. If you'd like to support more reports like this go to: www.climatecouncil.org.au/donate

Published by the Climate Council of Australia Limited.

ISBN: 978-0-6450500-4-2 (print)
978-0-6450500-3-5 (ebook)

© Climate Council of Australia Ltd 2024.

This work is copyright the Climate Council of Australia Ltd. All material contained in this work is copyright the Climate Council of Australia Ltd except where a third party source is indicated.

Climate Council of Australia Ltd copyright material is licensed under the Creative Commons Attribution 3.0 Australia License. To view a copy of this license visit creativecommons.org.au.

You are free to copy, communicate and adapt the Climate Council of Australia Ltd copyright material so long as you attribute the Climate Council of Australia Ltd and the authors in the following manner: Race to the top: Australia's clean energy momentum.

The Climate Council acknowledges the Traditional Owners of the lands on which we live, meet and work. We wish to pay our respects to Elders, past and present, and recognise the continuous connection of Aboriginal and Torres Strait Islander peoples to land, sea and sky. We acknowledge the ongoing leadership of First Nations people here and worldwide in protecting Country, and securing a safe and liveable climate for us all.



Alex Engel-Mallon
Advocacy Director



Ben McLeod
Quantitative Analyst




Dr Jennifer Rayner
Head of Policy and Advocacy



Danielle Veldre
Director Climate Media Centre

CONNECT WITH US!

- | | | |
|---|---|--|
|  instagram.com/theclimatecouncil |  linkedin.com/company/climate-council | |
|  facebook.com/climatecouncil |  tiktok.com/@theclimatecouncil |  info@climatecouncil.org.au |
|  youtube.com/climatecouncil |  x.com/climatecouncil |  climatecouncil.org.au |

Contents

Key findings	i	Conclusion	27
Introduction: It's a race to the top	1	References	28
Powering the nation: The Aussie renewables race	3	Image credits	31
2024 Progress Scorecard	4	Appendix A	32
Key snapshots by state and territory	5		
New South Wales	5		
Victoria	9		
Queensland	13		
Western Australia	17		
South Australia	19		
Tasmania	21		
Australian Capital Territory	23		
Northern Territory	25		

Key findings

1

Cutting climate pollution by embracing clean energy is now a top priority for most states and territories, with impressive progress to prove it.

- › More than half of Queensland's houses now have rooftop solar, and the Sunshine State is also cleaning up its grid with the \$62 billion Energy and Jobs Plan that is set to create 100,000 jobs by 2040.
- › New South Wales has given the green light to a renewables and industry hub in the Central-West Orana region that's expected to attract \$20 billion in private investment, connect much-needed large-scale solar, wind, and energy storage facilities to the grid, support around 5,000 construction jobs and provide enough clean energy to power 1.8 million homes.
- › Victoria is leading the way on all-electric new homes as well as supporting households and businesses to switch to cheaper and cleaner electric appliances. This is showing how we can sensibly phase out gas in our homes over time.
- › Having already achieved 100% renewable energy, Tasmania is now working to produce twice its energy needs from renewables and export the excess to the mainland.

2

Progress on building clean energy has been so rapid in recent years that it can be hard to keep up, but it's all around us here and now.

- › In less than six years, Australia has doubled the share of renewable electricity in our grid – thanks in large part to the accelerating efforts of our states and territories.
- › More than 3.6 million Australian households now have rooftop solar that's reducing their power bills and climate pollution. This has been primarily driven by falling prices for solar installation and incentives from state and territory governments. In 2023 alone Aussies added about 2.5GW of rooftop solar to their homes – equivalent to the capacity of a large coal-fired generator.
- › All our biggest states – NSW, Victoria and Queensland – are building on this momentum by strengthening their renewable energy targets, and have plans in place to cut climate pollution further and faster this decade.

3

The Sunshine State is living up to its nickname with new investment, jobs and infrastructure in clean energy projects picking up pace across Queensland.

- › Regional centres like Townsville, Mackay, Gladstone and Toowoomba are already seeing new jobs and investment, with more on the way. About 95% of infrastructure investment through the Queensland SuperGrid is planned to be spent in the state's regional communities, and 70% of jobs to be created are set to be based there.
- › Queensland leads the nation in embracing rooftop solar, as half of all houses in the state now have panels on the roof.
- › The state has legislated a target to slash climate pollution by 75% below 2005 levels by 2035. Locked-in targets like these help accelerate and measure progress.

4

Victoria leads our largest states on introducing all-electric new homes and reducing wholesale energy prices. But progress in NSW is being held back by slow and costly approval processes for new clean energy infrastructure.

- › Victoria's Gas Substitution Roadmap outlines strong steps to slash climate pollution from gas by ensuring all new homes are fully electric, and the state starts a managed phase out of this polluting fossil fuel.
- › Wholesale electricity prices in Victoria are already the lowest on the east coast, with costs to be kept down by a \$1.6bn investment to expand renewable energy hubs and projects.
- › NSW has announced positive plans to roll out more clean energy and get ready for the closure of major coal-fired generators like Eraring. But the approval of new renewable energy projects is taking two to three times longer in that state than elsewhere; approvals need to accelerate so these plans can become reality sooner.

5

Western Australia and the Northern Territory keep expanding and approving highly-polluting coal and gas projects – seriously undermining our national efforts to cut climate pollution and protect Australians from worsening unnatural disasters.

- › Western Australia is burning more polluting gas to generate electricity than any other state or territory, with 57% of Australia's gas-fired power generation occurring in Western Australia.
- › Unlike every other state, Western Australia's climate pollution is going up – primarily because it keeps approving new gas projects. This is holding Australia back on cutting climate pollution further and faster this decade to protect our communities.
- › The Northern Territory will struggle to meet its own promises on cutting climate pollution, because it is actively supporting the development of huge new gas projects in the Beetaloo Basin, likened to unleashing a climate bomb.

- › If climate pollution is not cut further and faster, the living conditions for everyone residing in the Northern Territory will become unbearable. The Australian Academy of Sciences has predicted Darwin will have 265 days a year above 35 degrees if climate warming accelerates. This reality should drive the Northern Territory Government to map out a genuine pathway for accelerating renewable energy and reducing the use of coal, oil and gas.

Introduction:

It's a race to the top

More and more, Australians are powering our daily lives and getting around in cleaner ways. Our shift to renewable energy sources like solar and wind, backed by storage, is well underway and accelerating rapidly. Nowhere is this more visible than in our states and territories, where governments, communities and households are leading the charge towards a cleaner, safer future for our kids.

Sydney and Melbourne may well argue over which city has better coffee, and Queensland will always claim the best weather, but who is doing the most to embrace clean energy and slash climate pollution? This report shines a light on the progress Australia's states and territories have already made, and their plans for the road ahead. It highlights the huge and growing momentum around the country now, and calls out where governments still have work to do to cut climate pollution further and faster.

Australia is one of the sunniest and windiest places on earth, and around the country we're seizing that advantage to increasingly power ourselves with renewable energy. Already, 40% of the electricity in our main national grid comes from clean wind and solar, and one in three households have solar panels on their roof. Communities are experiencing the benefits in lower power bills, new jobs and economic opportunities in our regions, and less climate pollution.

For much of the past decade, Australia's states and territories have done the heavy lifting to roll out renewable energy projects on the ground. They've made a lot of progress and there's now a race to the top underway on investment, policies and plans that clean up our grid and enable new ways of powering our homes, businesses and transport. This report compares each state and territory's progress against a range of metrics, such as the amount of renewable electricity that's already powering their grids, numbers of rooftop solar and battery installations, shared transport and electric vehicle uptake, and the targets they have set to cut climate pollution.

Different states and territories are leading the way when it comes to various aspects of the transformation that's well underway. Collectively, these efforts are getting us well on the way to meeting Australia's national climate pollution reduction target of 43% by 2030. We can now go even further.¹ We need to urgently build on this momentum and accelerate progress to slash climate pollution further and faster. Our kids' futures depend on the choices we make now, and there is no time to waste.



