



**COUNTRY
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Australia

RENEWABLE ENERGY

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This country-specific Q&A provides an overview of renewable energy laws and regulations applicable in Australia.

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AUSTRALIA

RENEWABLE ENERGY



1. Does your jurisdiction have an established renewable energy industry? What are the main types and sizes of current and planned renewable energy projects? What are the current production levels?

Yes, Australia has an established renewable energy industry. According to the Clean Energy Council's Clean Energy Report 2023, the renewable energy industry accounted for 35.9% of Australia's total electricity generation in 2022, compared to 32.5% in 2021. Wind power comprised 12.8% of total renewable energy, rooftop solar 9.3% and hydro power 7.1%.

Current projects that are proposed or under development are mostly onshore wind, solar and pumped hydro projects, but offshore wind is an area of heightened interest in Australia at the time of writing.

2. What are your country's net zero/carbon reduction targets? Are they law or an aspiration?

Australia has a legislated net zero emissions target by 2050. It also has a legislated target to reduce greenhouse gas emissions by 43% below 2005 levels by 2030 to enshrine Australia's commitments under the Paris Agreement. In addition, the Australian States and Territories have their own jurisdictional-specific renewable energy targets, some of which are legislated (eg Victoria and Tasmania) or proposed to be legislated (eg Queensland), while others are aspirational only.

3. Is there a legal definition of 'renewable energy' in your jurisdiction?

Under the Federal Large-scale Renewable Energy Target scheme, the following energy sources are eligible renewable energy sources:

- hydro;

- waves, tide, ocean within the territorial sea of Australia;
- wind;
- solar;
- geothermal-aquifer;
- hot dry rocks;
- energy crops (subject to clearing requirements and excludes native forestry);
- biomass produced from non-native environmental weed species and harvested for the control or eradication of the species from an approved harvesting operation, manufactured wood products, wood by-products from a manufacturing process, waste products from the construction of buildings or furniture and sawmill residue;
- agricultural waste (ie the putrescible biomass wastes produced during agricultural operations, including livestock husbandry) and waste from processing of agricultural products;
- food waste, and food processing waste,
- bagasse, black liquor (arising from the chemical wood pulping process),
- biomass-based components of municipal solid waste (other than waste from forestry, broadacre clearing or fossil fuels) and landfill gas; and
- sewage gas and biomass-based components of sewage.

The Australian Renewable Energy Agency, which is an Australian government statutory body, defines renewable energy as energy that "is produced using natural resources that are constantly replaced and never run out."

4. Who are the key political and regulatory influencers for renewables industry in your jurisdiction and who are the key private sector players that are driving the green renewable energy transition in your

jurisdiction?

The key political influencers for renewable energy are the Australian Federal and State governments. The industry is shaped through legislation and implementation of policy and, at the Federal level and in some States/Territories, through shareholding in renewable companies. For example, the Federal government is the sole shareholder in Snowy Hydro Ltd, the proponent of Australia's largest committed renewable energy project (Snowy Hydro 2.0).

The Federal government has also established two agencies which provide funding to the renewable energy sector: the Australian Renewable Energy Agency, which played a key role in the initial development of the utility-scale renewable sector, and is now focusing on adjacent industries such as 'green' hydrogen and the Clean Energy Finance Corporation, which is a dedicated financier to renewable and 'green' projects.

The 2022 Federal election marked a shift in Australian politics, aptly named a 'greenslide'. The way of new Greens and 'teal independent' MPs entered Parliament on a platform focused on clean energy and climate change.

Below the political level, the key regulatory influencers are:

- the Clean Energy Regulator, which administers legislative schemes designed to measure, manage, reduce or offset carbon emissions and increase the use of clean energy;
- the Australian Energy Regulator, which is responsible for regulating Australia's wholesale electricity and gas markets;
- the Australian Energy Market Operator, which operates Australia's wholesale electricity and gas markets; and
- the Australian Energy Market Commission, which makes the market rules for Australian electricity and gas markets.

Three States of Australia – New South Wales, Queensland and Victoria – are implementing multiple renewable energy zones (**REZs**). The regulatory bodies that plan and administer those REZs will become increasingly important for renewable project developers in those jurisdictions.

