

# Renewable energy in Australia

## **Funding and investment**



Lawyers

**McCullough  
Robertson**

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# About McCullough Robertson

McCullough Robertson is a leading independent Australian law firm with four offices across the country. For more than 90 years, major Australian and foreign owned corporations, financial institutions, governments, private enterprises and high net worth individuals have trusted our advice on their most critical legal challenges.

Our whole-of-project approach ensures seamless legal services are on hand from the project approval and development phase, through to project financing, operation and expansion. Our specialist lawyers bring expertise, experience and in-depth knowledge of the renewables industry, having worked on solar, hydro, wind, biomass and geothermal renewable energy projects in Australia and overseas.

Key highlights of our experience include:

- advising on the delivery of a solar power station at Alice Springs Airport in the Northern Territory for Ingenero;
  - advising various wind farm operators, energy utilities and banks on the development of wind farms and on the regulation of the renewables and electricity industry;
  - advising on the redevelopment of the abandoned Kidston Gold Mine by Genex into a hydropower facility for the northern Australian electricity market. The Kidston Project will be the first in the world to use two disused mine pits for hydroelectric power generation;
  - advising on all aspects of the development and delivery of Mackay Sugar Limited's bagasse cogeneration facility at its mill in Mackay, Queensland;
  - acting for Mackay Regional Council in relation to a landfill gas management and energy utilisation project at Hogan's Pocket and Bayersville landfill sites;
  - acting for Ergon Energy to provide advice for the geothermal power station at Birdsville, Australia's only commercial geothermal power plant; and
  - advising on market design and competition law issues in this space.
- We understand the opportunities and challenges facing those in the renewables sector and provide commercial, outcomes focused advice on the full range of issues confronting participants in this field.

# Note from **the editors**

The increasing global demand for energy presents both opportunities and challenges for Australia. Australia is well known for its abundance of renewable energy sources and has not fully capitalised on them to date. However, as renewable energy projects become more cost competitive, and local demand for renewable energy soars, domestic policy is developing to help drive local and international investment in renewable energy projects.

The Australian Renewable Energy Target (RET), for example, is a federal mandate to create a supportive environment for long-term investment in Australia's renewable energy industry. The RET has set a target of 23.5% of Australia's total power to come from renewable energy by 2020.

The Renewable energy in Australia three part series provides some insights into the issues you will face, and how best to overcome them, in proceeding with a renewable energy development in Australia.

It provides:

- an overview of the current state of the Australian renewable energy industry, its key players, trends and priority areas for future development;
- an examination of the challenges and opportunities in the renewable energy industry; and
- an in-depth guide to navigating the legal framework in Australia, including potential legal hurdles that investors face or are likely to face when doing business in the Australian renewable energy sector.

We will step you through the funding opportunities, structuring and corporate considerations, national electricity regulations and preferred project delivery methods.

While we cannot delve into every detail in this guide, please contact any of our experts should you have any specific queries – we would be more than happy to help.



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# Funding **options**

Australian renewable energy projects have successfully acquired various forms of funding, including debt funding from domestic and foreign banks and non-bank lenders (such as mutual funds, insurance companies and pension funds), corporate financing and government funding. Participants in the renewable energy sector are increasingly considering new and innovative ways to facilitate investment in the growing renewables pipeline.



All funding options should be carefully considered in the context of the particular renewable energy project, as different sources of funding will attract various asset protection, ownership, tax and compliance implications.

### **Project financing**

Project financing has emerged as a leading way to finance large infrastructure projects, particularly due to a greater minimisation of risk compared to traditional corporate financing and greater flexibility in allowing for a variety of taxation structuring opportunities.

How project financing of a renewables project is treated for Australian tax purposes will largely depend on the form the financing takes (i.e. debt or equity), how the investment is structured and the relationship between the lenders and the borrower. Australia's transfer pricing and thin capitalisation rules should be carefully considered when determining the mix of debt and equity funding when international investors are involved.

Participants in project financing will generally require contractual relationships with a secured projected revenue stream to ensure long-term viability of the project.

For example, in the case of large wind and solar projects, debt and equity providers will often require this revenue to be generated from off-take contracts for the project's output, such as PPAs. Under a PPA, the purchaser or off-taker (such as an electricity retailer) undertakes to pay for a set amount of electricity for a specified amount of time. This enables a forecast of cash flow based on expected output of a generator, thereby reducing risk for the debt or equity investor. PPAs also assist purchasers to hedge against volatility in electricity rates and to secure long-term energy supply.

### **Power purchase agreements**

There has been a recent uptake in the use of PPAs, resulting in part from electricity retailers using PPAs to obtain Large-Scale Generation Certificates to meet their RET obligations, as well as the decreasing cost for purchasers to enter into PPAs.