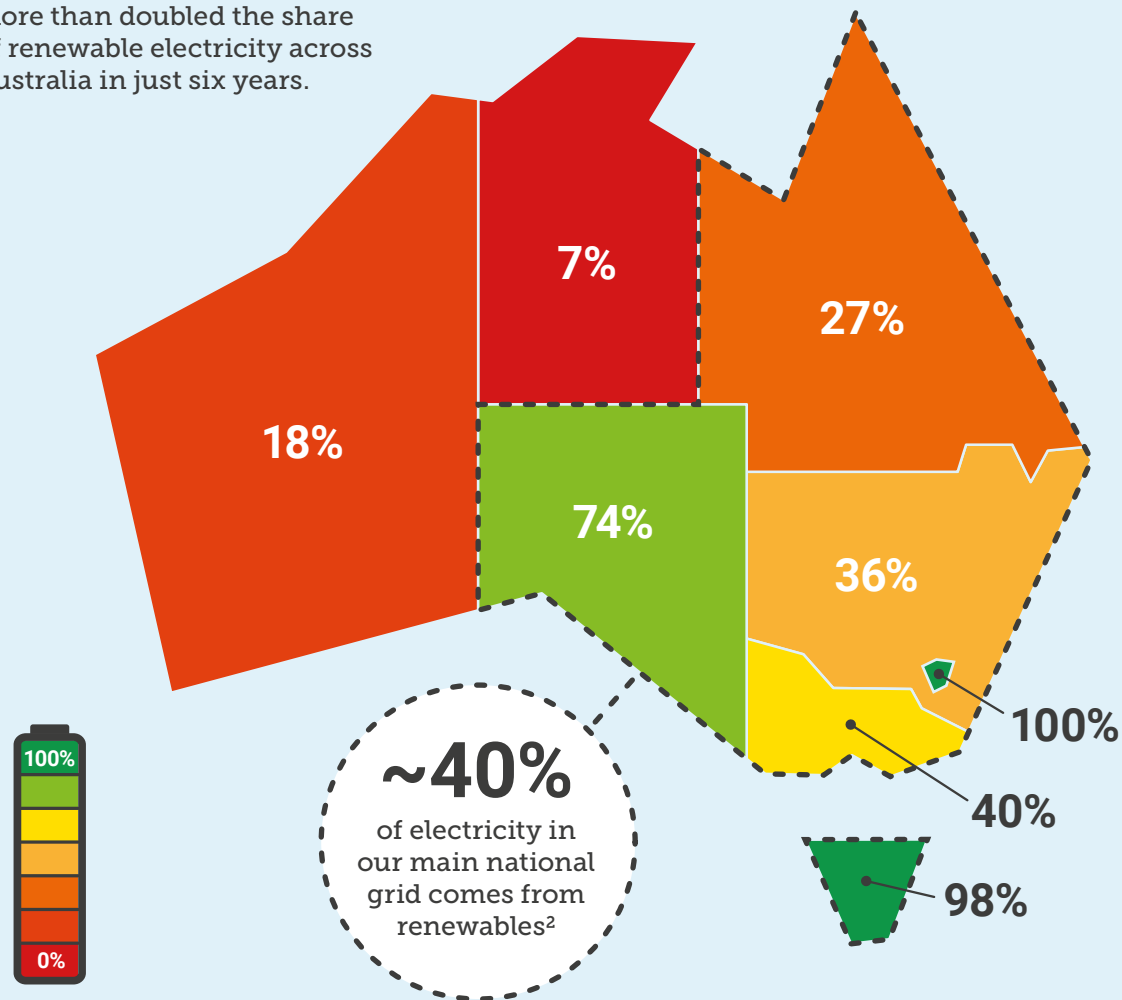
POWERING THE NATION

THE AUSSIE RENEWABLES RACE



HOW MUCH ELECTRICITY IN EACH STATE COMES FROM RENEWABLE SOURCES?

States and territories have more than doubled the share of renewable electricity across Australia in just six years.



WHERE STATES AND TERRITORIES ARE LEADING



NSW



Shared transport

VIC



Wind energy

QLD



Household and commercial rooftop solar

WA



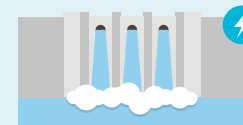
Batteries and critical minerals research

SA



Household batteries

TAS



Hydro power

ACT



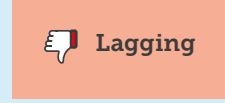
Electric vehicles

2024 PROGRESS SCORECARD

HOW AUSTRALIAN STATES AND TERRITORIES MEASURE UP



Leader



Lagging

	Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicle chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
NSW	35.6%	34.7%	0.9%	2.9	0.02	13.1%	13 GW by 2030 No 2035 target	50% by 2030 70% by 2035 Net zero by 2050
VIC	40.1%	28.1%	0.9%	3.0	0.02	8.5%	65% by 2030 95% by 2035	45-50% by 2030 75-80% by 2035 Net zero by 2045
QLD	26.5%	50.2%	0.9%	3.1	0.02	6.1%	50% by 2030 80% by 2035	30% by 2030 75% by 2035 Net zero by 2050
WA	17.6%	44.6%	1.0%	2.9	0.02	5.7%	No target	Net zero by 2050
SA	74.4%	49.8%	2.9%	2.1	0.03	5.3%	100% by 2027	50% by 2030 No 2035 target Net zero by 2050
TAS	98.2%	21.0%	0.5%	2.8	0.06	3.4%	100%+ by 2030	Already net zero
ACT	100%	35.3%	2.6%	6.8	0.02	3.1%	Already 100% renewable	65-75% by 2030 90% by 2040 Net zero by 2045 (from 1990 levels)
NT	6.7%	27.4%	2.5%	1.0	0.01	5.0%	50% by 2030 No 2035 target	Net zero by 2050

New South Wales

The 'First State' is holding true to its name, leading the nation in the number of people using public transport, walking and riding regularly to get around.

Significant government investment in targeted initiatives like the Zero Emissions Buses plan (Transport for NSW 2024) and the Get NSW Active program (Transport for NSW 2024a), are enabling more people in NSW to use shared and active transport more often, which is our biggest opportunity to cut climate pollution from transport this decade.

NSW is in the middle of a renewable energy boom

NSW has made significant progress with its Renewable Energy Zones (REZs), including the Central-West Orana REZ near Dubbo and Dunedoo. This significant state-sponsored project recently received planning approval (NSW Environment and Heritage 2023) that will enable the construction of critical transmission infrastructure and unlock new clean energy generation. This REZ is expected to generate up to \$20 billion in private investment, and will connect large-scale solar, wind, and firming energy storage facilities to the grid. Its delivery is expected to support around 5,000 construction jobs and when complete it is set to provide 4.5 gigawatts of clean energy – enough to power 1.8 million homes (NSW Government 2024a).

NSW Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
35.6%	34.7%	0.9%	2.9	0.02	13.1%	13 GW by 2030 No 2035 target	50% by 2030 70% by 2035 Net zero by 2050

NSW is performing well on rooftop solar, but industry analysis suggests there is significant untapped potential for commercial and industrial rooftop solar (Bashir 2024).

Going strong on electric vehicle registrations, and really picking up the pace on EV charging infrastructure.

Leading the nation on shared transport as a percentage of overall transport use.

More transparent renewable energy targets needed based on the share of generation from renewables. While NSW needs to keep building renewables, it also needs to reduce its reliance on coal and gas – the current target doesn't measure this.

NSW needs to accelerate its clean energy rollout and shake polluting coal, oil and gas

Despite recent progress with advancing Renewable Energy Zones, the rollout of renewable energy projects and firming infrastructure in NSW remains much too slow. Industry analysis indicates it can take two to three times longer to secure approval for new renewable energy projects in NSW than other states and territories (Herbert Smith Freehills and Clean Energy Investor Group 2023). This can add four to seven years to project delivery, and mean it costs up to 25 times more for developers compared to equivalent projects in Queensland (Nexa Advisory 2023). The fact that this contributed to the Minns Government's decision to extend the life of the polluting Eraring coal-fired power station (Giles 2024) demonstrates how NSW's progress is being undermined.

The government needs to urgently address these planning challenges and unlock the existing project pipeline to create new clean energy jobs, help lower power bills and close polluting generators like Eraring as quickly as possible. As with Queensland, the government has also continued to approve new coal, oil and gas projects, including the highly polluting Boggabri coal mine expansion, that undermine NSW's overall momentum (The Australia Institute 2024). NSW can also follow the lead of Victoria and the ACT to embrace all-electric new homes, to help lower household energy costs and get dangerous, polluting gas out of people's homes.

In March 2024 NSW became the first Australian state to act on offshore drilling and mining – passing historic legislation that prohibits exploring for fossil fuels and minerals in the state's coastal waters, and protects sensitive marine environments and Indigenous heritage.

NEW SOUTH WALES IS POWERING UP



Supporting jobs and manufacturing in the Hunter

AGL Energy, Australia's largest coal generator, is partnering with solar innovator SunDrive to develop a solar manufacturing facility at the former Liddell coal power station site, transforming it into a renewable energy hub (Vorrath 2024). Scheduled to be built by 2025, the project is expected to create more than 500 jobs and boost the local economy in the Hunter Region. The site will also host a major grid-scale battery which will be able to store excess generation from solar for use when needed, and help support a secure, stable grid (Giles 2023).



Community Solar Banks supporting renters and apartment residents

The Community Solar Banks initiative is designed to provide shared solar systems to households that can't install their own, particularly benefiting low-income renters and people in apartments. The program is jointly funded by the Australian and NSW governments and will lower electricity costs for more than 10,000 households in NSW, delivering estimated bill savings of up to \$600 a year (NSW Environment and Heritage 2024b). The Solar Banks initiative builds on Australian first large-scale solar garden – Haystacks Solar Garden – which was part-funded by the NSW Government's Regional Community Energy Fund and commissioned in 2024 (Community Power Agency 2024).