5. What are the approaches businesses are taking to access renewable energy? Are

some solutions easier to implement than others?

Businesses can access renewable energy directly through renewable power purchase agreements (**PPA**) or other renewable linked retail contracts. Under PPAs, electricity buyers agree to buy renewable power and/or Large Generation Certificates (**LGCs**) from a renewable energy project (eg solar or wind farms) over an agreed contractual term.

By comparison, under renewable linked retail contracts, business consumers purchase power from an energy retailer and the retailer agrees to match some or all of the business' consumption with electricity or LGCs acquired from an upstream renewable project. These contracts can be much easier for businesses to administer than contracting directly with a renewable project under a PPA

The Federal Small-scale Renewable Energy Target scheme incentivises businesses to install small-scale renewable energy systems. These include rooftop solar panels, solar water heaters, and small-scale wind or hydro systems. Small-scale facilities may receive Small-scale Technology Certificate (STC) upon their installation for their deemed generation through to 2030.

6. Has the business approach noticeably changed in the last year in its engagement with renewable energy? If it has why is this (e.g. because of ESG, Paris Agreement, price spikes, political or regulatory change)?

Australia's transition from thermal energy to renewable energy continues. The signing of PPAs reached an unprecedented peak in 2022 in that 28 renewable corporate PPAs were finalised, directly contracting around 1600 MW of renewable (the largest volume since 2016).

As mentioned above, the 2022 Federal election marked a shift in Australian politics in relation to climate action and resulted in the passing of legislation to enshrine Australia's Paris Agreement commitments. However, even before that election, State and Territory governments had implemented their own renewable energy targets and energy transition plans (also mentioned above), which combined with ESG considerations had led to an increasing demand for renewable energy in the corporate sector.

7. How visible and mature are discussions in business around reducing carbon emissions; and how much support is being given from a political and regulatory perspective to this area (including energy efficiency)?

There is clear political will to reduce emissions and support renewable energy at the Federal, State and Territory government levels. This includes targeted regulatory or financial support through:

- the recent amendment of the Federal Safeguard Mechanism (an emissions cap and trade scheme) to decrease the emissions caps for Australia's highest emitting facilities;
- the Federal Renewable Energy Target scheme;
- the planning and development of renewable energy zones in some States;
- Government run renewable auctions and the Federal Emissions Reduction Fund (an annual or bi-annual carbon abatement auction);
- the adoption of jurisdictional-specific renewable targets and energy transition plans; and
- State-sponsored or funded investment in upgrades to the transmission network to accommodate the connection of new renewable projects.

8. How are rights to explore/set up or transfer renewable energy projects, such as solar or wind farms, granted? How do these differ based on the source of energy, i.e. solar, wind (on and offshore), nuclear, carbon capture, hydrogen, CHP, hydropower, geothermal and biomass?

In the National Electricity Market (**NEM**) (which comprises the interconnected grid down the east coast of mainland Australia, Tasmania and South Australia), generation facilities of 5MW or higher capacity are generally required to be registered with the Australian Energy Market Operator (**AEMO**) as a 'market generator' before they export power into the power system. Conversely, generation below 5MW capacity is exempt from registration, but to derive market revenue (if applicable) the small-scale facility must be exported into the NEM by a registered market participant (eg a retailer, aggregator, etc). In some jurisdictions in the NEM, additional State or Territory generation licences/authorities also need to be obtained from the jurisdictional energy regulator or relevant government

department. A statutory framework applies for renewable projects to obtain access to the interconnected grid that underpins the NEM under open access principles. The State-specific REZs are being designed to provide facilitated but capped (rather than unlimited) access to the network via those REZs.

Outside of the NEM, system-specific requirements apply to the other major transmission or distribution systems in Australia (e.g. the Wholesale Electricity Market (WEM) in Western Australia and the power systems in the Northern Territory).

Planning and environmental approvals are also commonly required for new renewable projects. Planning law is State/Territory based, whereas environmental protection is governed by Federal and State/Territory laws and regulations.

Australian energy, planning and environment laws and regulations are, for the most part, technology neutral as between different types of renewable energy projects (eg, solar, onshore wind, hydropower, geothermal and biomass). However licences for offshore wind are new for Australia and are being progressively rolled out (starting with the Bass Strait between Victoria and Tasmania) and nuclear power stations are currently banned in all States and Territories of Australia.