For example, Origin Energy added four separate PPAs to their PPA portfolio in the first half of the 2016/17 financial year, increasing their total renewable energy supply capability under PPAs to 375MW.<sup>45</sup>

Other electricity retailers that have recently signed PPAs for renewable energy include Ergon Energy, which signed a 100MW PPA in early 2017 for a solar power project being built in central Queensland,<sup>46</sup> and EnergyAustralia, which announced in February 2017 its second PPA in its \$1.5 billion program to acquire approximately 500MW of renewable energy.<sup>47</sup>

Organisations with high electricity consumption have also shown interest in this area, including the Sydney Metro Northwest Project, the City of Melbourne's Renewable Energy Buying Group and the Queensland Government.<sup>48</sup>

Despite these cash-flow opportunities, there are certain barriers to obtaining project financing, depending on the type of renewable energy project undertaken (e.g. the inability to obtain a PPA that sufficiently mitigates investment risks of debt and equity providers).

Other factors that determine the bankability of a project include:

- the type of project – and whether it involves proven or new technology;
- the experience and creditworthiness of counterparties and equity sponsors;
- allocation of risks amongst the stakeholders (e.g. is there pass-through of change of law risk to the counterparty under the PPA or off-take agreement?); and
- site assessment, including whether there are issues with development approvals or issues from an environmental liability perspective.



## Corporate financing

As an alternative to project financing, developers may seek corporate financing.

Unlike project financing, the developer carries the project on their balance sheet and takes the risk of financiers claiming against the assets of the developer in a default situation. Corporate financing is generally available to creditworthy developers with a significant asset base, given that financiers may not be able to look to the cash flow of the project for repayment.

## Other innovative products

Certain banks have also launched specific products to finance renewable energy projects and technologies:

- in December 2014, the National Australia Bank (**NAB**) raised \$300 million in Australia's first ever bank-issued climate bond. The 'green bond' was also the world's first bank-issued bond to be certified in compliance with international Climate Bonds Standards – a benchmark in ensuring that funds raised are being used for climate change solutions;
- since 2015, NAB has also partnered with the CEFC on a \$120 million funding program that provides Australian businesses with access to discounted financing for energy efficient and renewable energy upgrades; and

- the Commonwealth Bank of Australia (**CBA**) offers specific funding arrangements for larger projects that meet CEFC requirements. These facilities also qualify for an energy efficient pricing discount. As at June 2016, CBA's lending exposure to renewable electricity generation was \$2.2 billion, which represents more than five times its exposure to coal-related electricity generation. Through its \$200 million co-financing partnership with the CEFC, CBA provides reduced-cost finance to Australian businesses and not-for-profits for the acquisition and installation of energy-efficient and renewable energy assets.<sup>49</sup>

Funds are also being established to purchase renewable energy projects from developers. The most significant of these is a fund developed by AGL in partnership with QIC – the Powering Australian Renewables Fund (**PARF**). The fund is aiming to establish 1,000MW of large-scale renewable energy projects, totalling \$2-3 billion in investment.<sup>50</sup> The PARF will either buy existing renewable energy plants or fund new projects by providing the necessary finance to developers subject to agreement that PARF will own and manage the project once finalised.

## Government funding

The Federal Government has established funding programs for renewable energy projects, predominantly through the CEFC and ARENA.

The CEFC is legislated to invest a minimum of 50% of its eligible funds into renewable energy technologies by 1 July 2018 with an investment mandate requiring it to invest at the demonstration, commercialisation and deployment stages of innovation. Generally, the investment size will range from \$20 million to \$200 million.

The CEFC will assess applications with a commercial view and seek stable investments that align with its conservative risk profile. In this regard, applicants should keep in mind that the CEFC will act like any other equity investor and not a distribution channel for Government grants. The financial terms will be tailored depending on the project. Those seeking finance through the CEFC should be aware of the full eligibility constraints before submitting an application.<sup>51</sup>

ARENA, on the other hand, provides funding grants with the goal of increasing the use of renewable energy (in addition to debt and equity financing).

To oversee its operations, ARENA has implemented a General Funding Strategy and Investment Plan to guide its investment choices towards overcoming the early-mover disadvantage that may exist in novel renewable technologies.

As such, ARENA's risk profile is higher than that of the CEFC and ARENA will more likely invest in early stage and less proven technologies. It should be noted that any grant of funds may have a condition attached that if the project becomes commercially viable (and generates a certain revenue) that the grant must be repaid to ARENA.<sup>52</sup>

Potential applicants should read the various program guidelines for both funding programs to ensure that they are applying for the most suitable funding stream. Both organisations can provide advice on suitability to apply before an application is submitted.

State Governments have also implemented their own renewable energy funding initiatives, including:

- the South Australian Renewable Technology Fund;
- renewable energy reverse auctions in Queensland and the ACT; and
- the Queensland and Victorian Government issued green bonds to specifically finance environmentally friendly projects in those States.

## Private sector projects with Australian Government financing/funding

Nyngan Solar Plant in New South Wales, jointly funded and delivered by the NSW Government (\$64m), ARENA (\$166m) and AGL.