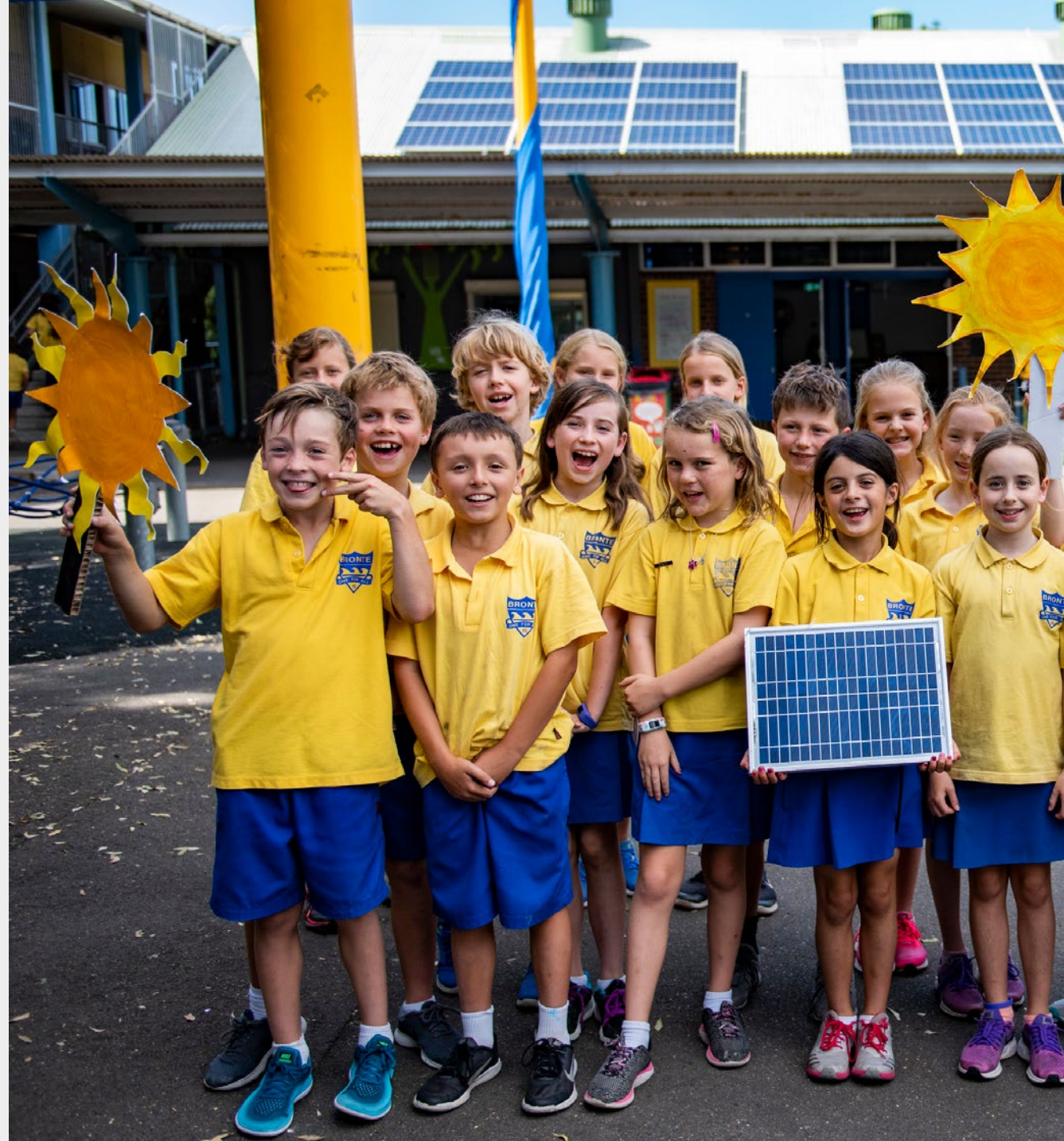
Largest rollout of public kerbside EV chargers in the nation

NSW is installing more than 600 kerbside EV charging ports across Sydney and Newcastle (NSW Government 2024c) – providing convenient charging for drivers who cannot charge their electric vehicles at home, like those who live in apartments. This is part of a positive plan to ensure EV chargers are available every five kilometres in Sydney, every 100 kilometres along highways, and within five kilometres of residential areas with no off-street parking (NSW Government 2024b).



Zero-emissions buses on Sydney's Northern Beaches

NSW has begun work on what will be Australia's largest electric bus depot at Brookvale on Sydney's Northern Beaches (Keolis Downer 2024). The upgrade is part of a larger multi-billion investment in zero-emission buses, aiming to improve air quality, cut noise pollution, and give public transport users a cleaner, quieter and more comfortable ride.



Victoria

Victoria is leading the way on electrifying homes to make them cheaper to run and more energy efficient, with a landmark decision to phase out gas in new homes from 2024. This has set a strong example for other big states like NSW and Western Australia to follow.

The state's game-changing Gas Substitution Roadmap (Victoria State Government 2024b) outlines strong steps to accelerate the roll out of cleaner, cheaper electric alternatives to polluting and expensive gas, requiring efficient electric appliance upgrades and setting energy efficiency standards for rentals (Climate Council 2023).

New development process to help accelerate essential delivery of renewable energy

Victoria has made significant strides in progressing critical planning reforms (Vorrath 2024a), including a new process to enable efficient and timely approvals for clean energy projects like solar and wind farms, and provide much-needed certainty for local communities. These reforms are positive steps that will help to unlock investment and accelerate the state's renewables rollout, while prioritising engagement with, and delivery of benefits for, local communities.

Victoria Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
40.1%	28.1%	0.9%	3.0	0.02	8.5%	65% by 2030 95% by 2035	45-50% by 2030 75-80% by 2035 Net zero by 2045

Victoria is powering ahead with renewables, getting more of its energy from renewable sources than Australia's other big states.

Victoria needs to boost uptake of rooftop solar and battery storage, where it is lagging behind most other jurisdictions.

EV registrations are picking up, helping to clean up transport.

Melbourne has the second highest use of shared transport in the country.

Victoria's emissions reduction and renewable energy targets are leading Australia's large states. They're also the only state with a dedicated and legislated offshore wind target, showing the energy industry that Victoria is open for business.

Victoria's clean energy sector is positioned for unprecedented growth

Thanks to investment in renewables, the wholesale cost of electricity (which is the price that power companies buy energy for) in Victoria is declining, and is already the lowest on the east coast (AEMO 2024). While the state has made progress in addressing planning roadblocks, it now needs to leverage its world-leading capabilities by accelerating the rollout of its Renewable Energy Zones and enabling co-location of clean industry with renewable energy.

Victoria needs to boost uptake of rooftop solar and battery storage, where it is lagging behind most other jurisdictions.



VICTORIA IS TAKING BACK THE POWER



Wind and solar powering regional homes, hospitals and schools

The Glenrowan Solar Farm (CIMIC Group 2024) and Mortlake South Wind Farm (Acciona 2020) are examples of game-changing projects bringing jobs, investment and new diversified income to Victorian communities like Wangaratta and the Moyne Shire. These projects are already powering 170,000 homes every year between them with cleaner, cheaper energy, and are soon to be powering local hospitals and schools (Victoria State Government 2024a).



Supporting coal workers and communities in Latrobe Valley

Victoria leads the nation in providing tailored local support to workers in regions moving away from coal-fired power generation and towards clean alternatives. The Latrobe Valley Authority is an important example of this work. Established in 2016 following the closure of the Hazelwood power station, the Authority has partnered with the Latrobe Valley community to attract nearly \$1.5 billion in new investment and create around 4,000 jobs Latrobe Valley Authority (2023). This included construction of a big battery that commenced operation in June 2023, taking advantage of existing grid infrastructure at the site (Whittaker and Symons 2023). The Authority serves as a model for other states, and the Australian Government's new Net Zero Economy Authority, to learn from.



Regional towns taking power into their own hands

Totally Renewable Yackandandah is a community-led initiative that aims to power the Victorian town of Yackandandah with 100% renewable energy to reduce climate pollution, achieve energy resilience, energise the local economy and lower power bills. An important focus has been providing community buildings with resilience measures, such as storage batteries, backup generators and communications, so they continue to serve the community in times of power disruptions and climate extremes. The project has supercharged the take up of renewable energy by local homes, schools and businesses, and the town is now 60% powered by renewable energy. This demonstrates a powerful model for community-driven renewable energy adoption (Totally Renewable Yackandandah 2023).



Queensland

The Sunshine State is shining bright, having positioned itself as a clear front runner on seizing the benefits of clean, reliable and affordable energy.

The state is soaring ahead on household solar, with more than half of all Queensland households having installed household rooftop solar to cleanly power their lives and drive down their cost of living.

Queensland has also announced one of the largest and most comprehensive renewables investment packages of any Australian state under its \$62 billion Energy and Jobs Plan³ (Queensland Government 2024). This plan reflects the state’s strong agenda for creating good jobs, attracting renewable energy investment and accelerating the delivery of backbone transmission infrastructure like the Queensland SuperGrid. This plan is backed up by newly legislated renewable energy and climate pollution reduction targets that are estimated to support up to 100,000 direct and indirect new jobs by 2040 (Queensland Government 2024b).

Queensland Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
26.5%	50.2%	0.9%	3.1	0.02	6.1%	50% by 2030 80% by 2035	30% by 2030 75% by 2035 Net zero by 2050

Almost one million Queensland households now have rooftop solar, adding more capacity than all of Queensland’s publicly owned coal-fired power generators combined.

Queensland needs to boost battery storage to match its impressive uptake of rooftop solar. The state lags behind most other jurisdictions on battery uptake, despite being the hands-down leader on deployment of solar panels.

Picking up the pace on electric vehicles, with second-highest number of registrations nationally – a nose in front of Victoria.

Queensland needs to improve on electric vehicle charging infrastructure to match its community’s strong embrace of electric vehicles.

Use of shared transport also lags behind other states, creating room for improvement with the right policies and investments that can build on the innovative 2024 trial of 50c public transport fares.

Newly legislated targets will accelerate progress and have contributed to investment certainty and confidence.

³ Consists of \$24bn of public investment that will attract a further \$38bn of private sector investment.

Queensland is aiming high, so now it needs to move fast and accelerate delivery to ensure all Queenslanders benefit.

