

#### **MARKET COMMENTARY**

#### **Economy**

The first quarter of 2019 saw continued economic growth across the Asia region, even as the pace of growth in developed markets such as the United States and Eurozone eased back. Fears of a US-driven trade war with China hit business and consumer confidence, with investment decisions in many countries put on hold amidst the general policy uncertainty. Sector-specific weakness in autos and capital goods seems set persist and those Asian economies which are more dependent on cross-border trade flows and which have benefited most from the increasing 'globalisation' of the past two decades have seen growth slip by more than those with a more domestic economic focus.

Against this uncertain backdrop, it was notable that in its Spring Economic Forecasts, the IMF downgraded its 2019 global and developed-market growth forecasts by 0.4% and 0.3% respectively but nudged down India and the ASEAN-5 (Indonesia, Malaysia, Philippines, Vietnam and Thailand) by only 0.1% from its autumn projections. Indeed, India's GDP growth is expected to pick up

from 7.1% in 2018 to 7.3% this year and 7.5% in 2020. At current exchange rates, it will be the fifth largest economy in the world by end-2019.

As growth held up relatively well in Q1, so the pass-through from lower oil prices in Q4 2018 helped push inflation lower across the Asia region. India's CPI is down from a recent peak of 4.9% to just 2.9% whilst the Philippines' CPI has tumbled from 6.7% in September last year to just 3.3% in March 2019. Crude oil's Q4 decline has been substantially reversed with a 30% rise in the first three months of this year from \$53.80 to \$68.30 per barrel and this is likely to now pressure inflation higher and again raise balance of payments concerns for Asia's major oil importing nations.

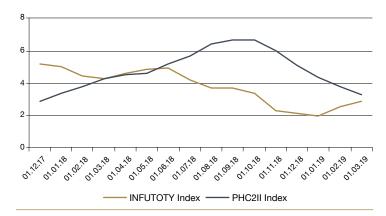
#### **Exchange Rates**

In this period, the US Dollar ended mostly unchanged against a weighted basket of the currencies of its 10 major trading partners. Amongst the major currencies, it rose against the EUR, CHF and JPY but fell against the GBP and CAD.

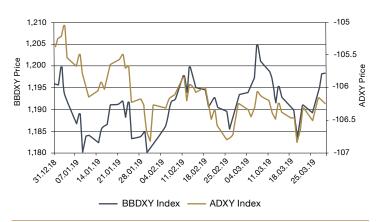
**IMF Spring 2019 Growth Forecast** 

		Proje	ctions		ice from 2018 WEO
	2018	2019	2020	2019	2020
World output	3.6	3.3	3.6	-0.4	-0.1
Advanced Economies	2.2	1.8	1.7	-0.3	0.0
Emerging and Developing Asia	6.4	6.3	6.3	0	-0.1
China	6.6	6.3	6.1	0.1	-0.1
India	7.1	7.3	7.5	-0.1	-0.2
Asean - 5	5.2	5.1	5.2	-0.1	0

**CPI Inflation falling sharply** 



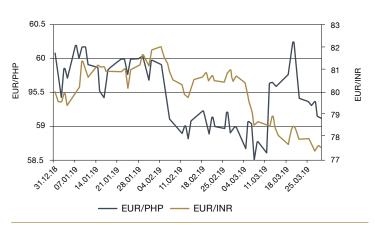
#### **USD** and **ADXY** currency indices



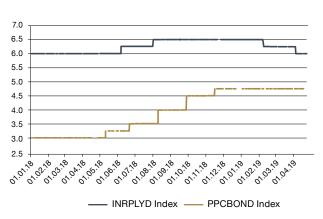
Currency movements in Asia were characterised by more concentrated gains against the US Dollar but less differentiation from strongest to weakest than amongst their G-10 counterparts. 8 of the 12 regional currencies rose and only 4 fell, with the THB at the top of the table and KRW at the bottom. A trade-weighted basket of 10 Asian currencies known as the ADXY Index rose against the USD from 105.38 to 106.23.