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Barcaldine Solar Farm in Queensland, debt financed by the CEFC, funded by grants from ARENA (\$22.8m) and by Elecnor Australia Pty Ltd.

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Edify/Wirsol Energy Projects (Whitsunday, Hamilton and Gannawaara Solar Farms), being Australia's largest single solar financing deal, financed by the CEFC (\$77m), CBA and Germany's Nord LB bank.

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Portland Wind Energy, debt financed by the CEFC (\$70m) alongside Pacific Hydro.

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Taralga Wind Farm, debt financed by the CEFC (\$37.5m) with ANZ Bank, Danish creditor EKF, Santander and CBD Energy.

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Macarthur Wind Farm, debt financed by the CEFC (\$50m) with ANZ, NAB, ING and EKF.

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Moranbah North Power Station Expansion, electricity generated from waste coal mine gas, CEFC secured corporate loan (\$75m) with Energy Developments Pty Ltd.

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DeGrussa Solar Station, CEFC debt finance (\$15m), ARENA funding (\$20.9m) with French energy company Neoen.

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Perth Wave Energy Project, first fully functioning commercial CETO array in the world, \$20m loan from CEFC for technology development prior to project commencement.

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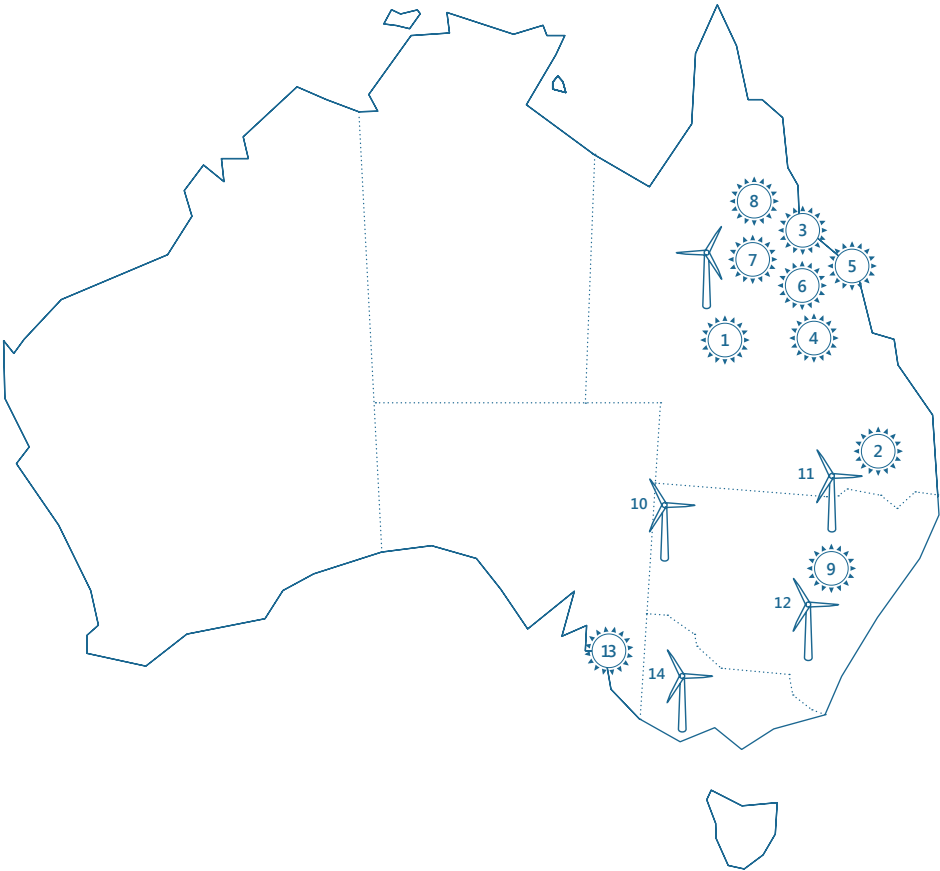
Moree Solar Farm, ARENA funding (\$101m) with Moree Solar Farm Pty Ltd.

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Manildra Solar Farm, ARENA funding (\$9.8m) with First Solar.

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Projects with financial commitment – to start construction in 2017<sup>53</sup>