Accelerated implementation of the Energy and Jobs Plan (Queensland Government 2024) will ensure Queenslanders continue to benefit from the move to clean energy that is well underway across the state. Queensland would also benefit from a stronger focus on transport, where the state is well behind Victoria and NSW on enabling uptake of shared transport – one of the biggest opportunities to slash climate pollution this decade (Climate Council 2024a).

How does new coal and gas fit in? It doesn't.

While Queensland has positive and necessary plans to close all publicly owned coal-fired power stations by 2035, the state government has continued to approve highly polluting projects like Whitehaven Coal's Winchester South coal mine (Beavan 2024), which undermine the state's positive momentum. Coal, oil and gas projects produce dangerous climate pollution that is heating our oceans and literally cooking the Great Barrier Reef (Climate Council 2024b), putting the state's tourism sector at risk.



The Queensland SuperGrid is set to provide significant opportunities for regional communities, with 95% of infrastructure investment and 70% of employment projected to be in regional areas like Townsville, Mackay, Gladstone and Toowoomba.

QUEENSLAND IS SEIZING THE BENEFITS OF CLEAN ENERGY



Renewables set to power industry in North West QLD

The CopperString 2032 project is a 1,100 km high-voltage transmission line from Townsville to Mount Isa, connecting Queensland's North West Minerals Province, including towns such as Mount Isa, Cloncurry and Julia Creek, to the national grid (Queensland Government 2023b). This includes a link to the North Queensland Renewable Energy Zone (Powerlink Queensland 2024) – the largest ever economic development project in North Queensland, and the largest expansion to the power grid nationally. This project will enable renewable energy to meet the intensive demands of heavy industry, and is expected to create thousands of jobs in sectors including construction, critical minerals mining and manufacturing.



Renewables secure jobs and industry in Central Queensland

Rio Tinto, in partnership with the Queensland Government, is shifting to cheaper renewable energy sources like large-scale wind and solar to sustain its Boyne Island aluminium smelter in Gladstone (Rio Tinto 2024b). The mining giant is making the switch due to the high cost of energy from the coal-fired Gladstone Power Station, which has a significant impact on the smelter's viability, given it uses around 10% of the entire state's electricity (Vorrath 2024d). This is a crucial step that will help protect more than 1,000 good local jobs at the smelter and associated industries, which are the lifeblood of Gladstone and nearby communities in Central Queensland. It will also help maintain the state's position as a leading aluminium exporter and contribute significantly to the state's efforts to reduce climate pollution from heavy industry.



Community embraces solar in Noosa

Zero Emissions Noosa (ZEN) is a community group dedicated to achieving net zero emissions in Noosa by 2026. They have helped accelerate community solar and battery installations, resulting in more than 2,000 solar systems set up so far. This has contributed to a 15% reduction in Noosa's overall emissions – showing the power of local action in cutting climate pollution (Zero Emissions Noosa 2024).



Apprentices seize clean energy job opportunities

The national New Energy Apprenticeship Program is designed to equip Australians with the skills needed to work in the growing renewable energy sector, supporting apprenticeships in fields such as solar, wind, battery storage and hydroelectric technologies (Australian Government 2023). The program has already engaged more than 2200 apprentices nationally (O'Connor 2024), with a significant number of these from Queensland (O'Connor 2023). Initiatives like this are helping build the skilled workforce that will underpin the ongoing growth of clean energy.



Cairns homeowner combats cost of living pressures with rooftop solar

Living in Queensland's sunny tropics, Simon Thompson was shocked that his first electricity bill in his new family home was more than \$800 a quarter. To reduce this cost-of-living pressure that seemed to be increasing every month, Simon installed a rooftop solar and a battery system, and reduced his electricity usage by implementing a range of home energy efficiency measures. Simon is now getting free power, and the capital value of his home has increased by at least the value of his investment in these improvements. Pairing his home solar system with a new EV, he can now also wave goodbye to ever increasing petrol prices, a win win!



Solar and grid-scale battery to supercharge the regions

The Western Downs Battery is one of many big battery projects set to supercharge the reliable delivery of clean energy in regional Queensland, including in towns like Chinchilla, Dalby and Wandoan. Set to open by the end of 2024, the industrial sized battery is co-located with one of Australia's largest grid-connected solar farms, which is able to produce enough electricity to power 235,000 homes every year. This battery will be able to soak up solar energy and provide it to the grid whenever it's needed, making it a flexible and reliable form of storage to ensure clean power can be available around the clock (Neoen 2024).

Western Australia

The Western Australian Government has committed to transform the state’s energy landscape by closing all state-owned coal-fired power stations by 2030. This is part of a broader plan to reduce climate pollution from the state’s energy system and develop new regional industries (Government of Western Australia 2023). But this positive progress is being held back by a lack of state-wide plans for making cuts to climate pollution this decade, and the ongoing expansion of polluting and expensive gas.

Western Australia has been working to diversify the local economy and create new opportunities for workers and industries in communities like Collie, in the state’s south-west, where one of the largest coal-fired power stations is planned to close in 2027. Construction is underway on Australia’s biggest battery – a giant four-hour energy storage system that will soak up the sun’s powerful rays during the day and replace coal in the evening peak (Vorrath 2024c). This project follows other significant clean energy projects, like the Battery Energy Storage System at Kwinana, which already plays a reliable role in stabilising the state’s main electricity network (Genus 2024). Unfortunately, climate pollution in Western Australia is still expected to remain high, as the state generates more electricity from gas than any other state or territory – 57% of Australia’s gas-fired power generation occurs in Western Australia (DCCEEW 2024a).

Western Australia Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
17.6%	44.6%	1.0%	2.9	0.02	5.7%	No target	Net zero by 2050

Western Australia has a low share of renewable energy and is being left in the dust by other states.

Almost half of West Australian houses have solar, third in Australia only behind Queensland and South Australia.

Western Australia has significant room to improve when it comes to shared transport.

Western Australia is lagging way behind Australia’s other big states, with no interim, whole-of-economy targets for emissions reduction.

POWERING AHEAD IN THE PILBARA



Powering iron ore mining in the Pilbara with renewables

Mining giant Rio Tinto will use solar and wind power, supported by large scale battery storage at the nearby town of Tom Price, to provide reliable and secure energy to their iron ore mining operations in Western Australia's Pilbara. Rio Tinto currently operates four gas-fired power stations in the Pilbara, but plans to install two 100MW solar facilities and 200MWh of battery storage by 2026, on the way to installing 1 GW of renewables in the region by 2030. This aims to slash polluting gas use across its entire Pilbara operations (Rio Tinto 2023).

The state's 2024-25 budget established a \$500 million Strategic Industries Fund which aims to support the much-needed expansion of grid infrastructure and boost the delivery of renewable energy (Government of Western Australia 2024). However, the Cook Government's vocal support for the gas industry works directly against the goals of this fund because new gas projects divert investment, supply chain capacity and workers away from potential growth industries which could power Western Australia's next era of prosperity.

Western Australia's climate pollution is heading in the wrong direction because of the development of new polluting gas projects. This undermines any momentum the state is seeking to build through renewable energy investments. Western Australia's lack of progress isn't just a problem for the state; it is also a drag on Australia's ability to cut climate pollution further and faster this decade nationally.

Western Australia's efforts to expand renewables are crucial but need to be matched with a real plan to start cutting climate pollution this decade, and an end to support for highly polluting fossil fuel projects.

WESTERN AUSTRALIA NEEDS TO END MEGA-POLLUTING PROJECTS



Proposed Browse gas "climate bomb" project

Energy giant Woodside wants to drill more than 50 gas wells around the Scott Reef off the coast of the Kimberley, and pump gas along the ocean floor to the Karratha Gas Plant for export. If built, the proposed mega gas project would be the Southern Hemisphere's largest and Woodside estimates it could add up to 1.6 billion tonnes of carbon dioxide equivalent over its lifetime (Woodside 2019), or more than three times' Australia's annual climate pollution.

South Australia

The Festival State has reason to celebrate – they’ve not only switched off their last coal-fired power station, they now have one of the strongest renewable energy targets in the nation and are on track to source 100% of electricity from renewables by 2030.

South Australia is forging ahead with plans to establish itself a world-leader in renewable hydrogen, releasing its Hydrogen Jobs Plan and Hydrogen and Renewable Energy Act – key pillars of a strategy to create jobs, bring new economic opportunities to regional communities like Port Bonython. This includes building a world-leading renewable hydrogen power plant near Whyalla that will use renewable energy from large-scale wind and solar farms to provide grid stability and a clean source of reliable power for homes and businesses (Office of Hydrogen Power South Australia 2024b).

Time to move on from gas and carbon capture and storage

It’s time for South Australia to phase out its support for the gas industry, which is no longer central to its energy system or manufacturing industries. The state is also setting too much stock in carbon capture and storage given this is an unviable technology which cannot deal with the huge amounts of climate pollution caused by ongoing use of gas. Going all-in on renewable energy solutions that are proven and cheaper is a better fit with the state’s ambition to be a world leader in renewables.

South Australia Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
74.4%	49.8%	2.9%	2.1	0.03	5.3%	100% by 2027	50% by 2030 No 2035 target Net zero by 2050

Renewable sources like wind and solar power often provide more than 100 percent of South Australia’s electricity supply. In the past 12 months renewables provided 100 percent of South Australia’s energy for 26 days, and more than 90 percent on 57 days (OpenNEM 2024).

