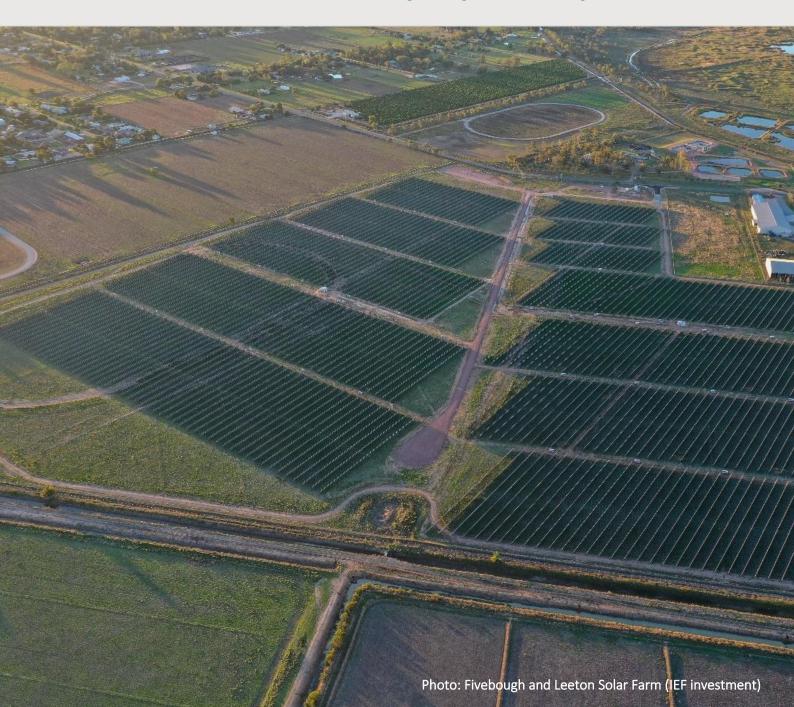


# **Infradebt Ethical Investment Fund 2**

**Quarterly Report – September 2021** 





### **KEY DEVELOPMENTS**

The Infradebt Ethical Investment Fund 2 (IEIF2) returned 0.5% (post fees) in the September 2021 quarter, the benchmark (RBA cash rate) returned 0.03% over the same period. IEIF2 has delivered a 2.4% post fees return over the past year and 2.7% since inception.

	Return this quarter (%)	FYTD (%)	1 Year IRR (%)	Return since inception (% p.a.)
IEIF2 Return/IRR	0.5	0.5	2.4	2.7
Benchmark	0.0	0.0	0.1	0.3
Outperformance	0.5	0.5	2.3	2.4

<sup>\*</sup> Inception December 2019.

#### **Update on the Infradebt Ethical Fund (IEF)**

Short term interest rates remained low over the quarter – the benchmark floating rate for loans (BBSY) was 0.04% as we go to print. Increasing concerns regarding inflation (and whether the current spike in inflation is transitory or not) saw bond yields rise – particularly in September. This has continued into October – with medium/long term interest rates hovering near post Covid highs. Higher rates imply mark to market losses on fixed rate loans, however, IEF is well positioned with base rate duration relatively short at circa two years.

For electricity prices, the quarter was a period of two halves. The start of the quarter saw a continuation of elevated pricing following the disruption of electricity markets caused by outages at Callide C and Yallourn. However, as the quarter progressed, electricity prices fell sharply. Late quarter prices reflected their usual seasonal low. Late Spring, particularly September and October, is a period of mild temperatures (which keeps demand for electricity down) and high renewable generation (the September quarter is usually the strongest quarter for wind farms). This usually results in lower electricity prices at this time of year.

September saw very low, even negative spot prices during the middle of the day as rooftop solar eroded midday electricity demand. This effect varies by region with South Australia and Victoria particularly affected and NSW less so. This trend has continued into October, although we would expect electricity prices to improve later in the quarter as demand increases with summer air conditioning cooling loads. In contrast to electricity prices, LGC prices continued to rise with increasing optimism that corporates (and Governments) adopt and implement their net zero emission targets.