The Indian Rupee strengthened against the USD in Q1, whilst the Philippine Peso was unchanged although both currencies outperformed their respective 3-month forward rates quoted as at end-December. Spot USD/PHP moved from 52.39 to 52.70 over the period, having at one point touched a 10-month low of 51.74, whereas its 3-m implied forward rate had been 52.76. USD/INR, meantime, fell from 69.77 to 69.15 whilst its 3-m forward rate as at end-December was 70.25.

#### **EUR/PHP** and **EUR/INR** exchange rates



#### India and Philippines' official interest rates



Against the euro, the outperformance of the PHP and INR was more pronounced. EUR/PHP fell from 60.07 to 59.11 and in early March reached its lowest level in almost 20 months. EUR/INR fell from 80.00 to a 15-month low of 77.58.

#### Interest Rates

A dramatic shift in the Fed's 'forward guidance' on interest rates took place between the December 19th FOMC meeting and early January, prompted in no small part by a near-20% drop in the value of the US equity market. Its December projection of three 25bp rate hikes in 2019 was torn up as stocks plunged and on January 31st it formally abandoned its previous policy stance and bias.

Neither the Reserve Bank of India nor Bangko Sentral ng Pilipinas (BSP) have fixed exchange rates or targets for their currencies but the US volte-face gave them more freedom to reduce interest rates should they decide economic conditions warrant it. Falling oil prices pushed CPI lower in both countries and as balance of payments concerns also eased, the Indian Central Bank took the opportunity to reduce official policy rates. The RBI cut the reporate by 25bp to 6.25% at its February meeting; reversing one of the two hikes it had delivered in 2018.

At both its February and March meetings, the BSP's Monetary Board decided to keep the interest rate on its overnight reverse repurchase (RRP) facility unchanged at 4.75 percent. The sad and untimely death of Governor Espenilla has somewhat overshadowed monetary policymaking but his successor Benjamin Diokno is widely expected to cut interest rates in 2019 to support the government's economic growth ambitions.



#### **PROJECT INSIGHTS**

#### **BIOMASS PHILIPPINES**

#### San Carlos BioPower (SCBP)

At the end of this key quarter, the commissioning process is in its final stage, ahead of commercial operation in the second quarter. The site was visited by former President Gloria Macapagal Arroyo, current Speaker of the House of Representatives of the Philippines (House Speaker of the 17th Congress), who sponsored the original Renewable Energy Act in 2008, along with other leading local dignitaries. Planning for the formal inauguration ceremony is now underway.



During the first quarter, the boiler pressure test and the first of the series of steam blows, designed to clean and check the integrity of the boiler, were successfully completed. The last of these saw the boiler operating exclusively on cane trash. The steam turbine generator was tested with the first machine roll of the machinery set for April. The fuel systems are now fully commissioned and operational, and the final logic for the control system was programmed.

The Department of Energy have already completed their final reviews in early April, and on April 4th, we are delighted to announce that the Renewable Energy Purchase Agreement was awarded and signed, formally granting the Feed-in-Tariff to San Carlos Biopower Inc. This ensures the income of the plant for the first 20 years of its operating life supported by the Philippine government as part of the Renewable Energy Act and contracted through TRANSCO, its wholly owned subsidiary. By collecting the sugar cane trash, and then using it as fuel to create electricity, the plant will provide important additional income to the farmers, help clean both the earth and the air, and continue to support Negros Island's mission to be a leading community for the development and operation of sustainable energy resources.

Over recent months, SCBP has been building up the Operations and Maintenance team, who will gradually take over the plant during the second quarter. The company has established a power plant training programme, which has currently recruited 49 cadets. This will be an on-going process, which will be extended across all three projects during 2019.

#### South Negros BioPower (SNBP)

Good weather conditions continued through the first quarter, keeping construction on schedule and allowing engineering to reach already 80% completion. The procurement and fabrication of remaining equipment is also ahead of schedule at the end of this reporting period, and the team made several visits to China and India to check on progress in the factories. The quarter ended with the arrival at site of the third shipment of the boiler structure. Given that the rainy season will soon arrive, the key requirements to complete the drainage and core groundworks have been largely





met, and the team is confident of completion ahead of the first heavy rains. The site has during this reporting period averaged 700 workers per day. In March, South Negros Biopower Inc. and IslaSol Inc signed an agreement to share the existing transmission line.



