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Renewable Energy in Australia

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The Australian energy market is undergoing a transformation as the sector transitions to a lower emissions economy.

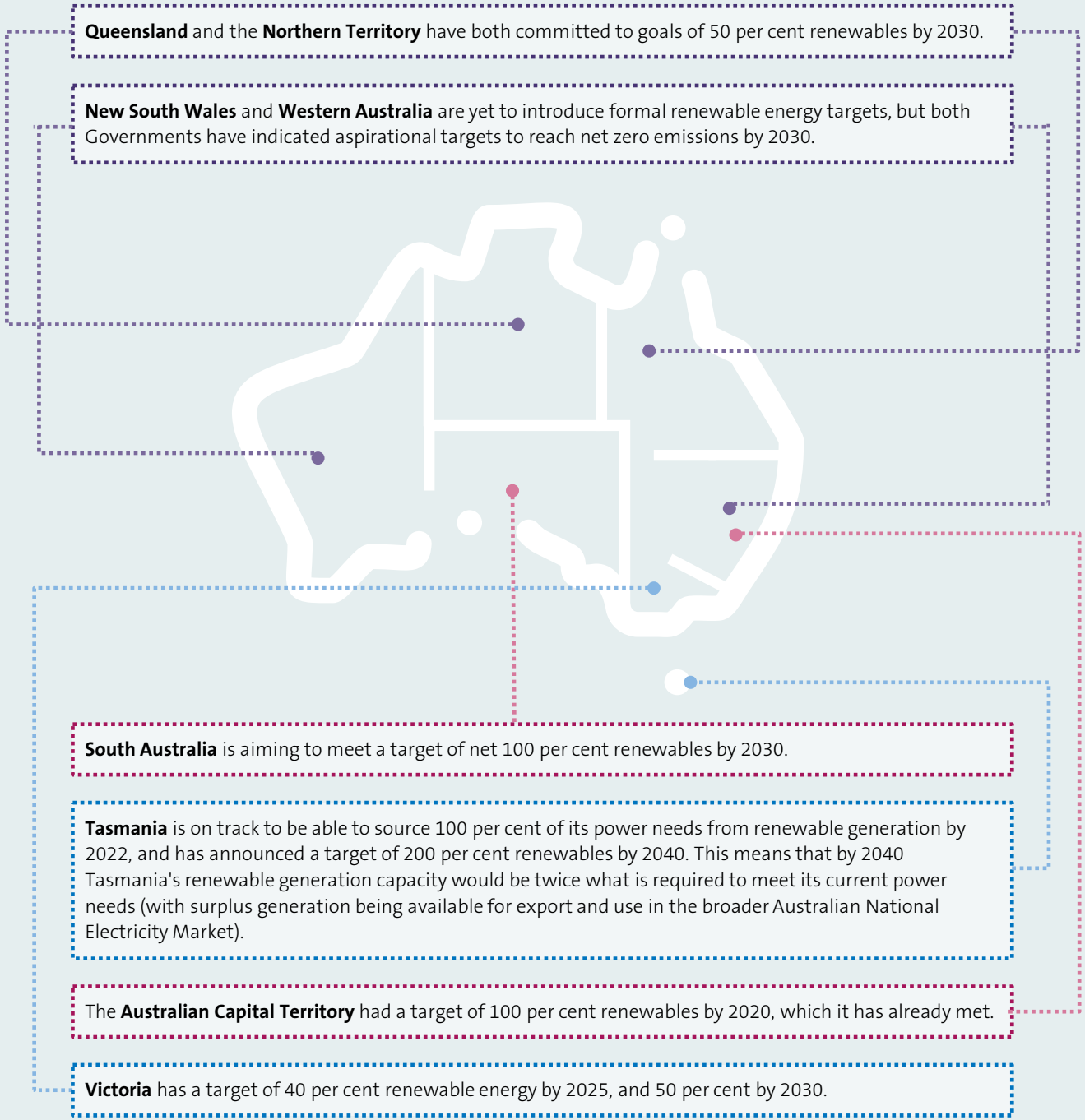
Traditionally dominated by coal-fired generation, there has been:

- significant investment in renewable energy projects over the last 10 years; and
- increasing interest in hybrid projects combining renewables with new technologies (such as storage) in the past 12-18 months.