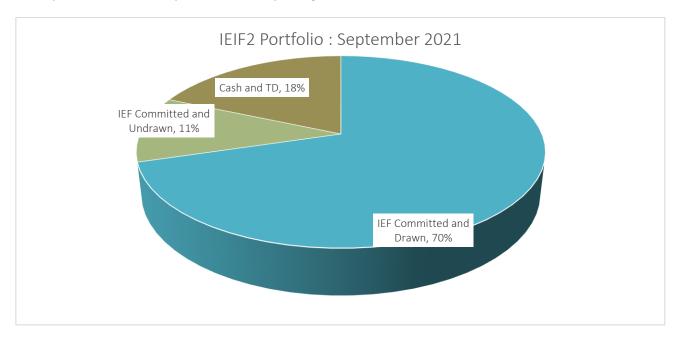
Overall, the pace of new renewables construction has slowed compared to the boom periods of 2017 and 2018. In 2017 and 2018, 4 to 5 GW of new renewable projects reached financial close. This has slowed to 2-3 GW per year over the past couple of years. The slow down reflects the challenges in securing grid connections/capacity as well as projects struggling to secure sufficiently attractive offtake agreements to warrant the cost of construction.

This quarter, the fund made a new investment in a portfolio of five solar farms developed and built by Sungrow Australia. All five solar farms are located in the Northern Victorian towns of Yarroweyah, Bamawm, Pine Lodge, Tatura and Stanhope. Sungrow is the equity owner, EPC Contractor and O&M Contractor for the solar farms. Construction has commenced and practical completion is expected by December 2021. Sungrow is one of the largest manufacturers of inverters in the world.



## **IEIF2** Portfolio Snapshot

The composition of the IEIF2 portfolio as at reporting date is detailed in the chart below.



Note we have broken the portfolio into three buckets – described below:

	Bucket	Description	Return characteristics
1	IEF Committed and Drawn	Capital which has been invested in IEF and has been fully drawn by borrowers	<ul> <li>Earns interest as well as upfront fees         <ul> <li>which we pro rate over the expected life of the loan.</li> </ul> </li> <li>Returns on this portion are currently around 4%.</li> </ul>
2	IEF Committed and Undrawn	Capital which has been committed to borrowers, but as yet has not been drawn down. This typically occurs with construction projects – money is earmarked but has not been used by the project	<ul> <li>Earns commitment fees. These are usually around 1-2% per annum and compensate the lender for reserving capital for a loan.</li> <li>Upfront fees – which we pro rate over the expected life of the loan.</li> <li>Earns cash/term deposit interest (see below).</li> <li>Returns on this portion are currently around 2%.</li> </ul>
3	Cash and term deposits	Capital committed by IEIF2 investors that, as yet, has not been committed/invested by IEF in underlying loans.	<ul> <li>Infradebt runs a rolling term deposit program seeking to optimise the return on cash.</li> <li>Returns on this portion are currently less than one quarter of a percent.</li> </ul>

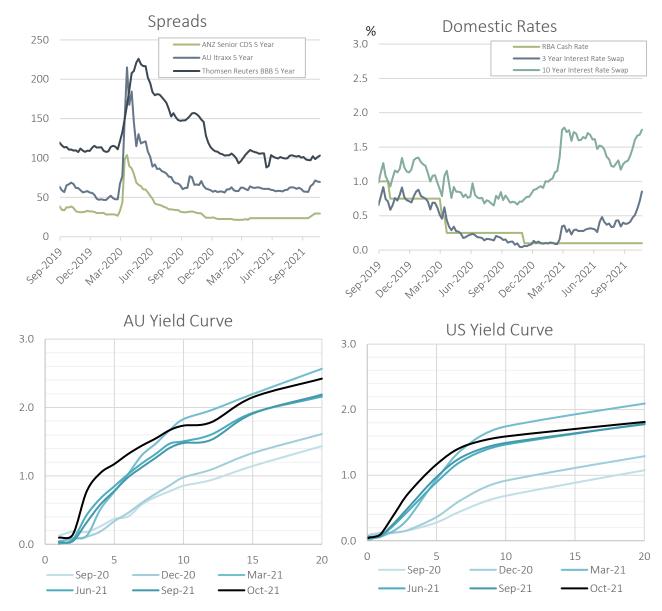


## **MARKETS UPDATE**

#### Interest rates

Interest rates have picked up from the last quarter, both in the short end and the longer end of the curve. Markets have been trying to price inflation expectations in the short term, as well as the tapering of Central Bank buyback programs globally. Rising energy and transportation costs have made investors wary of inflation with many countries experiencing higher inflation that their inflation targets. For example, inflation in the UK in September was 3.1% and is expected to peak at more than 5% in early 2022. Inflation in the US is already above 5%. The economic recovery in most developed countries has been relatively strong as lockdown restrictions have eased in Europe and North America. Global markets are anticipating quicker rate hikes with yield curves steepening.