#### North Negros BioPower (NNBP)

Good weather prevailed until the last few days of March. This was good for construction, which is ahead of schedule and has already reached 60% completion of the construction schedule. The total project has reached already 75% of the overall plan at the end of the first quarter, significantly ahead of the original target of 68% at this time. The Department of Energy is scheduled to visit at the end of April to sign off that the plant, by then, has achieved the 80% electromechanical completion.

This is the next key milestone to secure the Feed-in-Tariff also for this project. The procurement and fabrication of remaining equipment for North Negros BioPower is ahead of schedule at the end of this reporting period too, and the team made several visits to China and India to check on progress in the factories. Along with South Negros Biopower Inc, the quarter ended with the arrival at site of the third shipment of the boiler structure. On average during the quarter, there were 620 workers on site.

ThomasLloyd guarantees fair working conditions on its construction sites and projects, meeting the highest international standards. What's more, the livelihood of each person working for us is particularly important to us. With "Lacson-Bariw Village", ThomasLloyd has created a modern and affordable housing settlement for approximately 50 families near the North Negros BioPower site. The village celebrated its official opening in March 2019.

The plans for the properties and houses place a special emphasis on future residents being able to utilise natural sustainable resources to live self-sufficiently. Accordingly, almost 100 square metres of land provide enough space to maintain a garden that will help meet residents' living needs with home-grown fruits and vegetables. In addition, the house roofs were designed in such a way that the heavy seasonal rains – typical for the local climate – can be captured and stored in tanks for drinking and bathing. Furthermore, each house has a drainage system, electricity, and comes fitted with a kitchen, toilet, and bathroom.



# Solar plant Maharashtra I: VACUUMING ROBOTS START WORK

Currently, 4 robots have been installed to clean the horizontal single axis tracker modules and trial run for the seasonal tracker modules is underway. The robots are solar powered and are mounted on the existing module structure without the need for any additional supporting structure. The frequency of cleaning can be dynamically increased or decreased with the use of robots depending on dust condition thus increasing the efficiency of the plant. Upon full deployment of dry cleaning with robots, the Company will significantly improve the water situation in this region by reducing its demand for water which is scarce thus further creating positive impact in the region it is operating. The plan will gradually deploy this robotic dry cleaning technology across all its other plants.



#### **SOLAR INDIA**

#### Maharashtra I

Timely cleaning of the modules is very crucial for efficient operation of the plant and hence availability of water is very important. This region is dry and availability of sufficient quantity of water for cleaning the modules has been challenging. In line with the philosophy of sustainable investment, the company in this first quarter 2019, has initiated the process of implementing dry cleaning of the modules with robots.

#### Karnataka I

During this quarter, the plant achieved stabilisation (1 year of commercial operations), which allowed the management to further improve the equity returns of the project by refinancing the existing project debt for this plant with L&T Infra Debt Fund Limited and L&T Infrastructure Finance Company Limited. This refinancing has achieved an effective reduction in rate of interest of 1.02% and an increase of the debt to equity ratio in the project. With this refinancing the management of Company have successfully added a new lender to its portfolio. This has helped in diversifying the risk associated with banking with a single lender which is very crucial to continue the growth in adding further solar capacities in the portfolio.

#### Karnataka II

As reported in the last quarter this is the first site that will be constructed on lease hold land and the company has signed the necessary lease agreements. The total land area is about 117 acres. Management have been working towards project financial close during this quarter, and has signed a debt financing agreement with PTC India Financial Services Limited in March 2019.

The Company has also signed the EPC contract with Jakson Limited and module supply contract with JA Solar for a total of 82,431 panels during this quarter. The EPC has deployed 25 men and the machinery (excavators, mixer machine, steel cutting machine, vibrator etc.) on the site. Work on boundary wall, switchyard and main control room has started. The work on the module mounting structures and transmission line will commence in the next quarter and at its peak approximately 100 men will be working on the site.

The modules are being transported from China and are expected to arrive at the port in Chennai in first week of May and will arrive at the site by third week of May. Construction and procurement is on schedule and the plant is expected to achieve commercial operations during Q3 2019.