## QLD



### Longreach Solar Farm

Canadian Solar  
\$29M Investment<sup>54</sup> | 30 jobs



### Oakey Solar Farm

Canadian Solar  
\$48M Investment<sup>55</sup> | 50 jobs



### Clare Solar Farm

FRV  
\$190M Investment | 200 jobs



### Lilyvale Solar Farm

FRV  
\$400M Investment | 200 jobs



### Sun Metals Solar Farm

Sun Metals P/L  
\$155M Investment | 250 jobs



### Ross River Solar Farm

ESCO Pacific  
\$225M Investment | 150 jobs



### Kennedy Energy Park

Windlab  
\$120M Investment | 50 jobs



### Kidston Solar Farm

Genex  
\$126M Investment | 100 jobs

## NSW



### Three Projects: Dubbo, Parkes and Griffith

Neoen  
\$230M Investment | 250 jobs



### Silverton Wind Farm

Powering Australian Renewables Fund  
\$460M Investment | 150 jobs



### Sapphire

Partners Group / CWP  
Renewables  
\$350M Investment | 200 jobs



### Crookwell 2

Union Fenosa  
\$200M Investment | 80 jobs

## SA



### Tailem Bend

Snowy Hydro  
\$200M Investment | 200 jobs

## VIC



### Mt Gellibrand – Stage 1

ACCIONA  
\$140M Investment | 100 jobs

**\$2.87 BILLION**  
**TOTAL INVESTMENT**

**TOTAL JOBS** **2010**



# Business structuring **and corporate governance**

Before undertaking any renewable energy project, it is important to consider an appropriate business structure and a corporate governance framework that best suits business needs.



The choice of business structure and corporate governance framework will have significant implications affecting a business, including with respect to taxation and liability. It is important to seek professional before deciding which structure to adopt.

### **Business structures**

One of the first things to consider when looking to carry out a renewable energy project is the appropriate business structure. There are a variety of business structures, each with advantages and disadvantages, and it is important for the right business structure to be adopted for the project. The choice of business structure will depend on a variety of factors, including the purpose, type and size of the project, tax liability, personal liability and ability to raise capital.

Business structuring in Australia is complex and highly regulated. Investors should be aware that some business structures are subject to regular integrity or compliance reviews by the Federal Government, particularly by the Australian Tax Office (ATO).

### **Corporate governance**

Corporate governance concerns the organisational framework of a company and the manner in which authority is exercised and overseen by others.

Corporate governance in Australia is an evolving area focussing on the composition and responsibilities of management (such as company boards), executive remuneration, disclosure and reporting requirements, audit reform, shareholder participation and payment of dividends.

The Australian market has high expectations of corporate governance compliance for businesses. Companies and trusts in particular are subject to a large range of corporate governance requirements and guidelines. These arise from various sources including the Corporations Act, the ASX Listing Rules, ASX Recommendations, prudential standards issued by APRA for regulated financial and superannuation institutions and other applicable industry standards.

Some of the most important considerations for all businesses (regardless of the type and size of the business) when developing a good governance structure include creating and delegating clear lines of authority, establishing clear and consistent policies and procedures that align with commercial objectives and ensuring accountability and responsibility in decision making.

Below sets out some of the business structures that can be adopted in Australia to carry out a renewable energy project:



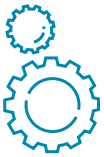
### **Company**

A business may be conducted by a company in its own right. The company comes into existence as its own separate legal entity through the incorporation process under the Corporations Act. The Corporations Act also regulates a company's operations and its officers. ASIC is the main body regulating companies and is responsible for, among other things, carrying out administrative functions under the Corporations Act.



### **Registered foreign company**

A foreign corporation may choose to conduct operations in Australia through a representative office, a branch or a subsidiary. The choice of structure will to a large extent be driven by tax considerations. Other factors which may influence the choice of structure include providing additional limited liability with respect to the foreign company's operations in Australia.



### **Joint venture (JV)**

Two or more individuals, trusts or corporations may carry on a business as a JV. Three common JV variations exist in Australia:

- Incorporated JV – a separate legal entity is incorporated to pursue the interests of the joint venturers who are shareholders in a JV company;
- Unit trust – the beneficial interest in the trust property is divided into units which can then be independently dealt with; and
- Unincorporated JV – investors have a contractual association which lacks both corporate form and equity capital. The rights and liability of the respective joint venturers will depend upon the terms of the JV.



### **Partnership**

A partnership consists of 2 to 20 partners (except in the case of certain professional partnerships) carrying on a business in common with a view to profit. A partnership is not a separate legal entity and consequently, the partners share the profits and are jointly and separately liable for the obligations of the partnership. Partners can be individuals, trusts or companies. Each State and Territory has its own legislation which governs the partnership, together with the terms of any partnership agreement.

# Project delivery **methods**

For any renewable energy project, consideration will need to be given to the appropriate project delivery model. Each project delivery model presents a unique set of challenges and tailored advice should be sought at the pre-tender/feasibility stage to assess and select the best project delivery model to optimise project outcomes.



## Project delivery methods

In the international market, engineering, procurement, construction (EPC) and maintenance (EPCM) contracts are the most commonly used delivery models for renewable energy projects.<sup>86</sup>

Australia has followed suit in recent energy projects, for example, EPC delivery models were used for the development of Australia's largest solar plants, the Nyngan Solar Plant and the Broken Hill Solar Plant.<sup>87</sup> Six common project delivery methods are outlined on the following pages.

## Compliance with procurement laws

In Australia, the construction industry is heavily regulated in each State and Territory, each with their own legal regime.