RENEWABLE ENERGY TARGETS

Australia: The Federal Government's Renewable Energy Target (***RET***) sets a target for the amount of electricity to be supplied by renewable energy generators, and penalises certain entities (usually electricity retailers) for failing to source a certain percentage of their energy needs from renewable sources. The aim of achieving 23.5 per cent renewable energy (equivalent to 33,000 gigawatt hours) by 2020 was met ahead of time, with Australia's Clean Energy Regulator approving the requisite amount of capacity on 4 September 2019.

The RET will expire in 2030. At this stage, there is no indication that the target will be increased or that the RET will be extended beyond 2030, but the scheme is still open to new participants.



Other key policies

The increasing concentration of renewable generation has presented some challenges, with Australia's power system and accompanying regulatory framework struggling to keep up with the rapid pace of change. This has resulted in some generators experiencing connection delay and increased curtailment risk, as the market operator and electricity networks grapple with issues like network congestion in certain areas, and fluctuations in supply and demand arising from the intermittent nature of renewable energy sources.

There has been industry-wide recognition of these issues, with a large emphasis on:

- promoting investment in transmission infrastructure, including coordinating investment in new generation and transmission infrastructure;
- investment in technologies such as grid-scale energy storage to ensure system stability and security; and
- market design and policy reform.

Some of the key initiatives currently underway to ensure the energy regulatory regime remains fit for purpose include:

1. **Federal Technology Investment Roadmap**: Australia's Federal Roadmap sets out a proposed framework for the investment of public funds in the development of new technologies designed to lower emissions. The Federal Government has committed to releasing an annual 'Low Technology Emissions Statement' outlining its investment priorities. The first statement was released in September 2020, and identified five priority technologies for investment, including 'clean' hydrogen (created using renewable energy sources) and grid-scale energy storage.

2. **Grid Reliability Fund**: As part of the Federal Roadmap, the Federal Government has also committed to establishing an A$1 billion dollar 'Grid Reliability Fund'. These funds will be applied by the Clean Energy Finance Corporation (***CEFC***) towards investment in generation, energy storage, grid stabilising technologies, and transmission and distribution projects necessary to upgrade the electricity grid to accommodate higher concentrations of renewable generation.

3. **State initiatives**: Certain states and territories have also put in place individual roadmaps and plans to encourage investment in projects to facilitate the transition to a lower carbon economy, while ensuring continued reliability and security of electricity supply. New South Wales, for example, has released an Electricity Infrastructure Roadmap setting out a long-term plan to promote investment in large-scale renewable energy generation, storage and transmission infrastructure by delivering:

   a) a coordinated approach to new investment within 'renewable energy zones';

   b) an opportunity to secure revenue assurance for new renewable energy, long-duration storage and firming projects through entry into long-term energy service agreements; and

   c) targeted reforms to the regulatory approvals process and establishment of a cost recovery framework to encourage investment in 'scale-efficient' transmission network projects.

4. **Post-2025 Market Design**: The Energy Security Board is in the process of reforming the National Electricity Market design to ensure it is fit for purpose and able to evolve to meet changing consumer and system needs by focusing on four key areas:

   a) Ensuring the right mix of resources is available to deliver reliable and affordable energy as the power system continues its transition to lower emissions and adopts new technologies.

   b) Ensuring essential system services and scheduling and ahead mechanisms are available when needed to manage the complexity of dispatch and deliver secure supply.

   c) Unlocking demand side participation opportunities for households and businesses.

   d) Providing electricity networks to meet future needs, including implementing renewable energy zones (***REZs***) and arrangements to ensure efficient use of electricity networks.