#### **Uttar Pradesh I**

For this project, the Company will acquire land in the Budaun district, Uttar Pradesh and accordingly has been working with a local land aggregator to identify suitable land parcels. Of the three sites identified, the Company has selected one and the land due diligence process including title searches shall be conducted in second quarter 2019. The total land required for this project would be approximately 325 acres. The land is barren with no habitation. The land acquisition is targeted to be completed during Q3 or Q4 of 2019. The Company has received grid connectivity approval to Bilsi substation which will be approximately 5 km from the proposed project site.

As the land has been identified, the Company has initiated discussions with its' current financial lenders for a debt facility at the project level and expects to sign the financing agreements by the end of Q3 2019. The process of tendering for EPC and modules supply contracts shall be undertaken during Q2 2019, post which negotiations with most competitive bidder shall be initiated.









## Biomass power plant

# San Carlos BioPower

#### **OVERVIEW**



PROJECT SITE Philippines



CAPACITY 20 MW



REACH OF ELECTRICITY SUPPLY 212,000 people



CO<sub>2</sub> REDUCTION **16,480** tonnes p.a.



INVESTMENT VOLUME (CAPEX)

95 million USD



Project Special Purpose Vehicle (SPV)	San Carlos Biopower Inc.
Location	<ul> <li>San Carlos Ecozone (Agro-Industrial Economic Zone), Circumferential Road,</li> <li>Barangay Palampas, San Carlos City, Province of Negros Occidental, Philippines</li> <li>Coordinates: 10 30 36 N, 123 25 16 E</li> </ul>
Technical Specifications	<ul> <li>Project site: 210,000 m²</li> <li>Feedstock type: primarely cane trash with some grassy and woody energy crop plants (ECP)</li> <li>Feedstock utilisation: 170,000 tonnes per year</li> <li>Feedstock availability: 1.1 million tonnes per year of biomass are available within a 40 km-radius catchment area</li> <li>Grid connection: To an existing 69 kV substation, 1.5 km away</li> </ul>
New permanent jobs	600 in the plant / 2,000 in feedstock production and collection
Supplier/Manufacturer	Boiler: Wuxi Huaguang Boiler (China); Turbine: Harbin Turbine (China); Generator: Shandong Jinan Power Equipment Factory (China); Motors, Transmitters: ABB (Switzerland); Pneumatic Control Valve/Actuator: Nihon Koso (Japan); Boiler Feed Pumps: Sulzer (Switzerland); Gearboxes: Siemens (Germany); Mobile Fuel Shredder: Roto Grind (Germany); Tractors: Massey Ferguson (USA); Forage Wagons, Rotary Rakes: Pöttinger (Austria); V Rakes: Hodge Industries (Australia); Baler: Nantong Cotton Machinery (China)
General Contractor (EPC)	Wuxi Huaguang Electric Power Engineering Co., Ltd.
Operations & Maintenance	Wuxi Huaguang Power Systems (Phils) Inc.
Owner's Engineer	Poyry Energy Inc.
Lender's Engineer	Sargent & Lundy LLC
Electricity Offtake Counterparty	<ul> <li>Interconnection Agreement with Victorias-Manapla-Cadiz Rural Electric Service Cooperative Inc. (VRESCO)</li> <li>Renewable Energy Purchase Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tarif Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with stable outlook, Moody's: Baa2 with positive outlook, Fitch: BBB- with stable outlook
Specifications of the Power Purchase Agreement	Statutorily guaranteed feed-in-tariff rate of PHP 6.63 (USD 0.15) per kWh plus an annual escalation in electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 22.6 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	During the first 12 month of full operations: Performance Security issued by the Bank of Communications over the EPC.
Project Insurance Coverage (amount insured)	<ul> <li>Transportation Insurance incl. Delay in Start-Up Insurance (USD 48.28 million)</li> <li>Contractors All Risk Insurance incl. damage from natural disaster (USD 46.14 million) and integrated Third Party Liability Insurance (USD 1.19 million) and Delay in Start-Up Insurance (USD 25.17 million)</li> <li>Equipment and Building Insurance (USD 3.59 million)</li> </ul>
Insurer (coverage ratio)	<ul> <li>Transportation Insurance: AIG Philippines Insurance (50%), C.V. Starr (30%), Charter Ping An (20%)</li> <li>Contractors All Risk Insurance: AIG Philippines Insurance (25%), Malayan Insurance (20%), Mapfre Insular (17.5%), Charter Ping An (7.5%), Federal Phoenix Assurance (12.5%) and BPI MS Insurance (17.5%)</li> <li>Equipment and Building insurance: AIG Philippines Insurance (74%), Philippine National Bank Insurance (3%), FPG Insurance (10%), Charter Ping An Insurance (11%), Empire Insurance (2%)</li> </ul>
Commercial Operations Date (COD) based on EPC contract	Q4 2017