For example, to undertake a renewable energy project in Queensland, consideration and compliance with various legislative requirements will be required, particularly the *Work Health and Safety Act 2011* (Qld), *Queensland Building and Construction Commission Act 1991* (Qld), *Subcontractors' Charges Act 1974* (Qld), *Building and Construction Industry Payments Act 2004* (Qld) and the *Electrical Safety Act 2002* (Qld).

Each of the other States and Territories have similar laws and compliance standards, however it is important to be aware of specific jurisdictional requirements when undertaking construction of a renewable energy project. To ensure compliance, professional advice should be sought.

## Six common project delivery methods



### **Construct only**

In construct only delivery models, the principal engages a contractor to build the project in compliance with a design that has already been completed by the principal for the project. Construct only delivery is most commonly used by principals where there is little value to the principal for the contractor to be involved in the design process.



### **Design and Construct**

In design and construct delivery models, the contractor assumes the risk for the design and construction of the project in accordance with the required specifications. While the contractor will usually call on other consultants to assist with the project, there is a single point of accountability to the principal. This delivery method reduces the principal's risk and increases the contractor's risk.



### **Engineer, Procure, Construct (EPC) and Maintain (EPCM)**

Under an EPC model, the principal engages a contractor to design, build and deliver the asset in an operational state. EPC contracts are suited for large-scale projects where significant engineering expertise is required. By contrast, an EPCM contract is a consultancy or project management agreement where the contractor is responsible for the detailed engineering and design for the project and project management services. The main difference with an EPC contract is that the EPCM contractor does not perform construction works and usually does not take full responsibility for care of the works or the delivery of the project by milestone dates.





### **Alliances**

An alliancing model requires all project participants to cooperate to create a mutually profitable environment for all participants. The participants agree to share collectively in all risk and reward associated with the project. Alliancing models undermine the traditional contractual framework by removing legally enforceable contractual obligations between the project participants. The structure is particularly useful for complex projects or projects with an uncertain or changing scope that is difficult to price on a fixed price basis.



### **Public Private Partnership (PPP)**

PPP describes the numerous relationships whereby the public sector enters into a long-term contract with the private sector. This is usually achieved by the private sector establishing a special purpose vehicle as the contracting entity, for the design, construction, financing, operation and the maintenance associated with infrastructure. PPPs are known for delivering projects on time and within budget.



### **Build, Own, Operate and Transfer (BOOT)**

Under a BOOT delivery model, the contractor retains ownership of the asset once construction is completed and operates the asset to provide a service to the principal for a nominated term. At the conclusion of the term, title to the asset vests in the principal (which is the true BOOT position) or may remain with the contractor (being a 'BOO' arrangement). It is the transfer of ownership, operating and funding risk to the contractor that is the main feature of BOOT project delivery that sets it apart from usual design and construct arrangements.

# Glossary

Definitions provided here are not comprehensive definitions and are only intended to assist the reader with the context of that term, which may be used in this guide.

<b>ACCC</b>	Australian Competition and Consumer Commission
<b>ACCU</b>	Australian Carbon Credit Units
<b>ACL</b>	Australian Consumer Law
<b>AEMC</b>	Australian Energy Market Commission
<b>AEMO</b>	Australian Energy Market Operator
<b>AER</b>	Australian Energy Regulator
<b>ANZ</b>	Australia and New Zealand Banking Group
<b>APRA</b>	Australian Prudential Regulation Authority
<b>ARENA</b>	Australian Renewable Energy Agency
<b>ASIC</b>	Australian Securities and Investments Commission
<b>ASX</b>	Australian Securities Exchange
<b>BOOT</b>	Build, own, operate and transfer
<b>CBA</b>	Commonwealth Bank of Australia
<b>CCA</b>	<i>Competition and Consumer Act 2010</i> (Cth)
<b>CEC</b>	Clean Energy Council
<b>CEFC</b>	Clean Energy Finance Corporation
<b>CEIF</b>	Clean Energy Innovation Fund
<b>Centre</b>	Critical Infrastructure Centre
<b>CER</b>	Clean Energy Regulator
<b>CET</b>	Clean Energy Target
<b>CETO</b>	Technological system to create electricity and desalinated water from ocean wave energy
<b>COAG</b>	Council of Australian Governments
<b>Corporations Act</b>	<i>Corporations Act 2001</i> (Cth)
<b>DIBP</b>	Department of Immigration and Border Protection
<b>EKF</b>	Denmark's Export Credit Agency
<b>EPC</b>	Engineer, procure and construct
<b>EPCM</b>	Engineer, procure, construct and maintain
<b>ERF</b>	Emissions Reduction Fund
<b>ESB</b>	Energy Security Board
<b>ESI Companies</b>	Early stage innovation companies
<b>Finkel Review</b>	Independent Review into the Future Security of the National Electricity Market delivered by a panel led by Dr Alan Finkel AO (9 June 2017)