Closer to home, vaccination rates have continued to increase allowing more certainty as to when borders will reopen for both domestic and international travel. The RBA has been consistent in its bond purchase guidance and inflation expectations, but markets are anticipating rate hikes in advance of the RBA guidance. This saw medium and long term bond rates rise sharply, particularly in September. This has continued so far in October, with 10 year bond rates rising a further 0.25% since quarter end to hover near post Covid highs.





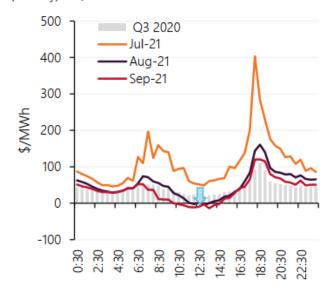
#### **Electricity markets**

Continuing the experience of the June quarter, electricity prices continued at elevated levels at the start of the quarter with average prices around \$111/MWh on a load weighted basis across the NEM in July. The high prices in July were influenced by the residual impacts of the Callide and Yallourn coal fired generator outages as well as an outage at the Longford Gas Plant. Over the quarter, international coal and gas prices surged and are currently reaching record highs. In the Northern Hemisphere, this is due to a combination of surging demand as economies reopen as well as the decarbonisation of supply. Australian electricity markets have been largely immune from the elevated international prices in respect of local coal and gas production.

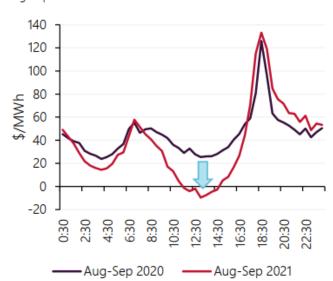
With the onset of spring, where demand is typically low and renewable supply high, the average price across the NEM fell towards September. Electricity demand in Queensland was the highest it has ever been in 5 years and average prices were higher in Queensland and NSW compared to 2020. They were significantly lower in Victoria in 2021 vs 2020 with more variable renewable generation connecting to the Victorian grid and transmission constraints limiting Victoria's ability to export to NSW.

While the quarter started with high prices, it ended with record levels of negative price events in the middle of the day – 16% of NEM trading intervals were zero or negative, more than double the previous record in Q4 2020. In Victoria, the worst effected state, the average price between 10:00 am and 3:00 pm was \$0/MWh over the quarter. Increasing levels of demand are being offset with increasing levels of solar penetration, particularly behind the meter rooftop systems. The following charts from the AEMO Q3 Quarterly Dynamics report demonstrates the steep reductions in solar weighted prices, particularly in Victoria. This has continued into October, but would be expected to moderate later in the quarter as summer air conditioning loads increase overall electricity demand.

Mainland NEM average spot price by time of day – Q3 2021 (monthly) vs Q3 2020



Victoria average spot price by time of day – Aug-Sep 2021 vs Aug-Sep 2020



The best states for merchant solar were NSW and Queensland with prices averaging \$42/MWh and \$38/MWh respectively. Merchant solar generators in Victoria received \$16/MWh on average (a 70% fall compared to the same quarter in 2020).

Offsetting some of the fall in energy prices, LGC prices continued to rise substantially over the quarter rising to \$42/LGC. The average merchant solar farm earned a bundled price of \$60-70/MWh across the NEM with significantly more value accrued from LGCs than energy. The entire LGC forward curve continued to rise over the



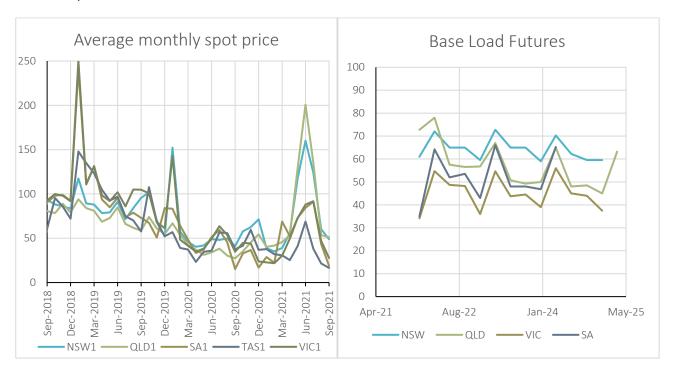
quarter as the LGC market gains confidence that there will be continued demand from corporates to achieve net zero emissions beyond the legislated targets.

