

Renewable Superpower Scorecard: **Leading Lights**

This briefing paper spotlights the best government policies and programs from around Australia for the ten categories assessed in the WWF-Australia Renewable Superpower Scorecard.

The Renewable Superpower Scorecard ranks Australia's states and territories on their progress, not just in switching Australia's domestic energy system to renewables, but also on how quickly they are working to establish new renewable export industries for the nation. The aim of the scorecard is to celebrate success and encourage greater ambition, and the policy case studies described below illustrate the influential role governments can play in the energy transformation.

1) Strong Renewable Energy Targets and Policies

About this category: Governments can position Australia to become a renewable superpower by adopting targets, timelines and policies to build sufficient firm renewables to power our economy and build huge new clean export industries, putting Australia on the path to achieving 700% renewables by 2050. Strong targets serve as a coordination mechanism that signals intent and provides certainty about government priorities, helping stakeholders work collaboratively towards the announced goal.

Category leader: Australian Capital Territory

- The ACT has already achieved 100% renewables status through a [legislated program of reverse auctions](#) which have secured 841MW of renewable energy supply to date. The Capital Territory was the first jurisdiction to use this approach. Reverse auctions have proven to be an effective way to accelerate construction of new renewable electricity generation at the least cost to consumers. It also enables the government to set conditions on the contracts to maximise social and economic benefits for their region, such as local procurement requirements and standards for community consultation. Victoria has a similar legislated system for reverse auctions to meet their renewable energy targets.
- The ACT's renewable energy legislation includes a mechanism to increase the supply of renewable electricity as demand grows and more sectors decarbonise. Since the ACT has committed to phase-out fossil fuel gas by 2045, and move towards zero-emissions transport, this means their effective target is around 200% renewable energy.

Other leading examples – Strong targets

Three other governments also have ambitious legislated renewable energy targets:

- **Tasmania** led the world by adopting a legislated target of 200% renewables by 2040.
- **South Australia** has a target of 500% renewables by 2050 and is about to legislate its 2030 target of net 100% renewables.
- **NSW** has adopted a legally-binding goal of 12GW renewable energy by 2030 and 2-3GWs of storage, which equates to around 67% of the state's electricity supply.

Other leading examples - Effective policy mechanisms

- The [NSW Electricity Infrastructure Roadmap](#) is the most ambitious and comprehensive energy transition plan announced by any state or territory so far. The Roadmap is backed by legislation and includes Long Term Energy Service (LTES) Agreements to provide a price guarantee for new renewable energy projects and forward planning to manage the closure of coal-fired power stations.
- The **Queensland** Government is investing \$1 billion in its [Renewable Energy and Hydrogen Jobs Fund](#) over five years, and has promised an additional \$1 billion in future years. The fund will enable Queensland's three government-owned electricity generators to build or co-invest in new renewable energy and hydrogen projects across the state.

2) Rolling Out Renewable Energy

About this category: This category measures how much new renewable capacity was added in the past two years, and the percentage of renewables currently being generated by each state or territory, and nationally.

Category leader: Tasmania

New wind farms in Tasmania took the state to net 100% renewable electricity in 2020. Over the last two years, Tasmania added 320 MW of new renewable generation – an average of almost 0.3 kW of new renewable generation per person per year. The ACT also reached 100% renewables in 2020.

Other leading examples:

- **New South Wales** added 5.4 GW of new renewable energy generation capacity over the last two financial years (2019-2021). This was made up of 3.6 GW of large-scale generation and 1.8 GW of small-scale generation from roof-top solar.
- **Western Australia's** main grid has seen the biggest increase in the proportion of renewable electricity in the system, jumping from 22% in FY 2019-20 to 30% in FY 2020-21, thanks to a string of new solar farms coming online.

3) Renewable Energy Zones and Transmission

About this category: Renewable Energy Zones (REZ) are the best way to develop a cluster of new clean energy projects in a region. Off-grid mega-projects play a similar role to REZs in remote areas. New or upgraded electricity transmission lines are essential to transport renewable electricity to where it's needed.

Category leader: New South Wales

NSW has a clear, well-funded, legislated plan to develop five [Renewable Energy Zones](#) and improve the state's transmission system. The latest [NSW budget included \\$380 million](#) to underwrite the development of new transmission network infrastructure for the state's first REZs and establish new governance bodies. At the same time the state government is supporting EnergyConnect – a new interconnector with South Australia and upgrades to the interconnectors between NSW, Queensland and Victoria.