South Australia is leading the nation in pairing home batteries with rooftop solar.

South Australia is leading the way on renewable energy, but needs to match this with stronger targets for cutting climate pollution further and faster.

SOUTH AUSTRALIA CHARGES ON WITH RENEWABLE ENERGY



EV charging technology paving way for other states

South Australia is pioneering vehicle-to-grid capability, allowing electric vehicles to both charge from, and supply power to, the grid (SA Power Networks 2022). This can help manage electricity demand, integrate renewable energy, and reduce costs – an important innovation that other jurisdictions can learn from and follow.



Industrial-scale batteries powering industry

Battery storage allows us to soak up renewable energy when it's abundant during the day, and provide it back to our homes and businesses whenever it's needed. The Blyth Battery, set to be the largest in South Australia, will support BHP's Olympic Dam mine with steady and reliable renewable energy (Parkinson 2024). This project highlights the state's leadership in integrating large-scale renewable energy storage, following on from the success of 'South Australia's Big Battery' outside Jamestown (Neoen 2024b). This Australian-first project was completed in 2017 and saved South Australians more than \$150 million off electricity bills in its first two years of operation (CEFC 2021).



Large-scale renewable-based hydrogen manufacturing in Port Pirie

This landmark Green Hydrogen Project in Port Pirie aims to produce hydrogen using 100 percent renewable energy to completely power the Nyrstar Port Pirie smelter (CSIRO 2023) – one of the world's largest multi-metals processing facilities with more than 800 workers (Nyrstar 2024). This project will help reduce climate pollution from industrial processes and contribute to South Australia's goal to become a leading producer of renewable hydrogen globally.

Tasmania

Tasmania is a renewable energy leader in Australia, having achieved 100% renewable electricity generation and setting a target to produce 200% of its energy needs from renewables (Tasmanian Government 2024).

This positive vision is supported by recent reforms to the state’s planning pathways, making it easier to approve and roll out responsibly-delivered renewable energy projects (Tasmanian Government 2024d).

The Apple Isle is also at the forefront of innovative technologies and industries, including marine energy, bioenergy and renewable hydrogen (Tasmanian Government 2024c). The state’s investments in these emerging sectors is set to reduce climate pollution while positioning Tasmania as a pioneer in renewable energy innovation, driving economic growth and creating high-skilled jobs in emerging clean industries.

Tasmania Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
98.2%	21.0%	0.5%	2.8	0.06	3.4%	Greater than 100% by 2030	Already net zero

Tasmania has the highest share of actual renewable energy generation across Australia, with more than 75 percent of its electricity generated from hydro.

The Apple Isle is already sharing its renewable electricity with the mainland, and its target will see electricity exports increase, powering up the state’s energy industry.

Hobart ranks second-last of all Australian capitals for uptake of shared transport – a busload of room for improvement.

Tasmania has been net zero since 2013, and can continue to reduce its remaining sources of emissions such as from logging.

TASMANIA HAS THE WIND AT ITS HEELS ON CLEAN ENERGY PROGRESS



Project Marinus

A key component of Tasmania's renewable energy strategy is the Marinus Link, a proposed 1,500 MW capacity high-voltage interconnector that will connect Tasmania to the mainland National Electricity Market (Marinus Link 2024). This nationally significant project will improve the stability and reliability of our grid by enabling the export of more of Tasmania's surplus renewable energy to other states. Its successful delivery will enable Tasmania to achieve its 200% Renewable Energy Target and realise its ambitions to develop a hydrogen industry together with Hydro Tasmania's Battery of the Nation hydropower projects (Tasmanian Government 2024b).



Opportunity to build on wind energy strengths

Wind energy in Tasmania is relatively developed compared to other states, including several operational wind farms like the Musselroe wind farm in Cape Portland (Woolnorth Renewables 2017), which has been powering Tassie's grid for more than a decade. However, with the state's excellent wind resources there is room to expand wind energy further. Initiatives like the Bass Strait Offshore wind area (DCCEE 2024b) and the St Patrick's Plains Wind Farm, a project which underscores the strength of local community support that exists for many clean energy projects (Goodfellow 2022), should be accelerated in close collaboration with communities and the Australian Government.

Australian Capital Territory

The ACT is a national leader in renewable energy. Since 2020 it has been powered by 100% renewable electricity, secured through innovative power purchase agreements which have given Canberrans some of the lowest power bills in the country (Wrigley 2024).

The ACT was the first in the nation to ensure new homes are built all-electric (ACT Government 2023b), with additional plans to phase out polluting gas appliances in public and community housing by 2030 ahead of a complete phase-out of gas by 2045 (Bovill 2024).

The territory is also streets ahead of other states and territories on zero emissions vehicles, with 20% of new vehicles sold in the ACT now being electric (NRMA 2024). The territory's emissions-based car rego system (ACT Government 2024b) makes fuel-efficient vehicles more affordable for more Canberrans, and it is also the first jurisdiction in Australia planning to end new fossil-fuelled vehicles by 2035 (ACT Government 2022b).

Australian Capital Territory Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
100%	35.3%	2.6%	6.8	0.02	3.1%	Already 100% renewable	65-75% by 2030 90% by 2040 Net zero by 2045

Since 2020 the ACT has been powered by 100 percent renewable electricity, and has committed to keep it this way as the city continues to grow rapidly in the years ahead.

The ACT has several times more electric vehicles per person than other states and territories.

Waiting at the station: Canberra has the lowest shared transport use of any Australian capital, mainly because limited services in its spread-out suburbs leave residents reliant on their cars.

THE ACT IS CHARGING UP ELECTRIFICATION



Solar delivering huge energy bill savings for Canberran

The ACT's Sustainable Household Scheme, launched in July 2021, offers zero-interest loans of up to \$15,000 for energy-efficient home upgrades, such as rooftop solar panels, battery storage and electric vehicles (ACT Government 2022a). So far the scheme has supported nearly 17,000 upgrades and saved Canberrans over \$46.9 million by slashing energy bills (ACT Government 2024b).



Power up Canberra

Construction will soon begin on the Williamsdale 'Big Battery' in Canberra (ACT Government 2023c). The battery has a key objective of supporting the electricity grid during network outages. It will be able to back up the grid in just a few milliseconds, helping to keep power steady and available in peak periods, when the electricity grid is under stress. The project will also provide local employment opportunities and deliver a positive financial return for the territory via an innovative revenue-sharing arrangement (ACT Government 2023a).



Making social homes cheaper to run and more comfortable to live in

The ACT Government is investing to electrify all feasible public and community housing properties by 2030, and ensure these also have appropriate ceiling insulation that meets the Minimum Energy Efficiency Standards for Rental Homes. This will cut bills and make these homes safer and more comfortable to live in, while supporting the territory's transition away from gas (ACT Government 2024a).

Northern Territory

The territory is making some progress towards renewable energy adoption, including some large-scale battery storage projects and positive steps towards establishing a renewable hydrogen industry (Northern Territory Government 2024).

But the Northern Territory is not on track to cut climate pollution and does not seem to have a genuine plan to do so. Momentum is being undermined by highly polluting major gas projects, particularly the planned development of the Beetaloo Basin, which is projected to substantially increase emissions. Gas from the Beetaloo Basin could produce climate pollution that is more than three times Australia’s annual domestic emissions over the next two decades (Climate Analytics 2023).

The Northern Territory’s particular vulnerability to climate impacts, such as extreme weather events, should be the catalyst for urgent action to address these risks and create a safer future for communities. The Territory Government needs to map out a real pathway to accelerate renewable energy and stop backing new fossil fuel projects.

Northern Territory Metrics

Share of electricity generated from renewable sources	Share of houses with rooftop solar	Share of houses with rooftop solar and a battery	Electric vehicles registered (no. per 1000 people)	Electric vehicles chargers (no. per 1000 people)	Share of travel using shared transport	Renewable energy targets	Emissions reduction targets
6.7%	27.4%	2.5%	1.0	0.01	5.0%	50% by 2030 No 2035 target	Net zero by 2050

The Northern Territory lags behind the rest of Australia in uptake of renewables, but its 50 percent renewable energy target is an opportunity to catch-up with other states and territories.

The Top End is in the top three states and territories for the rollout of batteries alongside rooftop solar.

Northern Territory emissions are actually set to rise on current projections. The Territory needs to move quickly and introduce real plans to cut climate pollution now, including setting interim emissions targets to drive cuts well before 2050.

NORTHERN TERRITORY: POCKETS OF PROGRESS



Empowering Marlinja: Australia's first Indigenous-owned solar microgrid

The Marlinja Solar Microgrid, launched in June 2024, represents a groundbreaking achievement as Australia's first fully Indigenous-owned, grid-connected solar power system (NT Independent 2024). Located in the remote Barkly region of the territory, this solar and battery storage system was developed through a collaboration between the Marlinja community and Original Power. The project addresses energy insecurity and reduces reliance on expensive diesel power for local residents. It aims to provide cleaner, cheaper and more reliable energy for people who currently pay high prices for unreliable and intermittent power (First Nations Clean Energy Network 2024).



Powering the Territory: the Darwin-Katherine 'Big Battery'

The Darwin-Katherine Battery Energy Storage System, dubbed "the big battery", is due for completion at the end of 2024 and aims to ensure a consistent and reliable energy supply to local industrial operations, including manufacturing (Northern Territory Government 2024b). The \$45 million project will help stabilise the grid by providing backup power during peak demand times and allowing increased integration of more renewable energy into the grid, to improve energy security for the region (Northern Territory Government 2024c).