It is worth noting that the September 2021 quarter will be the last one to be settled on a 30 minute basis, with 5 minute settlement commencing from 1 October 2021. It will be interesting to see the changes, if any, in bidding behaviour next quarter.

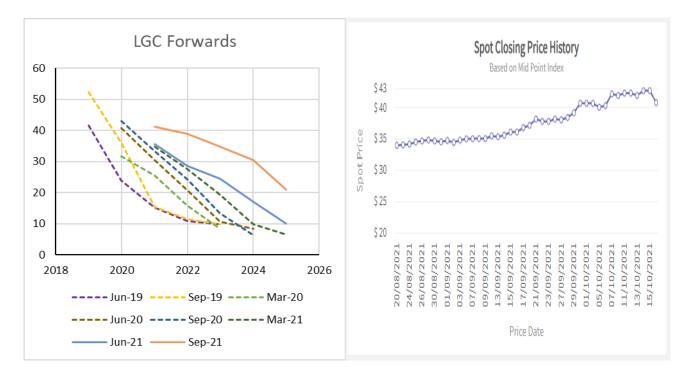
VWAP	NSW1	QLD1	SA1	TAS1	VIC1	NEM
Q3 2020(\$/MWh)	42	39	43	49	50	44
Q2 2021(\$/MWh)	129	149	83	64	84	107
Q3 2021(\$/MWh)	87	94	63	41	66	73
Q3 2021 vs Q2 2021	-33%	-37%	-24%	-37%	-22%	-32%
Q3 2021 vs Q3 2020	108%	143%	47%	-16%	32%	65%

Solar DWAP	NSW1	QLD1	SA1	VIC1	NEM
Q3 2020(\$/MWh)	37	16	23	51	41
Q2 2021(\$/MWh)	51	56	43	43	46
Q3 2021(\$/MWh)	42	38	21	16	22
Q3 2021 vs Q2 2021	-17%	-32%	-51%	-63%	-52%
Q3 2021 vs Q3 2020	15%	146%	-9%	-69%	-47%

Source: Opennem







## **NEW INVESTMENTS**

## Sungrow Victorian 5x 5MW Solar Portfolio - Yarroweyah, Bamawm, Pine Lodge, Tatura and Stanhope

All five solar farms are developed by Sungrow Australia and are located in the Northern Victorian towns of Yarroweyah, Bamawm, Pine Lodge, Tatura and Stanhope (all projects are relatively close to Shepparton).

Sungrow is the developer, equity owner, EPC Contractor and O&M Contractor for the solar farms. Construction has commenced and practical completion is expected by December 2021. IEF is providing construction finance for all five solar farms on a cross-collateralised basis. Each project is located within a 60km radius of each other which provides significant operating cost synergies. Each solar farm connects into a 22kV Powercor feeder at each local substation. The project uses Canadian Solar PV modules mounted on an east west fix tilt Jurchen PEG system. PEG systems are a ground mounted system that are high density, lightweight and can be rapidly installed (see photos below). Compared to traditional single axis tracking, PEG systems use less land and offer a fast, less machine-intensive, construction process. The five solar farms are expected to deliver a total of 56 GWh of clean energy per year.









## **ASSET UPDATES**

#### Yarranlea Solar Farm

The Yarranlea Solar Farm received AEMO approval to export at full capacity in July. Generation over the quarter was lower than the baseline forecast due to negative price events and line constraints. The debt has been sized to provide relatively low leverage and a substantial debt service buffer. The average price received was \$32/MWh for electricity and \$30 for LGCs. Infradebt continues to monitor generation performance closely. The next operating quarter will be the first full quarter with the plant operating at full capacity.

#### Leeton and Fivebough Solar Farm

The solar farms reached practical completion in August after delays in completing commissioning. It is pleasing to see these projects move to the operating phase. The next quarter will be the first full quarter of operations.

#### Trundle and Peak Hill Solar Farm

The Trundle and Peak Hill Solar Farm reached practical completion in late May and June 2021 respectively. This quarter marked the first complete quarter of generation. Low irradiance and negative price events during the quarter have resulted in lower than forecasted generation for both the farms.