5. **Renewable Energy Zones**: There is also a large push towards the development of REZs, both at a federal and state level, to coordinate and co-locate investment in renewable energy generation and storage capacity with network expansion projects. REZs are areas that are abundant in renewable energy sources and, with the right infrastructure and transmission capacity, offer potential in terms of supporting grid security and reliability, as well as the low-cost supply of electricity to consumers. New South Wales, Victoria and Queensland have all committed to REZ developments.

What we are seeing

With a large volume of investment occurring in the Australian renewables sector in the past few years, we are seeing a number of trends emerge.

CORPORATE OFFTAKERS AND SUSTAINABILITY TARGETS

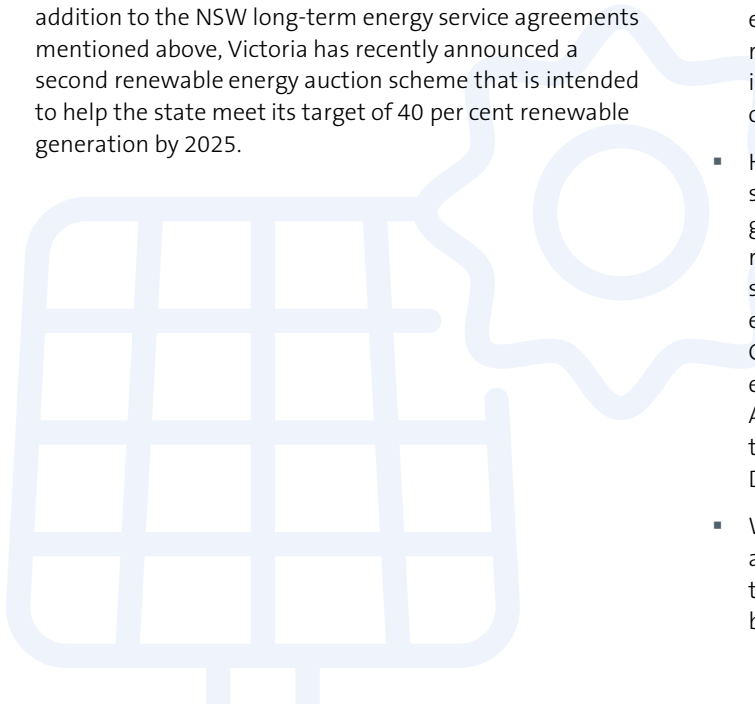
- Corporations in Australia are increasingly setting, and actively pursuing, sustainability and carbon reduction commitments. There continues to be strong interest from large corporates to manage electricity pricing and increase green credentials by contracting directly with renewable generators for electricity and green products, or entering into structured electricity retail products backed by renewable projects.

  This interest is being driven not only at board and management level but also by stakeholders, who are becoming increasingly active in holding companies to account in terms of managing and disclosing climate change risks, and demonstrating their commitment to sustainability and carbon reduction initiatives.

- A variety of structures are being used to facilitate corporate offtake arrangements. Smaller corporates, keen to get involved in the action, are grouping together to form buyers groups to enter into offtake arrangements. Retailers are offering electricity retail products backed by power purchase agreements with renewable generators, which are often simpler to manage in an administrative sense than contracting directly with a generator. We have also seen offtake arrangements involving a third party insurer, who takes the risk on the spot price and the volume of electricity generated by the generator in exchange for a premium.

- Corporate offtakers are also continuing to push the boundaries of risk sharing that generators and investors have traditionally accepted when a retailer is the offtaker. For example, seeking credit support from the generator, to guarantee delay and shortfall damages provisions, and early termination rights (usually in exchange for payment of a break fee). In addition, the scope of force majeure provisions is usually the subject of protracted negotiation, as generators and offtakers seek to strike the right balance in terms of risk allocation for matters such as connection delay and curtailment risk.

