GREEN PROJECT BONDS

Why Project Bonds will be a bigger part of Australia’s Infrastructure Future
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This paper is part of a series published by G+T on Green Finance.
EXECUTIVE SUMMARY

Forecasted population increases over the next decade are expected to put significant strain on Australia’s existing infrastructure. Consequently, significant investment in new infrastructure projects will be necessary to help cope with the growing demand.

With the government’s fiscal position under strain, and banks facing increasing economic and regulatory pressure, it is likely that Australia’s infrastructure development will need to be funded via non-traditional sources, including through the issuance of project bonds to the capital markets.

Project bonds usually have longer maturities than bank debt and bear interest at a fixed rate. They involve the use of special purpose vehicles to issue the bonds on a limited or non-recourse basis, and typically attract institutional investors seeking stable returns over a longer time horizon. Although they have traditionally been used to refinance project debt on a post-completion basis, various bond covenant and credit support mechanisms have been developed to encourage investors to take on completion risk exposure at attractive yields.

The use of project bonds to fund infrastructure projects offshore is on the rise. In particular, there have been a number of ground-breaking projects relating to solar, wind and geothermal energy that have been financed through the issue of project bonds in America and Asia. Bonds that raise funds for renewable energy projects of this nature are typically labelled “green” project bonds.

Whilst green bonds are a significant emerging asset class for Australia’s capital markets, project bonds have not been issued for many years in Australia, largely due to a scarcity in projects of the magnitude required for capital markets funding. However, there are a number of new large-scale renewable energy projects currently in the pipeline that may position Australia’s infrastructure sector to attract funding via the issuance of green project bonds in the near future.
Why we believe Project Bonds will be a bigger part of Australia’s Infrastructure Future

By 2031, more than 30 million will call Australia home, with almost three quarters of this population growth occurring in our four largest cities. To meet the significant demands placed on Australia’s infrastructure by these demographic and other changes, it is estimated that around 3.5% of Australia’s GDP, or approximately A$59 billion, will need to be invested annually in infrastructure between 2017 to 2035. These figures are consistent with global trends. The World Economic Forum has estimated average global annual infrastructure investment and maintenance needs for 2010-30 to be at least 4.5% of global GDP.

Australia’s infrastructure projects have traditionally been funded via bank or government balance sheets. However, both banks and governments are facing increasing economic and regulatory pressure, making it unlikely that these traditional funding avenues will have enough capacity to keep pace with Australia’s growing infrastructure needs. In a recent audit of Australian infrastructure, the current level of government expenditure on infrastructure was suggested to be unsustainable in the face of increasing budget pressures to fund welfare and health services. In addition, the implementation of the Basel III regulations following the global financial crisis has imposed stricter capital and liquidity requirements on banks, and ultimately led to a reduction in the amount of bank capital available to lend to infrastructure projects.

Whilst it is unlikely that infrastructure projects can continue to be funded by traditional debt alone – what are the alternatives? One of the more innovative ways that project sponsors and borrowers have accessed non-traditional lenders is through the issue of project bonds to capital markets investors. This article provides a snapshot of project financing in Australia and how project bonds can be used to meet Australia’s infrastructure funding challenge over the coming years.
Project financing primarily involves the establishment of a special purpose vehicle (SPV) for assembling a consortium of investors, lenders and other participants (known as project sponsors) to finance, on a non-recourse or limited recourse basis, large-scale infrastructure projects.

Under the non-recourse model, lenders are repaid only from the cash flow generated by the project or, in the event of complete failure, from the value of the project’s assets. Under the limited recourse model, lenders will also have limited recourse to the assets of a parent company sponsoring the project. In addition to debt, a share of the project will be funded from equity. Under both models, the SPV owns, develops and builds the project and borrows the debt to finance the project.

Project financing is an attractive source of funding for infrastructure projects. Often, little or no up-front equity is required – the security for the loan comes from future project cash flows. In addition, costs can be spread over the project lifetime, funding the high up-front cost of debt-financing from the positive cash flows generated during operations.