It is worth noting that there could be volatility in the debt service coverage ratios (DSCR) for the Enerparc portfolio – a key debt covenant over the next few quarters. The DSCR is assessed on a rolling 12-month basis – but it will take a few quarters for a full 12 months of operating history to build up. In the meantime, DSCR outcomes are more sensitive to weather patterns and extreme pricing events. However, we expect the ratios to be more stable once the portfolio has reached a year of generation.

#### SAF Portfolio – Swan Hill, Chinchilla, Brigalow

Generation performance was mixed across the portfolio and in aggregate was down 9% compared to forecasts.

• Swan Hill was 11% less than forecast almost entirely due to negative price curtailment (switching off to avoid sending energy out at a negative price) from low solar dispatch weighted prices in Victoria.



- Chinchilla was 3% less than forecast due to low irradiation. Chinchilla has a short-term PPA which runs to end 2021. The PPA meant the plant could continue to operate at near full capacity despite the negative pool price events.
- Brigalow was 13% less than forecast due to negative pool prices, low irradiation and network curtailment.

The combination of lower generation and lower electricity prices (compared to expectations when IIG launched the SAF portfolio) has reduced revenue relative to forecast. While we remain comfortable that the position of debt is well protected by low leverage, rapid amortisation and strong debt covenants, the negative/low price events and the broader evolution of the Queensland and Victorian markets will be important to watch.

#### Northern Territory Solar Portfolio – TKLN, Uterne and Yulara

TKLN and Yulara performed in line with the financial close forecasts. Uterne underperformed by 15% in the quarter due to a combination of network curtailment and an inverter failure. The unplanned outage has since been rectified with replacement parts for the SATCON B delivered from Europe and installed. The overall impact on the cashflows is minimal. The annual site visits to the remote aboriginal townships of Ti Tree, Kalkarindji and Lake Nash (also known as Alpurrurulam) continue to be delayed due to the closed NT borders/Covid restrictions. The NT projects continue to perform well overall with high quality government offtakes supporting each project.

## Murra Warra 2 Wind Farm

Construction of the Murra Warra 2 Wind Farm continued over the quarter amidst a state-wide lockdown. All civil works are complete and the majority of components for the wind turbine generators have been delivered, either to the site, or are in short term storage at the Port of Portland. The EPC Contractor has reported that there has been a 4-week delay in the delivery of the rotor and stator parts for the Synchronous Condenser. Due to this, the date for practical completion has been extended by five weeks from 25 June 2022 to 12 August 2022. Dialogue has continued with AEMO on how the Synchronous Condenser will be used as well as how the Murra Wurra 2 Wind Farm will be integrated into the West Murray Zone. The generator models are being updated to accommodate AEMO comments following an update to how the synchronous condenser will be operated and a change in the transformer impedance. In principle, approval from AEMO has been received, and the package is expected to be resubmitted in October. This rework will delay grid registration but should not impact the timeline for achievement of full operations. As of end September three turbines have been assembled and are being prepared for precommissioning.













## **PIPELINE**

This quarter deal flow activity was high with a significant number of transactions reviewed. There is a large wave of renewables projects developed between 2016-2018 with debt maturities that will require refinancing over the coming years. These deals will present opportunities for the fund as well as new greenfield opportunities.

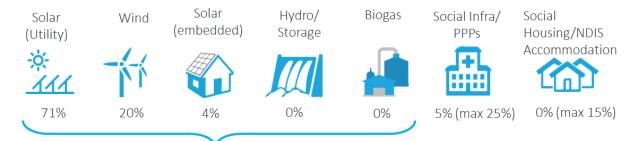
## **PORTFOLIO**

IEF has committed \$101 million to underlying loans, with \$87 million drawn and \$14 million to be drawn. The prospective yield to maturity of the portfolio is 4.2% or a spread of 3.9% above the 3-year Commonwealth Government bond rate of 0.3%. As at 30 September 2021, the interest rate duration of the portfolio is 2.1 years. The following table provides a summary as at 30 September 2021:

Investment	Weight (%)	Committed/ Drawn (\$m)	YTM (% p.a.)*	Maturity	Status
Yarranlea Solar Farm	24%	\$25.00	6-7%	2026	Invested
Murra Warra 2 Wind Farm	19%	\$20.00	2-3%	2025	Invested
Brigalow Solar Farm	8%	\$8.00	6-7%	2024	Invested
Uterne Solar Farm	6%	\$6.30	5-6%	2025	Invested
Swan Hill Solar Farm	5%	\$5.60	6-7%	2023	Invested
Darwin Cove Convention Centre	4%	\$4.00	4-5%	2033	Invested
Chinchilla Solar Farm	4%	\$3.80	6-7%	2024	Invested
Bamawm Solar Farm	3%	\$2.80	4-5%	2022	Drawing
Pine Lodge Solar Farm	3%	\$2.80	4-5%	2022	Drawing
Tatura Solar Farm	3%	\$2.80	4-5%	2022	Drawing
Yarroweyah Solar Farm	3%	\$2.80	4-5%	2022	Drawing
Stanhope Solar Farm	3%	\$2.80	4-5%	2022	Drawing
Yulara Solar	3%	\$2.90	5-6%	2025	Invested
Leeton Solar Farm	2%	\$2.50	4-5%	2025	Invested
Fivebough Solar Farm	2%	\$2.50	4-5%	2025	Invested
Trundle Solar Farm	2%	\$2.00	6-7%	2025	Invested
Peak Hill Solar Farm	2%	\$2.10	6-7%	2025	Invested
TKLN Solar	2%	\$1.60	5-6%	2025	Invested
Royal Womens' Hospital	1%	\$1.50	4-5%	2033	Invested
NSW Schools 2	1%	\$1.00	4-5%	2035	Invested



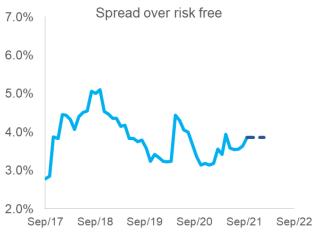
## PORTFOLIO DASHBOARD

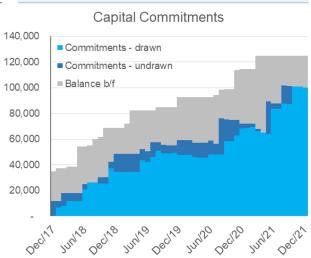


95% renewable energy

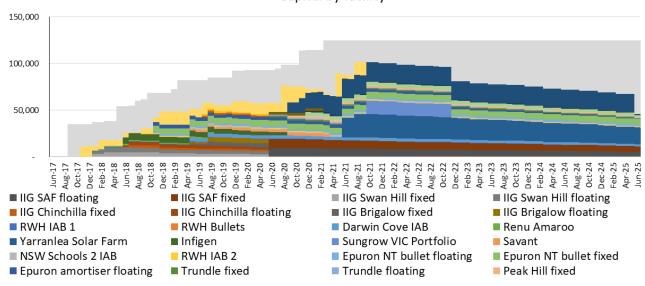
Returns	YTM	Spread
Current Portfolio	4.2 %	3.9 %
Portfolio + Pipeline	4.2 %	3.9 %

Portfolio loans	14
Projects funded	18
% under construction/operating	33.6/66.4%
% contracted/merchant/other	32/63/5%
Portfolio leverage	46.1%