- State Governments are also increasingly seeking to contract directly with generators as a means of supporting the renewables industry and creating jobs. In addition to the NSW long-term energy service agreements mentioned above, Victoria has recently announced a second renewable energy auction scheme that is intended to help the state meet its target of 40 per cent renewable generation by 2025.



STORAGE AND HYBRID PROJECTS

- There has recently been an increase in 'hybrid' or 'co-location' projects, reflecting a shift away from the traditional single asset development and project financing approach typical of most renewable projects in Australia over the past 15 years.

- Recognising that different renewable energy sources can operate as natural hedges, we have seen sponsors looking to develop renewable energy parks, which integrate wind and solar technologies in the same project. Such projects are now frequently integrating 'dispatchable' generation sources (batteries and pumped hydro) to address the intermittency of renewable generation. Utility-scale storage (whether batteries or pumped hydro) is now considered critical to ensuring that Australia's aging coal-fired power stations are replaced with the right mix of resources so as to balance an increasing concentration of renewable generation with ongoing security and reliability of supply.

- Hydrogen, as an emerging sector, is also continuing to garner significant attention in the Australian market – particularly given the potential for 'green hydrogen' (created using renewable energy sources) to offer a low-emissions, clean, storable energy solution for Australia's future domestic energy needs, as well as export opportunities. The Federal Government has announced a number of initiatives to encourage investment in hydrogen technologies, including a A$300 million Advancing Hydrogen Fund to be managed by the CEFC and a A$70 million Renewable Hydrogen Deployment Funding Round managed by ARENA.

- We are also seeing large mining projects in remote 'off grid' areas looking to change their traditional energy supply source to a hybrid model that combines gas/diesel, solar/wind and battery storage.

INVESTORS

- Continued interest from, and investment by, foreign corporations in the Australian market has driven a booming M&A market and new (predominantly hybrid) project developments in the renewables space.
- We are also seeing increased interest from institutional investors looking to participate in the energy sector.
- Asset recycling has also continued to generate M&A activity, with developers recapitalising to enable deployment of capital to new greenfield projects. The low interest rate environment and the limited brownfield pipeline for other infrastructure assets in Australia have improved the level of competition and field of investors bidding for established renewable projects, particularly among the ever-increasing class of investors seeking to allocate capital to environmentally and socially responsible assets.

FINANCING

- Traditionally, most project financiers in Australia have preferred debt maturing at five to seven years post construction. However, with shifting market dynamics created by funding from government entities, and a renaissance of European bank interest in our market and Asian debt investors looking for greater yield in certain circumstances, we are seeing the stretching of debt tenor to periods as long as 15 to 18 years for projects where sponsors want to remove refinancing risk.
- Non-bank debt providers, including investors who participate in debt capital markets, are showing interest in mature renewable projects with long-term contracted revenue streams easing the funding burden on traditional project finance banks, which can allocate capital to new greenfield renewable projects.
- Traditionally, project financing of a renewable energy project has been dependent on the availability of a long-term offtake contract (beyond 10 to 15 years). However, with the terms of PPAs reducing in recent years, financiers have become increasingly willing to lend on the basis of more novel structures, including:
  - merchant deals supported by a parent company guarantee from the ultimate sponsor entity or export credit agencies;
  - partially contracted projects closing with protections in place should they not be fully contracted by completion, or otherwise lower gearing levels, and often involving a number of separate offtakers, including corporate offtakers; and
  - sponsors bundling projects on a portfolio basis, rather than on a separate non-recourse basis, to aggregate and diversify contracted and merchant revenue streams.
- Network issues, including grid connection delay and congestion, have recently made project financiers more wary when financing greenfield renewables projects (particularly wind and solar). However, we expect to see some continued growth in the renewables market, given the energy sector transformation underway and the fact that favourable market conditions in recent years (including historically low base rates and an abundance of liquidity in the project finance market) have led to borrowers and project sponsors achieving more favourable terms in infrastructure and renewables assets.

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