Biomass power plant

# South Negros BioPower

#### **OVERVIEW**



PROJECT SITE Philippines



CAPACITY 25 MW



REACH OF ELECTRICITY SUPPLY 265,000 people

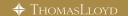


CO<sub>2</sub> REDUCTION **20,600** tonnes p.a.



INVESTMENT VOLUME (CAPEX) 103.6 million USD





Project Special Purpose Vehicle (SPV)	South Negros BioPower Inc.
Location	<ul> <li>Agro-Industrial Land, National Highway, Barangay Cubay, La Carlota City, Province of Negros Occidental, Philippines</li> <li>Coordinates: 10 25 23.32 N, 122 56 13.11 E</li> </ul>
Technical Specifications	<ul> <li>Project site: 300,000 m²</li> <li>Feedstock type: primarely cane trash with some grassy and woody energy crop plants (ECP)</li> <li>Feedstock utilisation: 220,000 tonnes per year</li> <li>Feedstock availability: 1.4 million tonnes per year of biomass are available within a 50 km-radius catchment area</li> <li>Grid connection: to the existing 69 kV substation in San Enrique, 8 km away</li> </ul>
New permanent jobs	675 in the plant / 2,500 in feedstock production and collection
Supplier/Manufacturer	Boiler: Wuxi Huaguang Boiler (China), Turbine: Harbin Turbine (China), Generator: Shandong, Jinan Power Equipment Factory (China) Motors, Transmitters: ABB (Switzerland), Pneumatic Control Valve/Actuator: Nihon Koso (Japan), Boiler Feed Pumps: Sulzer (Switzerland), Gearboxes: Siemens (Germany), Mobile Fuel Shredder: Roto Grind (Germany), Tractors: Massey Ferguson (USA), Forage Wagons, Rotary Rakes: Pöttinger (Austria), V Rakes: Hodge Industries (Australia), Baler: Nantong Cotton Machinery (China)
General Contractor (EPC)	Wuxi Huaguang Electric Power Engineering Co., Ltd.
Operations & Maintenance	Wuxi Huaguang Power Systems (Phils) Inc.
Owner's Engineer	Poyry Energy Inc.
Lender's Engineer	Sargent & Lundy LLC
Electricity Offtake Counterparty	<ul> <li>Interconnection Agreement with Negros Occidental Electric Cooperative Inc. (NOCECO)</li> <li>Renewable Energy Purchase Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tarif Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with stable outlook, Moody's: Baa2 with positive outlook, Fitch: BBB- with stable outlook
Specifications of the Power Purchase Agreement	Statutorily guaranteed feed-in-tariff rate of PHP 6.63 (USD 0.15) per kWh plus an annual escalation in electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 28.2 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	During the first 12 month of full operations: Performance Security issued by the Bank of Communications over the EPC.
Project Insurance Coverage (amount insured)	Insurance coverage on a pro rata basis identical to San Carlos BioPower will be implemented.  Currently:  Property all risk insurance for Administration building (USD 0.46m)  Biomass fuel stock insurance (USD 0.5m)  Transloading station building, equipment and motorpool insurance (USD 0.74m)
Insurer (coverage ratio)	<ul> <li>Property all risk insurance: Philippine National Bank (100%)</li> <li>Biomass Stock Insurance: Pioneer (30%), Charter Ping An (40%), Mercantile (30%)</li> <li>Transloading station Insurance: Charter Ping An (100%)</li> </ul>
Status	Under construction since Q2 2016
Commercial Operations Date (COD) based on EPC contract	Q4 2019