Conclusion

Renewable energy is the here and now, with growing momentum.

As Australian states and territories accelerate towards a clean economy without climate pollution, it is important to take stock of how far we've already come and the benefits this is already delivering for millions of Australians. The momentum we've built is huge – we have more than doubled the share of renewables in our grid in just six years; more than 3.6 million Aussie homes now have solar on the roof, and all our biggest states – except Western Australia – have set stronger renewable energy and emissions reductions targets which are helping to prioritise resources, drive necessary action and track progress.

Now is the time to accelerate our efforts – we can go further and faster, so that even more Australians benefit.

Australia's shift towards cleaner energy aligns with the global trend of growing demand for clean energy and materials. We are finally cleaning up our energy act alongside some of our most important regional partners, such as China, India and Singapore.

Our progress means we are back in the pack with global partners, instead of getting left behind. Australia is in a prime position to seize the bright opportunities that come with continuing to accelerate the roll out of clean energy technologies.

Our states and territories have led the way and can keep raising the national bar by building on the progress we've already made. It is also essential for the Australian Government to continue showing leadership that sustains and accelerates this momentum. The choices we make today will shape the future for our kids – together, we can secure a cleaner, safer and more prosperous Australia for them.



References

- Acciona (2020). *Mortlake South Wind Farm*. ACCIONA Energía's fifth wind farm in Australia. Accessed: www.acciona.com.au/mortlake/?_adin=11734293023
- ACT Government (2022a). *Sustainable Household Scheme*. Accessed: www.climatechoices.act.gov.au/policy-programs/sustainable-household-scheme
- ACT Government (2022b). *Zero Emissions Vehicles*. Accessed: <https://www.climatechoices.act.gov.au/transport-and-travel/zero-emissions-vehicles#:~:text=The%20ACT%20Government%20is%20exploring>
- ACT Government (2023a). *Contract signed to help deliver Big Battery*. Accessed: www.act.gov.au/our-canberra/latest-news/2023/april/contract-signed-to-help-deliver-big-battery
- ACT Government (2023b). *Regulation to prevent new gas connections starts in December*. Accessed: www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/rattenbury/2023/regulation-to-prevent-new-gas-connections-starts-in-december
- ACT Government (2023c). *Significant milestone for the Big Canberra Battery*. Accessed: www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/barr/2023/significant-milestone-for-the-big-canberra-battery
- ACT Government (2024a). *Canberra's electrification: a just transition*. Accessed: www.climatechoices.act.gov.au/policy-programs/canberras-electrification-a-just-transition
- ACT Government (2024b). *Emissions-based registration*. Accessed: www.accesscanberra.act.gov.au/driving-transport-and-parking/registration/emissions-based-registration#:~:text=The%20ACT%20registration%20system%20for
- ACT Government (2024c). *Sustainable Household Scheme saving Canberrans millions*. Accessed: www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/barr/2024/sustainable-household-scheme-saving-canberrans-millions
- OpenNEM (2024). *OpenNEM: An Open Platform for National Electricity Market Data*. Accessed: <https://opennem.org.au/energy/sa1/?range=1y&interval=1d&view=discrete-time> Climate Council analysis based on the 12 months to August 5.
- Australian Energy Market Operator (AEMO) (2024). *Quarterly Energy Dynamics Q4 2023*. Accessed: <https://aemo.com.au/-/media/files/major-publications/qed/2023/quarterly-energy-dynamics-q4-2023.pdf>
- Australian Government (2023). *New Energy Apprenticeships Program*. Accessed: www.dewr.gov.au/australian-apprenticeships/resources/new-energy-apprenticeships-program-flyer
- Bashir, S. (2024). *Accelerating C&I rooftop solar and batteries is a 'win win'*. Accessed: <https://nexaadvisory.com.au/accelerating-ci-rooftop-solar-and-batteries-is-a-win-win-discussion-paper/>
- Beavan, K. (2024). *Environmentalist slams approval of one of largest proposed greenfield coal mines*, ABC News. Accessed: www.abc.net.au/news/2024-02-07/winchester-south-coal-mine-approved-by-qld-gov/103438576
- Bovill, M. (2024). *ACT government says Canberrans could be banned from buying new gas appliances as it transitions to electricity* - ABC News. ABC News. Accessed: www.abc.net.au/news/2024-06-19/canberrans-could-be-banned-from-buying-new-gas-appliances/103997228
- CIMIC Group (2024). *Glenrowan Solar Farm*. Accessed: www.glenrowansolarfarm.com.au/
- Clean Energy Finance Corporation (CEFC) (2021). *SA big battery a game changer*. Accessed: www.cefc.com.au/case-studies/sa-big-battery-a-game-changer/#:~:text=The%20battery%20features%20150%20MW
- Climate Analytics (2023). *Beetaloo gas field is a climate bomb. How did CSIRO modelling make it look otherwise*. Accessed: <https://climateanalytics.org/comment/beetaloo-gas-field-is-a-climate-bomb-how-did-csiro-modelling-make-it-look-otherwise>
- Climate Council (2023). *Victoria powers ahead with shift away from harmful gas*. Accessed: www.climatecouncil.org.au/resources/victoria-powers-ahead-with-shift-away-from-harmful-gas/
- Climate Council (2024a). *Seize the Decade: How we empower Australian communities and cut climate pollution by 75% by 2030*. Accessed: https://www.climatecouncil.org.au/wp-content/uploads/2024/03/CC_MVSA0394-CC-Report-Seize-the-decade-FA-Screen-Single.pdf
- Climate Council (2024b). *Underwater Bushfire: Vibrant Great Barrier Reef fading to a shadow of its former glory*. Accessed: www.climatecouncil.org.au/resources/underwater-bushfire-vibrant-great-barrier-reef-fading-shadow-former-glory
- Community Power Agency (2024). *NSW and Federal Governments Invest \$206 Million in Energy Efficiency for Social Housing and Solar Banks Program*. Accessed: <https://cpagency.org.au/federal-and-nsw-governments-invest-206-million-in-energy-efficiency-for-social-housing-and-solar-banks-program/>
- CSIRO (2023). *Port Pirie Green Hydrogen Project*. Accessed: <https://research.csiro.au/hyresource/port-pirie-green-hydrogen-project/> Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024a). *Australian Energy Statistics, Table O – Electricity generation by fuel type 2022-23 and 2023*. Accessed: www.energy.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2022-23-and-2023
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) (2024b). *Bass Strait, Northern Tasmania proposed offshore wind area*. Accessed: www.dcceew.gov.au/energy/renewable/offshore-wind/areas/bass-strait#toc_0
- First Nations Clean Energy Network (2024). *Marlinja Microgrid*. Accessed: https://www.firstnationscleanenergy.org.au/marlinja_microgrid
- Genus (2024). *Kwinana Battery Energy Storage System*. Accessed: www.genus.com.au/projects/kwinana-battery-energy-storage-system

Parkinson, G (2023). *Liddell to host giant battery after AGL and Akaysha win Australia's biggest capacity tender*. Accessed: <https://reneweconomy.com.au/liddell-to-host-giant-battery-after-agl-and-akaysha-win-australias-biggest-capacity-tender/>

Parkinson, G (2024). *Eraring coal closure delayed two years, possibly four, 'to keep the lights on'*. Accessed: https://reneweconomy.com.au/eraring-coal-closure-delayed-two-years-to-keep-the-lights-on/#google_vignette

Goodfellow, T (2022). *Local support for St Patrick Plains Wind Farm: 'It's a no brainer, we have to do something about climate change and every little bit counts.'* Accessed: www.re-alliance.org.au/st_patricks_plains_windfarm

Government of South Australia (2024). *New target for renewables*. Accessed: www.premier.sa.gov.au/media-releases/news-items/new-target-for-renewables

Government of Western Australia (2023). *2023-24 WA State Budget Overview - Taking Action on Climate Change*. Accessed: www.ourstatebudget.wa.gov.au/2023-24/climate.html

Government of Western Australia (2024). *\$500 million fund to unlock industrial areas and create future jobs*. Accessed: <https://www.wa.gov.au/government/media-statements/Cook-Labor-Government/%24500-million-fund-to-unlock-industrial-areas-and-create-future-jobs-20240508>

Herbert Smith Freehills and Clean Energy Investor Group (2023). *Delivering major clean energy projects in NSW – Review of NSW statutory planning approvals processes*. Accessed: <https://ceig.org.au/wp-content/uploads/2022/07/HSF-CEIG-Report-Delivering-major-clean-energy-projects-in-NSW-14-December-202380.pdf>

Keolis Downer (2024). *Work to begin on Australia's largest electric bus depot in Brookvale on the Sydney Northern Beaches*. Accessed: www.keolisdowner.com.au/work-to-begin-on-australias-largest-electric-bus-depot-in-brookvale-on-the-sydney-northern-beaches/

Latrobe Valley Authority (2023). *Latrobe Valley Authority: Latest achievements*. Accessed: <https://lva.vic.gov.au/about/latest-achievements>

Marinus Link (2024). *Marinus Link overview*. Accessed: www.marinuslink.com.au/overview/

Neoen (2024a). *Battery update: June 2024 - Western Downs Green Power Hub*. Accessed: <https://westerndownsgreenpowerhub.com.au/>

Neoen (2024b). *Hornsedale Power Reserve*. Accessed: <https://hornsdalepowerreserve.com.au/> 2024].