Other leading examples:

- In Victoria, the Government is doing urgent work to address key network constraints in the best renewable resource locations, with plans to develop a comprehensive REZ program in five areas. This is supported by a \$540 million REZ Fund to invest in needed REZ network infrastructure and the establishment of a new coordinating body, VicGrid.

- South Australia and Tasmania are proactively advancing greater transmission interconnection, allowing a greater diversity of renewable energy resources to be connected and shared across the NEM.

4) Renewable Energy Industrial Precincts

About this category: A Renewable Energy Industrial Precinct is a cluster of manufacturers powered by 100% renewable energy (electricity, heat, feedstock). Energy-hungry industries like steel and aluminium production can gain a global competitive advantage from Australia's cheap, clean electricity.

Category leader: New South Wales

- NSW's [Clean Manufacturing Precincts](#) program has many similarities to the concept of Renewable Energy Industrial Precincts. The program will foster industry precincts in the Hunter and Illawarra regions to help hard-to-abate industrial sectors accelerate their shift to net zero emissions.
- The Clean Manufacturing Precincts program is part of a larger [Net Zero Industry and Innovation Program](#) which was allocated \$750 million in the last state budget.

5) Developing a Renewable Hydrogen Industry

About this category: Renewable hydrogen has a huge role to play in decarbonising the world's economies. It can be shipped overseas and used to generate electricity, or used here in heavy industry to produce essential products like green steel and ammonia. In this category, we benchmark Australian government funding against global leaders such as Germany and Spain. Our analysis suggests that leading jurisdictions are committing at least 0.1% of GDP (or GSP) to on-budget hydrogen programs. In addition, it is WWF-Australia's firm position that governments should only be supporting hydrogen from renewables, and as such support for fossil hydrogen is rated down.

Category leader: Tasmania & New South Wales

NSW and Tasmania are up there with global leaders providing more than 0.1% of GSP (Gross State Product) in funding programs to support renewable hydrogen. They have also explicitly committed to only support renewable hydrogen (though they have not yet legislated this commitment). See for example p15 of [NSW's Hydrogen Strategy](#).

Other leading examples:

Western Australia's updated [Renewable Hydrogen Strategy](#) sets a goal for WA to have 12% of the global market for green fuel by 2030, and Hydrogen Minister Alannah McTiernan has [expressed the state's aspiration](#) to develop 10GW of hydrogen projects by 2030 and up to 200GW by 2040.

6) Ensuring Equitable Benefits

About this category: People on low incomes must always be able to access affordable green power. Workers and communities must benefit from the transition. First Nations peoples should play a key role in any renewable energy projects on their Country and share in the benefits they bring.

Category leader: Victoria

Victoria has good programs to assist low-income earners to cut bills and access solar energy, as well as concrete initiatives to support coal-dependent regions and regional communities including:

- The Solar Homes program assists social housing tenants and low-income households to access solar.
- The VRET program has encouraged renewable energy developers to prioritise local procurement, jobs, training and community benefit sharing.
- Six community power hubs to support communities to develop renewables initiative most beneficial to their communities
- Government support for a number of Aboriginal owned solar farms
- The Latrobe Valley Authority is supporting this traditionally coal dependent region to diversity its economy.

7) Renewable Export Industry Strategy

About this category: Hydrogen strategies in every jurisdiction have proven effective at mobilising and targeting public and private sector activities and resources. However, Australia needs a comprehensive strategy to develop a range of renewable export industries and position the nation as a major player in international markets. State and federal strategies should include clear goals backed by government investment and effective policy mechanisms.

Category leader: Western Australia

- Western Australia's updated [Renewable Hydrogen Strategy](#) sets a goal for WA to have 12% of the global market for green fuel by 2030, and Hydrogen Minister Alannah McTiernan has [expressed the state's aspiration](#) to develop 10GW of hydrogen projects by 2030 and up to 200GW by 2040.
- In addition, Western Australia's [Future Battery Industry Strategy](#) aims to increase the state's role along the supply chain for household, vehicle and large-scale batteries. A key priority is local manufacturing of the precursor materials needed for battery cell production.
- WA is also positioning to sell its expertise in the design and installation of remote stand-alone power systems. State-owned power company Horizon Power has established a joint-venture company called [Boundary Power](#) to commercialise this expertise.