#### Capital by facility





## Portfolio Environmental and/or Social benefit characteristics

INVESTMENT	PROJECT DESCRIPTION	POSITIVE SOCIAL AND/OR ENVIRONMENTAL CHARACTERISTICS
Royal Womens' Hospital PPP	RWH was redeveloped in 2005 under a Public Private Partnership (PPP) model. Under this model the private section builds and operates the hospital in exchange for an availability payment (effectively a rent) from the government. Clinical and administrative staff continue to be employed by the Victorian government	<ul> <li>Australia's first and largest specialist public hospital dedicated to improving the health and wellbeing of women and newborns.</li> <li>In 2018         <ul> <li>9,365 babies were born at RWH</li> <li>RWH provided over 249,000 episodes of care</li> </ul> </li> </ul>
Swan Hill Solar Farm	Located in Swan Hill Victoria, the project involves the construction of a 19.3 MWdc/14.4 MWac single axis tracking solar farm. The project is being developed by IIG as part of their Solar Assets Fund.	<ul> <li>The solar farm has an energy yield of 38 GWh per annum, displacing 45,000 tonnes per annum of CO2 emissions from the Victorian electricity grid.</li> <li>The project created 60 jobs during construction.</li> </ul>
Chinchilla Solar Farm	Located in Chinchilla Queensland, the project involves the construction of a 19.9 MWdc/14.7 MWac single axis tracking solar farm.	<ul> <li>The farm has an energy yield of 42 GWh per annum, displacing 33,000 tonnes per annum of CO2 emissions from the Queensland electricity grid.</li> <li>The project will directly create over 60 jobs during construction.</li> </ul>
Epuron NT Solar	Portfolio of NT solar assets at Uterne, Yulara and TKLN	<ul> <li>Supplying power to remote aboriginal communities.</li> <li>Displacement of highly polluting diesel generators both at the remote communities and at the Alice Springs grid with total renewable generation of approximately 13 GWh a year.</li> </ul>
Brigalow Solar	Located in Yarranlea Queensland, the project involves the construction of a 34.6 MWdc/27.2 MWac single axis tracking solar farm. The project is being developed by IIG as part of their Solar Assets Fund.	<ul> <li>The farm will have an expected yield of 71 GWh per annum, displacing 56,000 tonnes per annum of CO2 emissions from the Queensland electricity grid.</li> <li>The project will directly create over 80 jobs during construction.</li> </ul>
New South Wales Schools 2 PPP	Construction and ongoing operation of 10 schools in NSW. The schools include seven primary schools, two high school and one special needs school	<ul> <li>10 NSW schools including primary, high school and special needs schools.</li> <li>The schools serve 5,840 students (myschool statistics for the 2018 school year) include 5% indigenous students and 2% special needs students.</li> </ul>
Darwin Cove Convention Centre	Construction and operations of a convention centre.	<ul> <li>Supporting local community infrastructure critical to NT businesses and tourism.</li> </ul>
Trundle Solar Farm	Located near Parkes NSW, the project involves the construction of a 5 MWac/7 MWdc single axis tracking solar farm.	<ul> <li>14 GWh of generation displacing 11,480 tonnes of CO2 emissions per annum from the NSW grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>



Peak Hill Solar Farm	Located near Parkes NSW, the project involves the construction of a 5 MWac/7 MWdc single axis tracking solar farm.	<ul> <li>14 GWh of generation displacing 11,480 tonnes of CO2 emissions per annum from the NSW grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Leeton Solar Farm	Located near Leeton NSW, the project involves the construction of a 5 MWac/7 MWdc single axis tracking solar farm.	<ul> <li>14 GWh of generation displacing 11,480 tonnes of CO2 emissions per annum from the NSW grid.</li> <li>The Project will create approximately 40 jobs during construction</li> </ul>
Fivebough Solar Farm	Located near Leeton NSW, the project involves the construction of a 5 MWac/7 MWdc single axis tracking solar farm.	<ul> <li>14 GWh of generation displacing 11,480 tonnes of CO2 emissions per annum from the NSW grid.</li> <li>The Project will create approximately 40 jobs during construction</li> </ul>
Murra Warra Wind Farm Stage 2	Located near Horsham and Warracknabeal VIC, the project involves the construction of a 38-turbine wind farm with a total capacity of 209MW.	<ul> <li>800 GWh of generation displacing 850,000 tonnes of CO2 emissions per annum from the VIC grid</li> </ul>
Yarranlea Solar Farm	Located in Yarranlea Queensland, the project involves the construction of a 103 MWac/134MWdc single axis tracking solar farm. The project is being developed by Risen Energy.	<ul> <li>273 GWh per annum displacing approximately 215,000 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Yarroweyah Solar Farm	Located near Yarroweyah VIC, the project involves the construction of a 5 MWac/7 MWdc fixed tilt solar farm.	<ul> <li>11.6 GWh per annum displacing approximately 5,000 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Bamawm Solar Farm	Located near Bamawm VIC, the project involves the construction of a 5 MWac/7 MWdc fixed tilt solar farm.	<ul> <li>11.5 GWh per annum displacing approximately 4,900 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Pine Lodge Solar Farm	Located near Pine Lodge VIC, the project involves the construction of a 5 MWac/7 MWdc fixed tilt solar farm.	<ul> <li>10.3 GWh per annum displacing approximately 4,400 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Tatura Solar Farm	Located near Tatura VIC, the project involves the construction of a 5 MWac/7 MWdc fixed tilt solar farm.	<ul> <li>11.4 GWh per annum displacing approximately 4,900 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>
Stanhope Solar Farm	Located near Stanhope VIC, the project involves the construction of a 5 MWac/7 MWdc fixed tilt solar farm.	<ul> <li>11.4 GWh per annum displacing approximately 4,900 tonnes of CO2 emissions per annum in the Victorian grid.</li> <li>The Project will create 40 jobs during construction</li> </ul>