Nexa Advisory (2023). *Delays of planning of renewable projects in NSW*. Accessed: <https://nexaadvisory.com.au/web/wp-content/uploads/2024/02/Nexa-Advisory-NSW-Planning-delays-and-opportunities.pdf>

Northern Territory Government (2024a). *Hydrogen - Northern Territory renewable hydrogen strategy*. Accessed: <https://territoryrenewableenergy.nt.gov.au/strategies-and-plans/hydrogen>

Northern Territory Government (2024b). *Reform: Renewable energy*. Accessed: <https://industry.nt.gov.au/reforms/renewable-energy>

Northern Territory Government (2024c). *Securing our energy future*. Accessed: <https://cmc.nt.gov.au/news/2024/securing-our-energy-future>

NRMA (2024). *EV sales March 2024: One in five cars sold are now electric*. Accessed: www.mynrma.com.au/electric-vehicles/news/ev-sales-march-2024

NSW Environment and Heritage (2023). *Two big milestones mean the Central-West Orana Renewable Energy Zone is powering ahead*. Accessed: <https://www.environment.nsw.gov.au/news/two-big-milestones-mean-the-central-west-orana-renewable-energy-zone-is-powering-ahead>

NSW Environment and Heritage (2024a). *New South Wales passes legislation to ban offshore drilling and mining*. Accessed: www.environment.nsw.gov.au/news/new-south-wales-passes-legislation-to-ban-offshore-drilling-and-mining

NSW Environment and Heritage (2024b). *Over \$200 million in cost-of-living energy upgrades for over 30,000 NSW households*. Accessed: www.environment.nsw.gov.au/news/over-200-million-in-cost-of-living-energy-upgrades-for-over-30-000-nsw-households

NSW Government (2024a). *Central-West Orana REZ transmission project gets planning approval in Australian first*. Accessed: www.energyco.nsw.gov.au/news/central-west-orana-rez-transmission-project-gets-planning-approval-australian-first

NSW Government (2024b). *Funding for electric vehicle infrastructure*. Accessed: www.nsw.gov.au/driving-boating-and-transport/nsw-governments-electric-vehicle-strategy/infrastructure-funding

NSW Government (2024c). *NSW turbocharges kerbside EV charging with 600+ new ports*. Accessed: www.environment.nsw.gov.au/news/nsw-turbocharges-kerbside-ev-charging-with-600-plus-new-ports

NT Independent (2024). *'An inspiring blueprint': First Indigenous-owned solar power microgrid launched in Marlinja*. Accessed: <https://ntindependent.com.au/an-inspiring-blueprint-first-indigenous-owned-solar-power-microgrid-launched-in-marlinja/>

Nyrstar (2024). *Nyrstar Port Pirie*. Accessed: www.nyrstar.com/operations/metals-processing/nyrstar-port-pirie

O'Connor, B (Minister for Skills and Training) (2023). *Queensland: the new energy state*. Accessed: <https://ministers.dewr.gov.au/oconnor/queensland-new-energy-state>

O'Connor, B (Minister for Skills and Training) (2024). *Encouraging more apprentices into clean energy sectors*. Accessed: <https://ministers.dewr.gov.au/oconnor/encouraging-more-apprentices-clean-energy-sectors>

Office of Hydrogen Power South Australia (2024b). *Whyalla hydrogen power facility*. Accessed: www.ohpsa.sa.gov.au/projects/hydrogen-jobs-plan/whyalla-hydrogen-power-facility

Parkinson, G (2024). *Concrete pours and modules arrive for South Australia's biggest battery storage project*. Accessed: https://reneweconomy.com.au/concrete-pours-and-modules-arrive-for-south-australias-biggest-battery-storage-project/#google_vignette Powerlink Queensland (2024). *North and Far North Queensland Renewable Energy Zones*. Accessed: www.powerlink.com.au/north-and-far-north-queensland-renewable-energy-zones

Queensland Government (2023a). *Queensland SuperGrid*. Accessed: www.energyandclimate.qld.gov.au/energy/energy-jobs-plan/about-plan/queensland-supergrid

Queensland Government (2023b). *What is CopperString 2032 and why is it important for Queensland's renewable energy future?* Accessed: www.statedevelopment.qld.gov.au/news/what-is-copperstring-2032-and-why-is-it-important-for-queenslands-renewable-energy-future

- Queensland Government (2024a). *Queensland Energy and Jobs Plan*. Accessed: www.energyandclimate.qld.gov.au/energy/energy-jobs-plan
- Queensland Government (2024b). *Tradies for the Transition - Queensland Renewable Workforce Attraction and Retention Strategy*. Accessed: www.epw.qld.gov.au/_data/assets/pdf_file/0028/52678/tradies-for-the-transition-10-point-plan.pdf
- Rio Tinto (2023). *Rio Tinto and Yindjibarndi Energy sign Pilbara renewables MOU*. Accessed: www.riotinto.com/en/news/releases/2023/rio-tinto-and-yindjibarndi-energy-sign-pilbara-renewables-mou#:~:text=Rio%20Tinto%20operates%20four%20gas
- Rio Tinto (2024a). *Harnessing renewables to decarbonise the Pilbara*. Accessed: www.riotinto.com/en/news/stories/pilbara-renewables
- Rio Tinto (2024b). *Queensland Government and Rio Tinto partnership to support Gladstone's Boyne Smelters*. Accessed: <https://www.riotinto.com/en/news/releases/2024/queensland-government-and-rio-tinto-partnership-to-support-gladstones-boyne-smelters>
- SA Power Networks (2022). *SA leads way on vehicle-to-grid capability*. Accessed: www.sapowernetworks.com.au/data/314263/sa-leads-way-on-vehicle-to-grid-capability/
- Tasmanian Government (2024a). *200% Tasmanian Renewable Energy Target*. Accessed: https://recfit.tas.gov.au/what_is_recfit/energy_vision/200_renewable_energy_target
- Tasmanian Government (2024b). *Battery of the Nation*. Accessed: www.recfit.tas.gov.au/what_is_recfit/major_investment_projects/battery_of_the_nation
- Tasmanian Government (2024c). *Marine Energy (ocean, tidal) and offshore wind*. Accessed: www.recfit.tas.gov.au/what_is_recfit/future_industries/marine_energy
- Tasmanian Government (2024d). *Renewable energy approval pathway*. Accessed: https://recfit.tas.gov.au/get_involved/news/renewable_energy_approval_pathway
- The Australia Institute (2024). *Boggabri Coal Mine expansion receives NSW approval*. Accessed: <https://australianinstitute.org.au/coal-mine-tracker/update/boggabri-coal-mine-modification-8-proposal-receives-nsw-approval/>
- Totally Renewable Yackandandah (2023). *Yackandandah wins KABV award*. Accessed: <https://totallyrenewableyack.org.au/2023/10/yackandandah-wins-kabv-award/>
- Transport for NSW (2024a). *Get NSW Active*. Accessed: www.transport.nsw.gov.au/projects/programs/get-nsw-active
- Transport for NSW (2024b). *Zero Emission Buses*. Accessed: www.transport.nsw.gov.au/projects/current-projects/zero-emission-buses
- Victoria State Government (2024a). *Renewables to power our schools and hospitals*. Accessed: www.energy.vic.gov.au/about-energy/news/news-stories/renewables-to-power-our-schools-and-hospitals
- Victoria State Government (2024b). *Victoria's Gas Substitution Roadmap*. Accessed: www.energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap
- Vorrath, S. (2024a). *Australia's biggest coal generator teams up with SunDrive to make solar at Liddell*. Accessed: <https://reneweconomy.com.au/australias-biggest-coal-generator-teams-up-with-sundrive-to-make-solar-at-liddell/>
- Vorrath, S (2024b). *Construction starts on Australia's biggest battery, to replace Collie coal*. Accessed: <https://reneweconomy.com.au/construction-starts-on-australias-biggest-battery-to-replace-collie-coal/>
- Vorrath, S (2024c). *'It takes too long:' Solar and wind farm blockers to be weeded out to fast-track renewable projects*. Accessed: <https://reneweconomy.com.au/solar-and-wind-farm-blockers-to-be-weeded-out-in-rule-change-to-fast-track-renewable-projects/>
- Vorrath, S (2024d). *Rio gets state support to shift Boyne smelters to renewables, says federal help needed too*. Accessed: https://reneweconomy.com.au/rio-gets-state-support-to-shift-boyne-smelters-to-renewables-says-federal-help-needed-too/#google_vignette
- Whittaker, J and Symons, B (2023). *First big battery at an Australian coal site goes live in Victoria*. ABC News. Accessed: www.abc.net.au/news/2023-06-14/first-big-battery-at-ex-coal-site-goes-live/102477230
- Woodside (2019). *Proposed Browse to NWS Project EPA Assessment No. 2191 EPBC 2018/8319*. Accessed: www.woodside.com/docs/default-source/current-consultation-activities/australian-activities/proposed-browse-to-north-west-shelf-project--draft-eis-erd.pdf?sfvrsn=12d274a8_6
- Woolnorth Renewables (2017). *Musselroe Wind Farm*. Accessed: <https://woolnorthrenewables.com.au/wind-farms/musselroe/>
- Wrigley, K (2024). *Average Electricity Bills | Australian Energy Costs*. Accessed: www.canstarblue.com.au/electricity/average-electricity-bills/
- Zero Emissions Noosa (2024). *About Zero Emissions Noosa*. Accessed: www.zeroemissionsnoosa.com.au/what-zen-is

Image credits

Cover: Zoranm - iStock.