The diagram below illustrates the basic structure for the financing of a typical energy infrastructure project, including the range of contractual relationships that underpin the commercial framework for the project.
A bond is a fixed-income debt instrument that gives issuers access to funding from the international or domestic bond markets, as an alternative to traditional bank debt. The issuer may be a government, a multilateral entity, or a corporation, who agrees to repay the bond plus an agreed interest rate over a defined term.

**Project Bond Market**

In the early 1990s, project sponsors began financing large projects via the bond markets in order to access long-term fixed rate debt. Up until that point, infrastructure projects had been exclusively financed via traditional bank or government loans. The opening of the project bond asset class was ushered in by the development of new structured credit techniques, which allowed projects to be de-risked to a point where they became attractive to bond investors. Some of these new techniques included limited recourse financing methods, guarantees and private political risk insurance. Buyers of project bonds include insurance companies, pension funds and other long-term investors seeking asset diversification opportunities that match their long-term liabilities at attractive yields.

**Project Bond Features**

Project bonds are typically issued on a nonrecourse basis by the project SPV either as the sole funding or with bank debt. Although not mandatory, investment grade ratings are usually also obtained from one or more rating agencies to assist the marketing of the bonds. Any credit rating assigned to the bonds will reflect the rating agencies’ assessment of the financial viability of the underlying project, rather than the solvency of the issuer (unless the investment is guaranteed – which is unusual but not unheard of for project bonds). To achieve investment grade ratings, the bonds must meet minimum requirements in relation to both financial performance (e.g. minimum debt service coverage ratios) and the project’s commercial and contractual framework (e.g. long-term contracted cash flows from creditworthy off-takers, fixed price off-take agreements that match the maturity profile of the bonds and highly-rated project participants).

**Pros and cons of Project Bonds**

From an issuer perspective, a key advantage of project bond issuance over bank debt is the issuer’s ability to repay investors over a longer term and with a fixed interest rate, as set by the issuer according to its assessment of investor appetite. This is also mutually attractive to institutional investors such as insurance and superannuation funds seeking stable returns over longer maturities. Bank debt, by contrast, is typically provided on three to five year terms, necessitating frequent refinancing over the life of the project and exposure to fluctuations in interest rates. In addition, project bonds are often issued subject to covenants that are less onerous than the more restrictive covenant package typically imposed by banks under syndicated loans (see further below).

From an investor perspective, project bonds offer an opportunity to participate in infrastructure projects through listed, tradable securities that can offer superior risk-adjusted returns. The bonds can be publicly listed, providing the issuer and initial investors with a very large investor pool with daily liquidity and a more streamlined market syndication process, but at the cost of regular financial reporting, or alternatively the bonds can be privately placed, which requires a limited amount of disclosure but provides more flexibility on maturity and greater execution certainty. Larger issues can also become a constituent of bond indices, which allow bond investors to include the bonds in their benchmark strategies.

Of course, project bonds also have drawbacks. Traditionally, capital markets have been reluctant to support projects in their planning and construction phase (i.e. greenfield investments), with bonds instead being focused on the refinancing of existing debt after a project is up and running (i.e. brownfield investments). The concern with greenfield investments stems from a reluctance on the part of investors (more so than banks) to assume completion risk – i.e. the risk that the project is never completed, and therefore never generates the cash flow required to service or repay the debt. Bondholders also often lack the resources to effectively evaluate completion risk and monitor the project.
To alleviate these concerns, the market has developed strategies for managing completion risk to more acceptable levels, including through cost-overrun undertakings, completion guarantees, sponsor equity support agreements and subordinated debt tranches. For example, the Credit Guarantee and Investment Facility (CGIF) is a new multilateral institution established by 13 Asian countries comprising all ten member countries of the Association of Southeast Asian Nations (ASEAN), and their ‘Plus 3’ partner countries (China, Japan and Korea), together with the Asian Development Bank, to help overcome these challenges. The CGIF provides guarantees to local currency bonds issued by greenfield infrastructure projects mainly in the ASEAN countries to help facilitate their access to bond markets. The Project Bond Initiative is another credit enhancement structure established by European stakeholders. Under this initiative, the European Investment Bank provides participating developers with subordinated debt, to enhance the credit quality of senior project bonds and make them more palatable to institutional investors.