Biomass power plant

# North Negros BioPower

#### **OVERVIEW**



PROJECT SITE Philippines



CAPACITY 25 MW



REACH OF ELECTRICITY SUPPLY 265,000 people

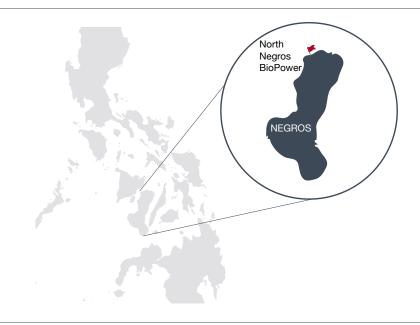


CO<sub>2</sub> REDUCTION **20,600** tonnes p.a.



INVESTMENT VOLUME (CAPEX)

105 million USD





Project Special Purpose Vehicle (SPV)	North Negros BioPower Inc.
Location	Agro-Industrial Land, Barangay Sta. Teresa, Municipality of Manapla, Province of Negros Occidental, Philippines
	Coordinates: 10 56 30.87 N, 123 10 20.42 E
Technical Specifications	Project site: 252,900 m <sup>2</sup>
	<ul> <li>Feedstock type: primarely cane trash with some grassy and woody energy crop plants (ECP)</li> <li>Feedstock utilisation: 244,000 tonnes per year</li> </ul>
	Feedstock availability: 2.1 million tonnes per year of biomass are available within a 50 km-radius
	catchment area
	Grid connection: To an existing 69 kV transmission line, 0.10 km away
New permanent jobs	675 in the plant / 2,500 in feedstock production and collection
Supplier/Manufacturer	Boiler: Jinan Boiler Group Company Ltd (China), Steam Turbine: Siemens (India), Generator: TBC, Motors, Transmitters: TBC, Pneumatic Control Valve/Actuator: TBC, Boiler Feed Pumps: TBC, Gearboxes: TBC, Mobile
	Fuel Shredder: TBC, Tractors: Massey Ferguson (USA), Forage Wagons, Rotary Rakes: Pöttinger (Austria), V Rakes: Hodge Industries (Australia), Baler: Nantong Cotton Machinery (China)
General Contractor (EPC)	Poyry Energy Inc.
Operations & Maintenance	North Negros BioPower Inc.
Owner's Engineer	TBC
Lender's Engineer	Sargent & Lundy LLC
Electricity Offtake Counterparty	Interconnection Agreement with Northern Negros Electric Cooperative (NONECO)
	<ul> <li>Renewable Energy Payment Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tarif Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with positive outlook, Moody's: Baa2 with stable outlook, Fitch: BBB- with stable outlook
Specifications of the Power	Statutorily guaranteed feed-in-tariff rate of PHP 6.53 (USD 0.13) per kWh plus an annual escalation in
Purchase Agreement	electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 28.8 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	During the first 12 month of full operations: Performance Security issued by Nordea Bank AB, Finland Branch over the EPC.
Project Insurance Coverage (amount insured)	Insurance coverage on a pro rata basis identical to San Carlos BioPower will be implemented.
Insurer (coverage ratio)	Syndicate for insurance coverage will be appointed through Lacson & Lacson.
Status	Under construction since Q2 2018
Commercial Operations Date (COD) based on EPC contract	Q4 2019









## Solar power plant

# San Carlos Solar Energy II A

#### **OVERVIEW**



PROJECT SITE Philippines



CAPACITY 18 MW



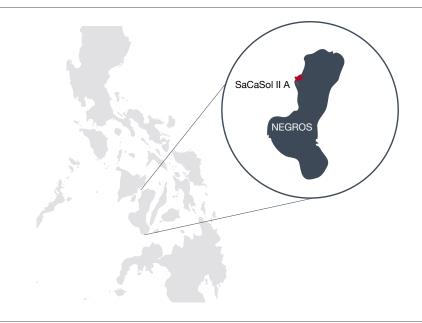
REACH OF ELECTRICITY SUPPLY 41,000 people



CO<sub>2</sub> REDUCTION 14,832 tonnes p.a.