<b>FIRB</b>	Foreign Investment Review Board
<b>GST</b>	Goods and Services Tax
<b>GWh</b>	Gigawatt hours
<b>ICS</b>	Integrated Cargo System
<b>ILUA</b>	Indigenous Land Use Agreement
<b>ITAA 97</b>	<i>Income Tax Assessment Act 1997</i> (Cth)
<b>JV</b>	Joint venture
<b>Kyoto Units</b>	Carbon equivalent emission units that are traded on international compliance markets established under the Kyoto Protocol
<b>LGCS</b>	Large-Scale Generation Certificates
<b>LNG</b>	Liquefied natural gas
<b>LOCE</b>	Lower levelised cost of electricity
<b>MIS</b>	Managed investment scheme
<b>MW</b>	Megawatt
<b>NAB</b>	National Australia Bank
<b>Native Title Act</b>	<i>Native Title Act 1993</i> (Cth)
<b>NEG</b>	National Energy Guarantee
<b>NEL</b>	National Electricity Law
<b>NEM</b>	National Electricity Market
<b>NER</b>	National Electricity Rules
<b>NGO</b>	Non-governmental organisation
<b>PPA</b>	Power purchase agreement
<b>PPP</b>	Public private partnership
<b>PV</b>	Photovoltaic
<b>QIC</b>	Queensland Investment Corporation
<b>R&amp;D</b>	Research and development
<b>RET</b>	Renewable Energy Target
<b>SDPWOA</b>	<i>State Development Public Works and Organisation Act 1971</i> (Qld)
<b>SPA</b>	<i>Sustainable Planning Act 2009</i> (Qld)
<b>SPV</b>	Special purpose vehicle
<b>STCS</b>	Small-Scale Technology Certificates
<b>TNSP</b>	Transmission Network Service Provider
<b>WEM</b>	Wholesale Electricity Market (in Western Australia)