The ability of the underlying project documentation to mitigate construction risk through turnkey construction contracts or enhanced liquidated damage provisions, as well as the predictability of future cash flows, are other factors which investors take into account.

Other potential drawbacks include concerns over the ability of the SPV borrower to obtain consents or waivers from bondholders, who are more numerous and diffuse than lenders under typical bank debt arrangements. This means that an issuer may not know who ultimately owns its bonds at any given time. Bondholders may also have less project finance expertise, and less resources to actively monitor the underlying project, in which case they will take longer than lenders to conduct due diligence on a consent or waiver issue, and often charge a fee for doing so.

To address these concerns, project bond covenants are usually designed with more flexibility than traditional bank debt covenants, including through the use of objective (rather than subjective) tests to reduce the need for consents and waivers for routine operational matters.

In addition, it is not uncommon for mechanisms to be adopted that permit non-bond creditors such as third-party experts to make technical determinations from time to time. In bank/bond structures, where consents are required, and bondholders and bank debt share common covenants, this is less of a concern given that, at least early on in the life of a project, bondholders are typically the minority creditor. However, where project bonds have a longer tenor than the bank loans or amortize more slowly (or not at all), bondholders may become the majority creditors. Other consent mechanisms may be required to address this dynamic, including provisions which empower the bond trustee to grant consent in certain circumstances on behalf of the potentially large pool of bondholders, without obtaining their prior consent. In other bank/bond structures, separate covenant regimes will apply meaning the issuer will be required to obtain both the requisite consent from the banks and the large pool of bondholders, which can be a lengthy and costly process.

Another challenge with project bonds relates to their maturity profile. This is typically in bullet format, rather than tailored to the cash flow pattern of the underlying projects, which can present a potential refinancing risk.

Also, although not mandatory, rating is a prerequisite to reach a broad base of bond investors, who rely on the rating issued by external rating agencies, rather than assessing the degree of risk of complex infrastructure ventures themselves. Obtaining and maintaining a rating can be a costly and burdensome exercise for the SPV.
HIGH YIELD PROJECT BONDS

Where the credit ratings secured for the bonds are below investment grade, the bonds are marketed as high-yield project bonds. There are a unique range of pros and cons associated with this asset class. On the negative side, a non-investment grade rating will rule out participation by investors who have mandate restrictions which preclude them from investing in non-investment-grade bonds. From a project sponsor perspective, the higher interest rate of a non-investment-grade bond may be unattractive compared to the interest rates available to it under other sources of financing. On the plus side, high-yield project bonds tend to follow the looser, incurrence based covenant model of corporate high-yield bonds, which means that certain financial covenants are only tested if the issuer incurs a debt or takes other relevant material actions. The practical effect is that a project SPV with high-yield covenants may have more flexibility to sell assets or pay dividends (for example), than it would under investment grade project bonds, which typically share bank covenants (which tend to be stricter and maintenance based) with co-existing bank debt.
**GREEN PROJECT BONDS**

**What are Green Bonds?**

The distinguishing feature of a green bond, compared to other bond classes, is that it is issued for the specific purpose of funding new or existing environmentally sustainable projects or other uses beneficial to the natural environment. The 'greenness' of the projects they fund is generally audited by a recognised independent party, and verified as adhering to a particular green standard.

Issuers of green bonds may benefit from reputational gains, upgraded environmental risk management processes due to commitments to green disclosure and access to long-term financing for green projects in geographies where the supply of long-term bank loans can be limited. From an investor perspective, green bonds offer an opportunity for long-term and responsible investors, to support an emerging class of green assets, as well as more opportunities to actively engage with issuers on Environmental, Social and Governance (ESG) factors relating to the financed projects.