Page 2: Original Power. Climate Council supplied.

Page 7: Kangwans - Shutterstock.

Page 7: Community Power Agency. Climate Council supplied.

Page 7: Lake Macquarie City Council. Climate Council supplied.

Page 8: Climate Council supplied.

Page 8: Solar My School 2020. Climate Council supplied.

Page 10: Half Point - Shutterstock

Page 11: Climate Council supplied.

Page 11: Thurtell - iStock.

Page 11: Totally Renewable Yackandanda. Climate Council supplied.

Page 12: ilkercelek - iStock.

Page 14: Marco VDM - iStock.

Page 15: Climate Council supplied.

Page 15: ChameleonsEye - Shutterstock.

Page 15: Noosa Shire Council 2020. Climate Council supplied.

Page 16: Alpha HPA. Climate Council supplied.

Page 16: Climate Council supplied.

Page 16: Neoen 2020. Climate Council supplied.

Page 18: Climate Council supplied.

Page 18: Hugh Warren - Shutterstock.

Page 20: Ballycroft Vineyard and Cellars 2024. Climate Council supplied.

Page 20: Neoen 2020. Climate Council supplied.

Page 20: Louise Beaumont - iStock.

Page 22: Anton Balazh - Shutterstock.

Page 22: Climate Council supplied.

Page 24: Climate Council supplied.

Page 24: Climate Council supplied.

Page 24: Climate Council supplied.

Page 26: Original Power 2024. Climate Council supplied.

Page 26: The Desert Photo - Shutterstock.

Page 27: 'Adorable kid taking a ride on bike with her mother and father' - Unsplash.

Appendix A

2024 PROGRESS SCORECARD - REFERENCES FOR ASSESSED METRICS

Quantitative Indicators

Heading here?	Reference period	Source
Share of electricity generated from renewable sources	2023 (calendar year)	Department of Climate Change, Energy, the Environment and Water (2024). <i>Australian Energy Statistics, Table O Electricity generation by fuel type 2022-23 and 2023</i> . Accessed: https://www.energy.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2022-23-and-2023
Share of houses with rooftop solar	June 2024	Australian PV Institute (2024). <i>Percentage of houses with a PV system by State/Territory</i> . Accessed: https://pv-map.apvi.org.au/historical
Share of houses with rooftop solar and a battery	June 2024	Clean Energy Regulator (2024). <i>Small-scale installation postcode data - Table 8: state data for battery installations with small-scale systems</i> . Accessed: https://cer.gov.au/markets/reports-and-data/small-scale-installation-postcode-data
Electric vehicles registered (no. per 1000 people)	January 2023	Bureau of Infrastructure and Transport Research Economics (2023b). <i>Road Vehicles, Australia, January 2023 - dataset</i> . Bureau of Infrastructure and Transport Research Economics. Accessed: https://www.bitre.gov.au/publications/2023/road-vehicles-australia-january-2023
Electric vehicle chargers (no. per 1000 people)	2023 (calendar year)	Electric Vehicle Council (2023). <i>State of Electric Vehicles</i> . Accessed: https://electricvehiclecouncil.com.au/wp-content/uploads/2023/07/State-of-EVs_July-2023_.pdf
Share of travel using shared transport	2023 (financial year)	Bureau of Infrastructure and Transport Research Economics (2023a). <i>2023 Yearbook - Passengers (datatables)</i> . Accessed: https://www.bitre.gov.au/publications/2023/australian-infrastructure-and-transport-statistics-yearbook-2023/passengers
<p><i>Note: This metric compares the kilometres travelled by passengers using heavy rail, light rail, buses and ferries in capital cities to total motorised passenger transport. It does not include rideshare, or personal mobility devices e.g. e-bikes and scooters, which form part of the Climate Council's more comprehensive definition of 'shared transport'.</i></p>		

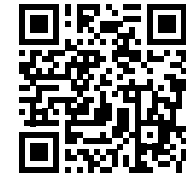
Policy and target commitments

Policy type	Jurisdiction	Source
Renewable energy targets <i>Note: Targets set for the share of renewable electricity in the relevant state's grid. Energy sources like gas are accounted for separately in each state's total energy use.</i>	New South Wales	Electricity Infrastructure Investment Act 2020 (NSW), section 44. Accessed: https://legislation.nsw.gov.au/view/html/inforce/2024-06-24/act-2020-044#sec.44
	Victoria	Renewable Energy (Jobs and Investment) Act 2017 (Vic), section 7. Accessed: https://content.legislation.vic.gov.au/sites/default/files/2024-03/17-56aa003-authorized.pdf
	Queensland	Energy (Renewable Transformation and Jobs) Act 2024 (QLD), section 9. Accessed: https://www.legislation.qld.gov.au/view/html/inforce/current/act-2024-015#sec.9
	South Australia	Malinauskas, P. and Koutsantonis, T. (2024). <i>New target for renewables</i> . Accessed: https://www.premier.sa.gov.au/media-releases/news-items/new-target-for-renewables
	Tasmania	Tasmanian Government (2024). <i>200% Tasmanian Renewable Energy Target</i> . Accessed: https://www.recfit.tas.gov.au/what_is_recfit/energy_vision/200_renewable_energy_target
	Northern Territory	Northern Territory Government (2021). <i>Our renewable energy target</i> . Accessed: https://territoryrenewableenergy.nt.gov.au/about/our-renewable-energy-target
	Western Australia	<i>No target.</i>
	Australian Capital Territory	Climate Change and Greenhouse Gas Reduction Act 2010 (ACT), section 9. Accessed: https://www.legislation.act.gov.au/View/a/2010-41/current/html/2010-41.html

Policy type	Jurisdiction	Source
Emissions reduction targets <i>Note: Emissions reductions targets are measured from a 2005 baseline, except for the ACT which is based on a 1990 baseline.</i>	New South Wales	Climate Change (Net Zero Future) Act 2023 (NSW), section 9. Accessed: https://legislation.nsw.gov.au/view/html/2023-12-11/act-2023-048#sec.9
	Victoria	Department of Energy, Environment and Climate Action, (2023). <i>Victoria's 2035 Emissions Reduction Target</i> . Accessed: https://www.climatechange.vic.gov.au/___data/assets/pdf_file/0028/635590/Victorias-2035-Climate-Target_Driving-Real-Climate-Action.pdf
	Queensland	Clean Energy Jobs Act 2024 (QLD), section 5. Accessed: https://www.legislation.qld.gov.au/view/html/inforce/current/act-2024-016#sec.5
	South Australia	Government of South Australia (2024). <i>Climate Change Act – Draft Amendment Bill</i> . Accessed: https://yoursay.sa.gov.au/climate-change-bill
	Tasmania	Department of State Growth (Tas) (2023). <i>Tasmania's Climate Change Action Plan 2023-25</i> . Accessed: https://www.recfit.tas.gov.au/___data/assets/pdf_file/0008/497555/Tasmanias_Climate_Change_Action_Plan_2023-25.pdf
	Northern Territory	Northern Territory Government (2020). <i>Northern Territory Climate Change Response: Towards 2050</i> . Accessed: https://depws.nt.gov.au/___data/assets/pdf_file/0005/904775/northern-territory-climate-change-response-towards-2050.pdf
	Western Australia	Government of Western Australia (2024). <i>Government Emissions Interim Target</i> . Accessed: https://www.wa.gov.au/service/environment/business-and-community-assistance/government-emissions-interim-target
	Australian Capital Territory	ACT Government (2021). <i>ACT Climate Change Strategy</i> . Accessed: https://www.climatechoices.act.gov.au/policy-programs/act-climate-change-strategy
Phaseout of gas in homes	Victoria	Department of Energy, Environment and Climate Action (2023). <i>Gas Substitution Roadmap (Update)</i> . Accessed: https://www.energy.vic.gov.au/___data/assets/pdf_file/0027/691119/Victorias-Gas-Substitution-Roadmap-Update.pdf
	Australian Capital Territory	ACT Government (2023). <i>Preventing new gas network connections</i> . Accessed: https://www.climatechoices.act.gov.au/energy/canberras-electrification-pathway/preventing-new-gas-network-connections
	Other	<i>Other jurisdictions currently have no plans to phase out gas.</i>

The Climate Council is a fearless champion of the climate solutions that Australia needs. People power got us started and we are proudly community-funded and independent.

The Climate Council acknowledges the Traditional Owners of the lands on which we live, meet and work. We wish to pay our respects to Elders, past and present, and recognise the continuous connection of Aboriginal and Torres Strait Islander peoples to land, sea and sky. We acknowledge the ongoing leadership of First Nations people here and worldwide in protecting Country, and securing a safe and liveable climate for us all.



Subscribe to the Climate Council today for your exclusive inside take on the latest climate science, impacts and solutions. Visit climatecouncil.org.au/join/

The Climate Council is a not-for-profit organisation. We rely upon donations from the public. We really appreciate your contributions.

DONATE

climatecouncil.org.au/donate

CONNECT WITH US!



facebook.com/climatecouncil



youtube.com/climatecouncil



x.com/climatecouncil



linkedin.com/company/climate-council



instagram.com/theclimatecouncil



info@climatecouncil.org.au



tiktok.com/@theclimatecouncil



climatecouncil.org.au