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# Endnotes

1. Department of the Environment and Energy, 'The Renewable Energy Target (RET) Scheme' <<http://www.environment.gov.au/climate-change/renewable-energy-target-scheme>>.
2. Clean Energy Council, 'Clean Energy Australia report 2016' (Report, May 2017) 12 <<https://www.cleanenergycouncil.org.au/policy-advocacy/reports/clean-energy-australia-report.html>>.
3. Ibid.
4. Ibid.
5. Geoscience Australia, 'Solar Energy' <<http://www.ga.gov.au/scientific-topics/energy/resources/other-renewable-energy-resources/solar-energy>>.
6. Australian Energy Market Operator, 'Energy Update: June 2016' (May 2017) 9 <<https://www.aem.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-may-2017>>.
7. Clean Energy Regulator, 'About the Renewable Energy Target: How the Scheme Works' (29 March 2017) <<http://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/How-the-scheme-works>>.
8. Australian Energy Market Operator, 'The National Electricity Market Factsheet, 3' <<https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM>>.
9. Cooperative Research Centre for Greenhouse Gas Technologies, 'Australian Power Generation Technology Report' (Research Report, 2016), 9 <<http://www.co2crc.com.au/publication-category/reports/>>.
10. Ibid.
11. Australian Energy Market Commission, 'National Electricity Rules' (as 30 May 2017) r 3.2; Australian Energy Market Operator, 'An introduction to Australia's National Electricity Market' (Report, July 2010), 4 <[http://www.abc.net.au/mediawatch/transcripts/1234\\_aemo2.pdf](http://www.abc.net.au/mediawatch/transcripts/1234_aemo2.pdf)>.
12. Above n 8, 2.
13. Australian Energy Market Operator, 'An introduction to Australia's National Electricity Market' (Report, July 2010), 22 <[http://www.abc.net.au/mediawatch/transcripts/1234\\_aemo2.pdf](http://www.abc.net.au/mediawatch/transcripts/1234_aemo2.pdf)>.
14. Australian Energy Market Commission, 'What We Do' (2017) <<http://www.aemc.gov.au/About-Us/About-the-AEMC/Our-role>>.
15. Australian Energy Regulator, 'Our role' (2017) <<https://www.aergov.au/about-us/our-role>>.
16. Council of Australian Governments, 'Our role' (2017) <<http://www.coagenergycouncil.gov.au/about-us/our-role>>.
17. Australian Renewable Energy Agency, 'Innovating Energy: ARENA's Investment Plan 2017' <[https://arena.gov.au/assets/2017/05/AU21397\\_ARENA\\_IP\\_Document\\_FA\\_Single\\_Pages\\_LORES.pdf](https://arena.gov.au/assets/2017/05/AU21397_ARENA_IP_Document_FA_Single_Pages_LORES.pdf)>.
18. Clean Energy Finance Corporation <<https://www.cefc.com.au/where-we-invest/innovation-fund.aspx>>.
19. Above n 3, 8.
20. Ibid 30.
21. Above n 6, 30.
22. Australian Energy Regulator, 'State of the Energy Market May 2017' (30 May 2017) 35 <<https://www.aergov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-may-2017>>.
23. Australian Energy Market Operator, 'National Electricity Forecasting Report' (Report, June 2016) 3 <[https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning\\_and\\_Forecasting/NEFR/2016-2016-National-Electricity-Forecasting-Report-NEFR.pdf](https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEFR/2016-2016-National-Electricity-Forecasting-Report-NEFR.pdf)>.
24. Above n 9.
25. Clean Energy Regulator, 'Tracking Towards 2020: Encouraging renewable energy in Australia' (2016) 52 <<http://www.cleanenergyregulator.gov.au/About/Accountability-and-reporting/administrative-reports/tracking-towards-2020-encouraging-renewable-energy-in-australia>>.
26. Ibid 50.
27. Australian Energy Market Operator, 'National Gas Forecasting Report' (December 2015) 19 <<https://www.aemo.com.au/-/media/Files/PDF/2015-National-Gas-Forecasting-Report-v20--2-March-2016.pdf>>.
28. Above n 22, 40.
29. Ibid 37.
30. Above n 2, 6.
31. Ernst & Young, 'Meeting the Renewable Energy Target: Innovative approaches to financing renewables in Australia' (Report, 2016), 8 <<http://www.ey.com/au/en/industries/power---utilities/ey-meeting-the-renewable-energy-target>>.
32. Above n 2, 6.
33. Above n 22, 22.
34. Above n 25, 29.
35. Above n 2.
36. Department of Environment and Energy, 'Independent Review into the Future Security of the National Electricity Market' (9 June 2017) <<http://www.environment.gov.au/energy/national-electricity-market-review>>.
37. OECD, 'Renewable energy (indicator) (2015)' <<https://data.oecd.org/energy/renewable-energy.htm>>.
38. Ernst & Young, 'Renewable energy country attractiveness index (RECAI)' (Report, Issue 47, May 2016) 10.
39. Above n 13, 3.
40. Clean Energy Council, 'Recommendations for the Reform of Australia's Energy System' (Report, August 2016), 11 <<https://www.cleanenergycouncil.org.au/policy-advocacy/reports.html>>.
41. Above n 36, 5.
42. Above n 2, 19.
43. Ibid.
44. IRENA, 'The power to change: solar and wind power cost reduction potential to 2025' (June, 2016) 10 <<http://www.irena.org/menu/?mnu=Subcat&PriMenuID=36&CatID=141&SubcatID=2733>>.
45. Origin Energy, '2017 Half Year Results: Half year ending 31 December 2016' (Report, 16 February 2017), 25 <<https://www.originenergy.com.au/content/dam/origin/about/investors-media/senate-submission-carbon-risk-disclosure-160331/Half%20Year%20Results%20Presentation.pdf>>.
46. The Honourable Mark Bailey, Minister for Energy, Biofuels and Water Supply, 'Queensland powers ahead with another renewable energy project' (Media Release, 31 January 2017).
47. EnergyAustralia, 'Agreements worth \$1.5bn to underpin renewables development' (Media Release, 6 February 2017).
48. Anita Stadler, 'Looking to hedge energy contracting risks in 2017? Consider a corporate renewable power purchase agreement' (9 February 2017) Energetics <<http://www.energetics.com.au/resources/latest-news/climate-change-matters/managing-energy-contracting-risks-in-2017-with-cor>>.
49. Commonwealth Bank of Australia, 'Transparently: Make transparent and balanced decisions' <<https://www.commbank.com.au/cr-report2016/cs-transparently.html>>.
50. AGL, 'Powering Australian Renewables Fund' <<https://www.agl.com.au/about-agl/what-we-stand-for/sustainability/powering-australian-renewables-fund>>.
51. Clean Energy Finance Corporation, 'CEFC Investment Policies' (Report) <<https://www.cleanenergyfinancecorp.com.au/media/40383/cefc-investment-policies.pdf>>.
52. Australian Renewable Energy Agency, 'General Funding Strategy 2015/16-2017/18' (Report) <<https://arena.gov.au/about/funding-strategy-investment-plan/>>.
53. Clean Energy Council, 'New renewable energy projects point to biggest year for industry since Snowy Hydro (11 February 2017)' <<https://www.cleanenergycouncil.org.au/news/2017/February/2017-renewable-energy-projects-snowy-hydro.html>>.