Today, green bonds mainly finance projects within renewable energy (45.8% of the issuance globally in 2015), energy efficiency (19.6%), low carbon transport (13.4%), sustainable water (9.3%), and waste & pollution (5.6%). The demand for green bonds has been growing exponentially, due partially to pension funds and insurance companies diversifying their investment portfolios. The total issuance of green bonds was US$41.8 billion in 2015 and reached US$65.4 billion by November 2016. The green bond market is likely to continue to grow in light of global pushes towards a low carbon economy, attracting more diverse issuers and investors in the process. For further details see our Green Finance article here.

The Australian green bond market has been steadily expanding, and in 2017 green bonds were issued by banks, property developers and even the University of Melbourne. Investor appetite for government green bonds is also increasing: in 2016, the Victorian Government became the first Australian government to issue a green bond, successfully raising A$300 million within 24 hours to finance new and existing projects.

**What are Green Project Bonds?**

Structurally, the key distinction between green project bonds and more “vanilla” green bonds is the use of an SPV to issue the bonds. Where the project meets standardised green credentials, the bonds issued by the SPV are “green project bonds”. The “green” label allows a project to more easily access long-term debt financing from ESG investors than would otherwise be the case.

**The International Market for Green Project Bonds**

The most active green project bond markets have been America and Europe, where for over five years, bond issuances as large as US$1 billion have been used to fund large infrastructure projects. However, over the last few years green project bonds have been used to fund green infrastructure projects in multiple countries and continents, including via emerging markets in Africa, Japan, Mexico and China.

Internationally, green project bonds have featured most predominantly in the development of solar plants, however, their application is growing to include other large renewable infrastructure projects, such as wind. Some recent examples of issuances in three different countries follows.
Green project bonds issued by corporates in the rest of the world

4.1 Case study: Wind X and XI Projects (America)

In February 2017, MidAmerican Energy issued a US$850 million green bond to finance the construction of two Iowa wind farms. The total issuance comprised US$375 million of 10 year bonds and US$475 million of 30 year bonds.

The Wind X and XI Projects will be complete by the end of 2019, and will have a total generation capacity of 2551 MW. The wind farms will generate enough electricity to satisfy approximately 85% of Iowa’s retail customer demand.

The key benefits of using a bond for the financing included:

+ the size and quality of the project being financed and the strong corporate sponsorship being provided;
+ low interest rates at the time, which made the project even more enticing to investors as a long-term high yield project, in comparison to more traditional corporate bonds;
+ strong credit ratings from the key rating agencies; and
+ a legal structure in the format of a “section 144A offer”, allowing for exemption from Securities and Exchange Commission registration under the Securities Act of 1933 15 USC § 77a et seq.

This was the first wind project that MidAmerican Energy had financed with a green project bond, but the company and its subsidiaries had previously financed large American solar farms through project bonds, including the 550 MW Topaz solar farm and the 579 MW Solar Star Project, both located in California.

4.2 Case study: Gunma Aramaki solar power plant (Japan)

In June 2017, Ontario-based renewables firm Canadian Solar raised JPY 5.4 billion (A$60 million) through the issuance of green project bonds to finance the 19.05 MWp Gunma Aramaki Solar Power Plant in central Japan.

The single-tranche bond was arranged by Goldman Sachs, as part of its wider target to arrange US$1 billion worth of green project bonds to fund renewable projects in Japan. It was the first of its kind in Japan, with a dual-tenor maturity of 1.5 years (initial tenor) and 20.3 years (extended tenor). The extended tenor was made possible by Japan’s feed-in tariff system for calculating solar power generation, which allows for accurate forecasting of future cash flows.

Issued at the planning stage, the bonds provided Gunma Aramaki with the initial finance necessary to fund the engineering and construction of the site, with the option to retain long-term financial support for ongoing maintenance. The extended tenor attracted investment from insurance firms and regional banks with appetite for longer-term fixed-rate investments and/or those who weighted ESG factors favourably when making investment decisions (for further details see our article on ESG investment trends here).
4.3 Case Study: Tiwi-MakBan (Makiling-Banahaw) Geothermal Energy Project (Philippines)

This ambitious PHP ₱10.7 billion (A$280 million), dual-asset project won Bond Deal of the Year in 2016 at the Project Finance International Awards. The bond was 75% guaranteed by the Asian Development Bank, with a 10 year tenor on a non-recourse pari passu basis at a fixed rate.