INVESTMENT VOLUME (CAPEX) 41.4 million USD



Project Special Purpose Vehicle (SPV)	Negros Island Solar Power Inc.
Location	<ul> <li>National Highway, Barangay Cubay, La Carlota City, Province of Negros Occidental, Philippines</li> <li>Coordinates: 10 25 22.84 N, 122 56 12.52 E</li> </ul>
Technical Specifications	<ul> <li>Project site: 247,300 m²</li> <li>Solar irradiation at project site: 1,843 kWh/m²/year (PV Syst)</li> <li>Grid connection: To an existing 69 kV substation, 12 km away</li> </ul>
New permanent jobs	7 in the plant
Supplier/Manufacturer	Solar Panels: Conergy (Germany), Mounting Systems: Mounting Systems (Germany), Inverters: SMA Solar Technology (Germany), Monitoring System: Hensel (Germany), Cables and Wires: General Cable (USA), Philflex (Philippines), Spaced Aerial Cables: Bangkok Cable (Thailand), Junction Boxes, Optical Cables, Connectors and Tool, Boxes: Huber+Suhner (Switzerland), Transformers: Schneider Electric (France)
General Contractor (EPC)	<ul> <li>Conergy Asia &amp; ME Pte. Ltd. (EP: Engineering, Procurement)</li> <li>SJR Industrial Construction (Construction - groundworks and foundations)</li> <li>Schema Konsult, Inc. (Construction - electrical works and erection)</li> </ul>
Operations & Maintenance	Conergy Asia & ME Pte. Ltd.
Owner's Engineer	Syntegra Solar International AG
Electricity Offtake Counterparty	<ul> <li>Interconnection Agreement with National Grid Corporation</li> <li>Renewable Energy Purchase Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tariff Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with stable outlook, Moody's: Baa2 with positive outlook, Fitch: BBB- with stable outlook
Specifications of the Power Purchase Agreement	Statutorily guaranteed feed-in-tariff degressed rate of PHP 8.69 (USD 0.19) per kWh plus an annual escalation in electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 5.19 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>During construction/erection: performance bond issued by Deutsche Bank for the EP.</li> <li>During operations: performance ratio guarantee with a maturity of 5+5 years of an 'investment grade' bank based in a OECD-country, structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> </ul>
Project Insurance Coverage (amount insured)	<ul> <li>Contractors All Risks Insurance covering material damage (USD 30,871,860), third party liability (USD 594,008) and delay in start-up (USD 3,098,194)</li> <li>Contractors Equipment Insurance (USD 403,949)</li> <li>Erection All Risks Insurance (USD 1,608,186)</li> <li>Transmission Line All Erection Risk Insurance (USD 904,604)</li> </ul>
Insurer (coverage ratio)	AIG Philippines Insurance (29%), Pioneer Insurance and Surety (28%), Mapfre Insular Insurance (18%), Federal Phoenix Assurance (14%), New India (5%), Malayan Insurance (4%) and UCPB General Insurance (2%).
Status	In full commercial operation since March 2016









Solar power plant

# San Carlos Solar Energy II B

#### **OVERVIEW**



PROJECT SITE Philippines



CAPACITY **14 MW** 



REACH OF ELECTRICITY SUPPLY 32,000 people



CO<sub>2</sub> REDUCTION 11,536 tonnes p.a.