54. Queensland Government, Solar 150: Queensland's large-scale solar investment program (Fact Sheet, 2016) <<http://www.qldrepanel.com.au/about-the-study/documents/42575/download>>.
55. Ibid.
56. Australian Energy Market Operator, Participant categories in the National Electricity Market (2017) 2 <[https://www.aemo.com.au/-/media/Files/Electricity/NEM/Participant\\_Information/Participant-Categories-in-the-NEM.pdf](https://www.aemo.com.au/-/media/Files/Electricity/NEM/Participant_Information/Participant-Categories-in-the-NEM.pdf)>.
57. Australian Energy Market Operator, Transmission and distribution in the NEM – process overview (2016) <<https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Network-connections/Transmission-and-distribution-in-the-NEM--process-overview>>.
58. Australian Energy Market Operator, AEMO completion (2016) <<https://www.aemo.com.au/Datasource/Archives/Archive1260>>.
59. *Renewable Energy (Electricity) Act 2000* (Cth) s 17(1).
60. Clean Energy Regulator, Eligibility Criteria (31 October 2016) <<http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Power-stations/Eligibility-criteria>>.
61. Above n 2, 9.
62. Mark Ludlow, 'State-based renewable schemes to push RET', Australian Financial Review (online), 29 January 2017 <<http://www.afr.com/business/statebased-renewable-schemes-to-push-up-ret-20170127-gu077a>>.
63. Department of Environment and Energy, Review of Australia's climate change policies <<http://www.environment.gov.au/climate-change/review-climate-change-policies>>.
64. RepuTex Carbon, Industry to the fore? Meeting Australia's 2030 target without an emissions intensity scheme (30 January 2017) <<http://www.reputex.com/research-insights/industry-to-the-fore-meeting-australias-2030-emissions-target-without-an-eis/>>.
65. For further information on reverse auctions in the ACT, see Environment, Planning and Sustainable Development Directorate – Environment (ACT), How do the ACT's renewable energy reverse auctions work? <<http://www.environment.act.gov.au/energy/cleaner-energy/how-do-the-acts-renewable-energy-reverse-auctions-work>>.
66. Above n 2, 21. Climate Council of Australia, 'The Australian Renewable Energy Race: Which States are Winning or Losing?' (Report, 2014) <<http://www.climatecouncil.org.au/uploads/ee2523dc632c9b01df11ecc6e3dd2184.pdf>>.
67. Above n 2, 9.
68. Ernst & Young, Power transactions and trends: 2015 review and 2016 outlook (Report, 2015) <[http://www.ey.com/Publication/wvLUAssets/EY-power-transactions-and-trends-q4-2015/\\$FILE/EY-power-transactions-and-trends-q4-2015.pdf](http://www.ey.com/Publication/wvLUAssets/EY-power-transactions-and-trends-q4-2015/$FILE/EY-power-transactions-and-trends-q4-2015.pdf)>.
69. State of NSW and Office of Environment and Heritage, 'Climate Change Fund: Draft Strategic Plan 2017 to 2022' (Report, 2016) <<http://www.environment.nsw.gov.au/resources/climatechange/Environmentalfuturefundingpackage/draft-climate-change-fund-strategic-plan-160438.pdf>>.
70. Clean Energy Council, 'Clean Energy Australia report 2015' (Report, 2016) 15 <<https://www.cleanenergycouncil.org.au/policy-advocacy/reports.html>>.
71. Northern Territory Government, 'NT Government's Renewable Energy Panel holds first meeting' (Media Release, 16 December 2016) <<https://nt.gov.au/news/2016/december/nt-governments-renewable-energy-panel-holds-first-meeting>>.
72. Queensland Government – Department of Energy and Water Supply, 'Powering Queensland Plan' (5 June 2017) <[https://www.dews.qld.gov.au/\\_data/assets/pdf\\_file/0008/1253825/powering-queensland-plan.pdf](https://www.dews.qld.gov.au/_data/assets/pdf_file/0008/1253825/powering-queensland-plan.pdf)>.
73. Ibid 5.
74. Ibid.
75. Above n 54.
76. Above n 22.
77. Above n 2, 23.
78. Above n 70, 50.
79. City of Adelaide, 'Carbon Neutral Strategy' 2015-2025' (2015) 5.
80. Government of South Australia, 'Our Energy Plan' (Report, March 2017) <<http://ourenergyplan.sa.gov.au/assets/our-energy-plan-sa-web.pdf>>.
81. Above n 2, 23.
82. Ibid.
83. Environment, Land, Water and Planning – Victorian State Government, Victoria's renewable energy targets <<https://www.energy.vic.gov.au/renewable-energy/victorias-renewable-energy-targets>>.
84. Daniel Andrews MP, 'Victorian Green Bonds an Australian and World First', (Media Release, Victorian Government, 20 July 2016).
85. Energy Matters, Western Australia's Election – What Now For Renewable Energy (13 March 2017) <<http://wwwenergymatters.com.au/renewable-news/western-australia-renewables-em5947/>>.
86. PwC, 'Construction, operation, regulatory and bankability issues for utility scale renewable energy projects' (Report, January 2017), 12 <<http://www.pwc.com.au/legal/assets/investing-in-infrastructure/iif-11-construction-operation-regulatory-feb16-4.pdf>>.
87. Utility Magazine, Utility scale solar takes off (17 February 2016) <<http://www.utilitymagazine.com.au/utility-scale-solar-takes-off/>>.