The proceeds raised from this bond are being used to rehabilitate the Tiwi and Makban geothermal power production facilities, which Tiwi-MakBen had bought from the government in 2009. The facility produces 390 MW of clean renewable energy.

The bond obtained Climate Bond Standards (CBS) certification by DNV GL, a third party certifier, which ensured the bond was compliant with the CBS framework and the Green Bond Principles.
The Appetite for Green Project Bonds in Australia

Historical context

While the total level of investment in renewable energy projects in Australia has fluctuated over the last decade, the trend in recent years appears to support a general increase in investment in the renewable energy sector. In 2017 investment in this sector reached a new high, increasing by 150% on 2016, with the vast majority of this investment being in large-scale projects. 2018 is also looking promising, with the Clean Energy Regulator expecting another record-breaking year.

As with most infrastructure projects, renewable energy projects in Australia have traditionally been financed through a combination of bank debt and/or government supported debt or grants, such as from the Clean Energy Finance Corporation (CEFC) or the Australian Renewable Energy Agency (ARENA). Lenders typically engage in extensive due diligence and are fairly ‘hands on’ in terms of the various construction phases of a project before a development is operational. Reliance on bank debt prevails more so than in many other jurisdictions, for a number of reasons. While a reluctance on the part of capital markets investors to be involved in the planning and pre-construction phases of a project is in line with global trends, one of the more unique features of the Australian renewable energy landscape is the size and scale of renewable energy projects in Australia. These are relatively small compared to projects in North America, Europe and Asia, and therefore have not required the amount of funding needed to incentivise the use of bonds for an individual project.

Some prominent examples of recent private sector Australian renewable energy projects that relied exclusively on bank funding for their debt finance component include two large-scale solar farms in Queensland, Clare Solar Farm and Lilyvale Solar.

Regulatory environment

The lack of a clear nation-wide energy policy over the past decade has created uncertainty for project development, and impacted investor confidence in the Australian renewable energy sector. This culminated in October 2017, when the Commonwealth Government announced that the Renewable Energy Target scheme would be phased out from 2020 and replaced with a ‘technology agnostic’ National Energy Guarantee (NEG) framework. The aim of the NEG framework is to manage a steady transition to lower emission power generation, whilst prioritising grid stability, stable base load power, and minimal price pressure for consumers.

Broadly, the NEG comprises:

1. a reliability guarantee, under which electricity retailers and large users who purchase directly from the National Electricity Market (NEM) must meet a certain percentage of their electricity load requirements with ‘flexible and dispatchable resources’; and
2. an emissions guarantee, under which electricity retailers and large users registered in the NEM will be required to meet individual emissions profiles in order to meet a nationwide emissions target to be set by the Australian Government.

The Commonwealth Government is yet to provide detail as to how the NEG will be implemented. As a result, it is unclear whether State and Territory Governments will support the NEG, and the shape their own policies will take in response. Nevertheless, the NEG’s coupling of an emissions guarantee with a reliability guarantee, and emphasis on dispatchable capacity, should incentivise the development of projects such as batteries and pumped hydro that combine lower emissions with stable supply.

For further information, please see our article on the NEG framework.
State initiatives

Some State Governments are pushing ahead with their own renewable energy initiatives, and in 2017 both the Victorian and Queensland State Governments conducted renewable energy auction schemes. Both schemes are designed to help these States reach their respective renewable energy targets. Victoria is aiming for 25 percent of its electricity generation to come from renewable sources by 2020, rising to 40 percent by 2025, while Queensland is aiming for 50 percent by 2030. The schemes involve reverse auctions by which the Government awards commercial contracts supporting new renewable energy projects to successful bidders who are assessed on a range of commercial, environmental and social criteria. Looking ahead, such schemes will help provide certainty for renewable project development and have the potential to increase the supply of renewable energy projects for green project bond investors.