9. Is the government directly involved with the renewables industry? Is there a government-owned renewables company or are there plans for one?

Both the Federal government and various State governments are directly involved with the industry through shareholdings in renewables companies, including, for example:

- at a Federal level, Snowy Hydro Ltd; and
- in Queensland, CleanCo Queensland Limited, Queensland Hydro Pty Ltd, CS Energy Limited and Stanwell Corporation Limited.

The Victorian government has announced that it intends to invest an initial AUD\$1 billion to help deliver 4.5GW of renewable energy projects via the re-establishment of the State Electricity Commission of Victoria.

The Australian Federal government is directly involved with the renewables industry through the following government agencies:

- Clean Energy Regulator;
- Australian Renewables Energy Agency (ARENA);

- Climate Change Authority;
- Clean Energy Finance Corporation;
- Clean Energy Innovation Fund; and
- CSIRO Climate Science Centre.

10. What are the government's plans and strategies in terms of the renewables industry? Please also provide a brief overview of key legislation and regulation in the renewable energy sector, including any anticipated legislative proposals?

The Federal government has committed to net zero emissions by 2050 and to reduce greenhouse gas emissions by 43% below 2005 levels by 2030. These targets are set out in the *Climate Change Act 2022* (Cth).

Australia has a range of strategies that will impact the renewables industry, including the National Climate Change Strategy and emissions reduction strategy. Broadly, these plans will incentivise investment in renewable energy and seek to regulate Australia's emissions. For example, through its Rewiring the Nation project, the Federal government plans to invest \$20 billion to modernise Australia's electricity network. This will upgrade Australia's energy grid to grow the use of renewables in the NEM to 82%. The Federal government has also commenced consulting on a National Electric Vehicle Strategy, to encourage and support and rapid increase of electric vehicles in Australia.

As mentioned above, the Australian States and Territories each have their own renewable energy targets energy transition plans and sector funding commitments.

11. Are there any government incentive schemes promoting renewable energy (direct or indirect)? For example, are there any special tax deductions or subsidies offered? Equally, are there any disincentives?

There are a number of Federal, State and Territory financial and regulatory incentives promoting renewable energy. For example, the Emissions Reduction Fund provides incentives (via an annual or bi-annual auction) for a range of organisations and individuals to adopt new practices and technologies that reduce emissions and store carbon. Please see answer to question 10 above for more details.

12. Has your Government had to help with the basic cost of energy over the last year and has that led to any discussion about de-linking the gas price and renewables prices?

Yes, the Federal government, working with the States and Territories, introduced the Energy Price Relief Plan in late 2022 to address the impact on consumers of energy price increases. This included a cap on the price of gas at \$12 per gigajoule for new domestic wholesale gas sales by East Coast producers initially for a 12 month period, but now proposed to be extended through until at least mid-2025; and an equivalent price cap (\$125/t) on domestic thermal coal in NSW and Queensland.

Price monitoring by the Australian Energy Regulator suggests that these wholesale price caps have had a marked impact on limiting increases to retail energy prices in Australia (than would have been the case if the wholesale price caps had not been introduced).

13. If there was one emerging example of how businesses are engaging in renewable energy, what would that be? For example, purchasing green power from a supplier, direct corporate PPAs or use of assets like roofs to generate solar or wind?

Please see answer question 6 above for more details. In addition, Australia has the highest per-capita level of rooftop solar penetration in the world.

14. What are the significant barriers that impede both the renewables industry and businesses' access to renewable energy? For example, permitting, grid delays, credit worthiness of counterparties, restrictions on foreign investment.

There are a number of significant barriers that impede the renewable industry.

First, Australia's transmission grids, particularly the NEM, were built on a 'hub and spoke' model to bring electricity from large scale thermal generation into major cities and other demand centres. However, renewable energy is decentralised and its growing penetration is putting pressure on the grids. The transmission networks are in need of substantial upgrades to accommodate new renewable generation.