Category leader: Australian Government

- The federal government has a number of strategies and initiatives that include assistance to develop new renewable export industries:
- A new [\\$2bn billion loan facility for Australian critical minerals projects](#), to help expand Australia's exports of minerals essential for renewable energy technologies like batteries for electric vehicles
- The government has signed international partnership agreements with several of Australia's major trading partners to collaborate on developing low emissions technologies including renewable hydrogen and green steel and aluminium.
- The Modern Manufacturing Initiative and Low Emissions Technology Roadmap will provide financial support to grow a diverse range of future export industries like battery storage technology, green steel and aluminium, renewable hydrogen, electric car chargers, and high voltage DC cables.

8) Energy Storage and Balancing the Grid

About this category: To make sure the supply of renewable energy is always balanced with demand, we need a lot more big batteries, pumped-hydro power stations, solar-thermal plants and flexible demand management programs.

Category leader: South Australia

South Australia has a multi-pronged approach to energy storage and grid balancing including:

- Big batteries, like the newly approved [225MW big-battery at Gould's Creek](#);
- a [home battery scheme](#) and [virtual power plant](#) that are turning ordinary homes into energy storage systems;
- [Four new synchronous condensers](#) to support system strength and inertia;
- upgraded energy system regulations and demand management.

Other leading examples

Almost all jurisdictions are making progress on storage. Tasmania, NSW and Queensland are pursuing pumped hydro. WA and Queensland are pursuing community-scale batteries. In addition, six big batteries (over 10MW) have been switched on in 2021 (or are due to be operational by the end of the year) including the largest in the country - Victoria's 350MW big battery near Geelong. This has increased the pace at which essential new energy storage is being added to the grid in Victoria, Queensland and the Northern Territory.

9) Growing Demand for Renewable Energy and Exports

About this category: Governments can boost the production of renewable energy and export products by stimulating demand and developing new markets in Australia and overseas. This might include: government procurement policies; incentivising consumers to switch from gas and oil to electricity in their homes and transport; supporting industry to switch to electricity or renewable hydrogen or establishing relationships with international buyers.

Category leader: Australian Capital Territory

The ACT Government is leading the way in accelerating the switch from oil and gas to renewable electricity and zero-emissions fuels for transport, buildings and industry. For example, the ACT has:

- Recently announced new incentives for the purchase of zero-emissions vehicles without introducing a road-user charge.
- Started to phase out fossil-gas by switching home heating to renewable electricity.
- A program to replace diesel buses with electric and building new public transport infrastructure.

Category leader: New South Wales

The NSW programs to support electrification of industry and transport are substantial:

- The NSW Government's Net Zero Industry Innovation Program (NZIIP) is a comprehensive package of initiatives—backed by \$750m funding – to support industries to reduce carbon emissions by adopting renewable energy and low-emissions technologies.
- NSW is starting to decarbonise its transport systems, with a strong Electric Vehicle Strategy and a Bus Fleet Transition Strategy to switch to all-electric or hydrogen buses by 2030. The NSW Hydrogen Strategy also aims to have 20% of the government's heavy-vehicle fleet run on hydrogen fuel.

Other leading examples:

The Victorian Government in 2020 released a \$447m package to increase the energy efficiency of Victorian homes and has subsequently [committed](#) to replacing gas with carbon-free alternatives. Although a final policy is yet to be decided, the consultation paper for [Victoria's Gas Substitution Roadmap](#) includes pathways to improve energy efficiency, electrify heating and industry, and use more renewable hydrogen.

10) Renewable Recovery: 2021 Special Category

About this category: Governments that place renewable energy and exports at the heart of their strategy for economic recovery from the global COVID-19 pandemic can create many thousands of jobs, especially in regional areas, and also put their economies on a stronger footing for the future. In this category, we benchmark on-budget funding commitments by Australian governments against global leaders. Our research shows that leading countries are committing at least 1% of GDP to clean energy stimulus measures.

Category leader: New South Wales

Over the last two financial years, the NSW government has invested \$6 billion in renewable energy related initiatives that will assist with the state's recovery from the impacts of the COVID-19 pandemic. This is close to 1% of the state's GSP, a level comparable with leading nations around the globe.

Other leading examples:

- The **Victorian Government** placed renewable energy and energy efficiency front and centre of the state's 2020 COVID-19 recovery budget pledging \$1.6 billion to create renewable energy zones across the state, improve crucial grid infrastructure, make Victoria's buildings and homes more energy efficient, drive down emissions and help more homes go solar.
- The **ACT** Government's 2021 COVID-19 recovery budget includes over \$300 million for renewable energy initiatives, including a 250MW 'big battery' and no-interest loans for household solar, batteries and electric vehicles.

For further information see the Behind the WWF Renewable Superpower Scorecard Technical Report, or [visit the Renewables Nation policy library](#) on our website.

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