Pipeline

Notwithstanding the political uncertainty that has overshadowed Australia’s renewable energy market in recent years, the private sector has shown remarkable confidence in a future for renewable energy in Australia, as demonstrated by a number of bold landmark projects that were launched or approved in 2017.

The first of these was the world’s largest lithium-ion battery in South Australia, developed by Tesla in partnership with the South Australian Government and French renewables company Neoen. Tesla’s project in South Australia involved building a 100 MW battery with the capacity to power roughly 30,000 homes. Meeting its ambitious deadline, it commenced operation at the beginning of December 2017. Meanwhile, Solar Q has announced its proposed development of Australia’s biggest solar farm in Gympie, just north of Queensland’s Sunshine Coast. Solar Q proposes to build a 350 MW solar farm in Queensland. Within four years of operation, Solar Q plans to expand the solar farm to 800 MW and have battery storage up to 4,000 MW. This project will have enough power for roughly 315,000 homes. The August 2017 announcement by AGL that the Coopers Gap Wind Farm project is set to go ahead means we could also expect Australia’s largest wind farm to be in operation by mid-2019. Finally, environmental approval from the Federal Government in November 2017 means the Bulli Creek Solar Farm is set to become the largest solar farm in Australia.

The table below demonstrates the growing pipeline and scale of renewable energy projects in Australia, signalling further opportunities for green project bonds in the future.
## Snapshot:
key proposed renewable projects for 2018 and beyond (in order of scale)