Second, securing timely access to the grid is an ongoing

challenge. Each connection is subject to detailed consideration by the regulated network operator and by the market operator, particularly in relation to the impact that the generation will have on the dispatch of other generation facilities in the system, and more broadly on system security. These impacts are difficult to assess and may result in new projects having to commit additional capital to install equipment to alleviate any system security impacts arising from their project, or to ensure that they do not adversely impact the output of generators already connected to the system. They may also delay achieving commissioning and energisation of a new project at its connection point into the power system. The grid connection 'bottle necks' are, however, starting to be alleviated through the introduction of REZs and through non-REZ regulatory reforms aimed at reducing the time and cost of the grid connection process.

Third, permitting and environmental approvals can also take a long time to prepare for and secure, and the availability of land to offset development impacts is also becoming much tighter.

Finally, restrictions on foreign investment remain a consideration for some foreign-government owned entrants to the market. Sanctions also apply to governments, officials or business owners from some foreign countries.

15. What are the key contracts you typically expect to see in a new-build renewable energy project?

The key contracts you typically expect to see include:

- tenure agreements;
- construction contracts, pursuant to which a contractor is obliged to construct all or part of a renewable project;
- operation and maintenance contracts, for ongoing operation;
- financing and security arrangements (if the project is to be debt/external funded);
- connection agreements with transmission or distribution network operators; and
- power purchase agreements with one or more off-takers from the project.

16. Are there any restrictions on the export of renewable energy, local content obligations or domestic supply obligations?

Generally there are no regulatory restrictions on the export of renewable energy, local content obligations or

domestic supply obligations.

However some State schemes, including Victoria's second Renewable Energy Target Auction and Queensland's Renewable Energy and Hydrogen Jobs Fund, have local content obligations. In Victoria, local content is required for projects that are successful in the auction. In respect of Queensland, one of the three key objectives against which state-funded investment proposals are assessed is that the investment must create new and ongoing employment opportunities in Queensland consistent with the State government's employment and procurement policies.

All Australian jurisdictions are seeking to encourage local content and reduce barriers for renewable projects to increase their levels of local content.

17. Has deployment of renewables been impacted in the last year by any non-country specific factors: For example, financing costs, supply chain or Covid 19?

Consistent with the international experience, the deployment of renewables in Australia over the last 12 months has been affected by supply chain disruption, caused by backlogs arising during the COVID-19 pandemic or as a result of Russia's invasion of Ukraine.

A number of industrialised countries are funding or incentivising the development of renewable or low emission projects, and Australia is, in effect, competing against those countries to attract international investment in its own energy transition.

18. Could you provide a brief overview of the major projects that are currently happening in your jurisdiction?

The major projects in the NEM are network investments to facilitate the renewable transition. These include:

- the Northern Queensland REZ Stage 1 project, which is a network upgrade to provide additional capacity to the Far North Queensland REZ;
- the Central West Orana REZ Transmission Link, which is a network upgrade to provide additional capacity to the Central West Orana REZ in New South Wales;
- Project EnergyConnect, which is a new 330kV interconnector between South Australia and New South Wales;
- the Western Renewables Link, which is a

network upgrade to provide additional capacity to the Western Victorian REZ.

19. How confident are you that your jurisdiction can become a leader in newer areas like offshore wind or hydrogen?

Australia is seeking to be a world leader in hydrogen by 2030, having developed a National Hydrogen Strategy in 2019. In April 2023, the Federal government assessed that an AUD\$127 billion pipeline of announced hydrogen investment existed in Australia. The government has committed to annually assessing and reporting on the progress of the sector.

The Australian government has also passed framework legislation supporting offshore wind power development. There are a number of wind projects at the proposal stage, with a combined capacity of more than 25GW.

The first offshore development area that has been declared by the Federal government is in the Bass Strait

between Victoria and Tasmania. Victoria has recently announced that it will provide a “*support package for the first tranche of offshore wind which may include a contract for difference and complementary contributions for capital and financing*”.

Other State governments are also developing plans to support this sector, with new projects proposed in Western Australia, New South Wales and South Australia.

20. How are renewables projects commonly financed in your jurisdiction?

If not financed on balance sheet or subject to governmental financing/support, renewable energy projects in Australia are most commonly project financed with external debt. Whether debt or equity financed, most developers generally prefer to secure most of a project’s initial revenue-stream under a power purchase agreement with an offtaker (eg a retailer, large industrial or corporate customer) rather than being wholly exposed to the wholesale electricity market.

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