<table>
<thead>
<tr>
<th>Project</th>
<th>Developer</th>
<th>Type</th>
<th>Capacity</th>
<th>Online (estimate)</th>
<th>Project Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar Q Solar Farm, Gympie</td>
<td>Solar Q</td>
<td>Solar and battery storage</td>
<td>350 MW, proposed increase to 800 MW within four years</td>
<td>Late 2018</td>
<td>$2bn</td>
</tr>
<tr>
<td>Bulli Creek Solar Farm</td>
<td>Solar Choice and SunEdison</td>
<td>Solar</td>
<td>2000 MW</td>
<td>2025</td>
<td>$1bn (project to be delivered in four stages of $250m each)</td>
</tr>
<tr>
<td>Coopers Gap Wind Farm</td>
<td>AGL, with the Powering Australian Renewables Fund (PARF) - a partnership between AGL and QIC.</td>
<td>Wind</td>
<td>453MW</td>
<td>Mid-2019</td>
<td>$850m</td>
</tr>
<tr>
<td>Sapphire Wind Farm</td>
<td>CWP Renewables, Partners Group</td>
<td>Wind</td>
<td>270 MW</td>
<td>Mid-2018</td>
<td>$590m</td>
</tr>
<tr>
<td>Mt Emerald Wind Farm</td>
<td>Ratch Australia</td>
<td>Wind</td>
<td>180 MW</td>
<td>Late 2018</td>
<td>$380m</td>
</tr>
<tr>
<td>Clermont Solar Farm, Wemen Solar Farm</td>
<td>Wirsol Energy, with the CEFC</td>
<td>Solar</td>
<td>75 MW / 88 MW (respectively)</td>
<td>Late 2018</td>
<td>$375m</td>
</tr>
<tr>
<td>Daydream Solar Farm, Hayman Solar Farm</td>
<td>Edify Energy, with Blackrock, the CEFC, CBA and Natixis</td>
<td>Solar</td>
<td>150MW/ 50MW (respectively)</td>
<td>Mid-2018</td>
<td>$315m</td>
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<tr>
<td>Lincoln Gap Wind Farm</td>
<td>Nexif Energy, with the CEFC</td>
<td>Wind and battery storage</td>
<td>222 MW comprising: 212 MW wind 10 MW battery storage</td>
<td>2019</td>
<td>$300m for Stage 1 (a 126 MW development)</td>
</tr>
<tr>
<td>Willogoleche Wind Farm</td>
<td>ENGIE</td>
<td>Wind</td>
<td>119 MW</td>
<td>Mid-2018</td>
<td>$245m</td>
</tr>
<tr>
<td>Project</td>
<td>Developer</td>
<td>Type</td>
<td>Capacity (projected)</td>
<td>Online (estimate)</td>
<td>Project Value</td>
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<tr>
<td>Clare Solar Farm</td>
<td>Fotowatio Renewable Ventures (FRV)</td>
<td>Solar</td>
<td>100 MW</td>
<td>2018</td>
<td>$230m</td>
</tr>
<tr>
<td>Whitsunday Solar Farm</td>
<td>Edify Energy, with Wirsol, the CEFC, CBA and NORD/LB</td>
<td>Solar</td>
<td>69 MW / 69 MW / 60 MW (respectively)</td>
<td>March 2018</td>
<td>$230m</td>
</tr>
<tr>
<td>Hamilton Solar Farm</td>
<td></td>
<td></td>
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<tr>
<td>Gannawarra Solar Farm</td>
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<tr>
<td>Longreach Solar Farm</td>
<td>Canadian Solar</td>
<td>Solar</td>
<td>15MW / 80MW (respectively)</td>
<td>March and August 2018 (respectively)</td>
<td>$200m</td>
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<td>Oakey Solar Farm</td>
<td></td>
<td></td>
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<td>Parkes Solar Farm</td>
<td>Neoen, with the CEFC, ARENA</td>
<td>Wind</td>
<td>50.6 MW, 25 MW, 24.2 MW respectively</td>
<td>2018</td>
<td>$200m</td>
</tr>
<tr>
<td>Griffith Solar Farm</td>
<td></td>
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<td>Dubbo Solar Farm</td>
<td></td>
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</tr>
<tr>
<td>Lilyvale Solar Project</td>
<td>FRV</td>
<td>Solar</td>
<td>100 MW</td>
<td>Late 2018</td>
<td>$192m</td>
</tr>
<tr>
<td>Susan River Solar Farm</td>
<td>Esco Pacific</td>
<td>Solar</td>
<td>100 MW</td>
<td>2019</td>
<td>$175m</td>
</tr>
<tr>
<td>Coleambally Solar Farm</td>
<td>Neoen</td>
<td>Solar</td>
<td>150 MW</td>
<td>Late 2018 – early 2019</td>
<td>$170m</td>
</tr>
<tr>
<td>Kennedy Energy Park</td>
<td>Windlab and Eurus Energy</td>
<td>Solar photovoltaic, wind and lithium ion battery storage</td>
<td>40 MW comprising: 23.0 MW DC / 19.2 MW AC solar photovoltaic 21.6 MW wind 2MW / 4MWh lithium ion battery storage</td>
<td>Late 2018</td>
<td>$120m</td>
</tr>
</tbody>
</table>
WHAT DOES THE FUTURE HOLD FOR PROJECT BONDS?

Although project bonds still represent a limited amount of the total global debt committed to infrastructure financing, their issuance levels are increasing rapidly. During the 2007-12 period, the annual amount issued by SPVs via project bonds globally ranged between US$8.5bn and US$27bn. 2013 registered a record amount of US$49bn in project bond issues, representing more than 24% of the total debt provided to infrastructure. The strong increase between 2012 and 2013 was partly due to the overall decline of bond yields on all major asset classes, which lead to fixed income investors seeking other asset classes that offered a better risk/return profile on their investments than yields on offer via holdings of more traditional sovereign and corporate bonds. More recently, activity in the global project bond market increased 46% to US$63.7bn in 2017, up from US$42.9bn in 2016.

We believe that the number of developments financed through project bonds – and the dollar amounts involved – will continue to gain traction globally, and play a more significant role in the solution to Australia’s infrastructure funding challenge going forward. We expect this to be supported by the continued increase in private sector investment in renewable energy and sustainable projects in Australia, particularly in large-scale solar power production. This will also be bolstered by State initiatives, such as the Victorian and Queensland Renewable Energy Auction schemes and the Commonwealth Government’s commitments under the Paris Agreement to reduce greenhouse gas emissions by 26-28% below 2005 levels by 2030.

For further information please see our articles on Green Finance, ESG and the NEG.
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