INVESTMENT VOLUME (CAPEX) 24.8 million USD



Project Special Purpose Vehicle (SPV)	Negros Island Solar Power Inc.
Location	<ul> <li>National Highway, Barangay Cubay, La Carlota City, Province of Negros Occidental, Philippines</li> <li>Coordinates: 10 25 22.84 N, 122 56 12.52 E</li> </ul>
Technical Specifications	<ul> <li>Project site: 200,000 m²</li> <li>Solar irradiation at project site: 1,843 kWh/m²/year (PV Syst)</li> <li>Grid connection: To an existing 69 kV substation, 12 km away</li> </ul>
New permanent jobs	7 in the plant
Supplier/Manufacturer	Solar Panels: Conergy (Germany), Mounting Systems: Mounting Systems (Germany), Inverters: SMA Solar Technology (Germany), Monitoring System: Hensel (Germany), Cables and Wires: General Cable (USA), Philflex (Philippines), Spaced Aerial Cables: Bangkok Cable (Thailand), Junction Boxes, Optical Cables, Connectors and Tool, Boxes: Huber+Suhner (Switzerland), Transformers: Schneider Electric (France)
General Contractor (EPC)	<ul> <li>Conergy Asia &amp; ME Pte. Ltd. (EP: Engineering, Procurement)</li> <li>SJR Industrial Construction (Construction - groundworks and foundations)</li> <li>Schema Konsult, Inc. (Construction - electrical works and erection)</li> </ul>
Operations & Maintenance	Conergy Asia & ME Pte. Ltd.
Owner's Engineer	Syntegra Solar International AG
Electricity Offtake Counterparty	<ul> <li>Interconnection Agreement with National Grid Corporation</li> <li>Renewable Energy Purchase Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tariff Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with stable outlook, Moody's: Baa2 with positive outlook, Fitch: BBB- with stable outlook
Specifications of the Power Purchase Agreement	Statutorily guaranteed feed-in-tariff degressed rate of PHP 8.69 (USD 0.19) per kWh plus an annual escalation in electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 3.95 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>During construction/erection: performance bond issued by Deutsche Bank for the EP.</li> <li>During operations: performance ratio guarantee with a maturity of 5+5 years of an 'investment grade' bank based in a OECD-country, structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> </ul>
Project Insurance Coverage (amount insured)	<ul> <li>Contractors All Risks Insurance covering material damage (USD 21,249,664), third party liability (USD 594,008) and delay in start-up (USD 2,119,946)</li> <li>Transmission Line All Erection Risk Insurance (USD 703,581)</li> </ul>
Insurer (coverage ratio)	Malayan Insurance (39%), Pioneer Insurance (29%), AIG Philippines Insurance (29%) and UCPB General Insurance (3%)
Status	In full commercial operation since March 2016









Solar power plant

# San Carlos Solar Energy III

## **OVERVIEW**



PROJECT SITE Philippines



CAPACITY 48 MW



REACH OF ELECTRICITY SUPPLY 100,000 Menschen



CO<sub>2</sub> REDUCTION **39.552** Tonnen p.a.



INVESTMENT VOLUME (CAPEX) 95 Mio. USD





Project Special Purpose Vehicle (SPV)	Negros Island Solar Power Inc.
Location	<ul> <li>Hacienda Sicaba Lacson, Barangay Sta. Teresa, Municipality of Manapla, Province of Negros Occidental, Philippines</li> <li>Coordinates: 10 56 53.60 N, 123 09 56.77 E</li> </ul>
Technical Specifications	<ul> <li>Project site: 638,000 m²</li> <li>Solar irradiation at project site: 1,911 kWh/m²/year (PV Syst)</li> <li>Grid connection: To an existing 69 kV substation, 15 km away</li> </ul>
New permanent jobs	20 in the plant
Supplier/Manufacturer	Solar Panels: Conergy (Germany), Mounting Systems: Mounting Systems (Germany), Inverters: SMA Solar Technology (Germany), Monitoring System: Hensel (Germany), Cables and Wires: General Cable (USA), Philflex (Philippines), Spaced Aerial Cables: Bangkok Cable (Thailand), Junction Boxes, Optical Cables, Connectors and Tool, Boxes: Huber+Suhner (Switzerland), Transformers: Schneider Electric (France)
General Contractor (EPC)	<ul> <li>Conergy Asia &amp; ME Pte. Ltd. (EP: Engineering, Procurement)</li> <li>SJR Industrial Construction (Construction - groundworks and foundations)</li> <li>Phesco, Inc. (Construction - electrical works and erection)</li> </ul>
Operations & Maintenance	Conergy Asia & ME Pte. Ltd.
Owner's Engineer	Syntegra Solar International AG
Electricity Offtake Counterparty	<ul> <li>Interconnection Agreement with National Grid Corporation</li> <li>Renewable Energy Purchase Agreement with National Transmission Corporation (Administrator of the government backed Feed-in Tariff Fund)</li> </ul>
Credit Rating Electricity Offtake Counterparty	Standard & Poor's: BBB with stable outlook, Moody's: Baa2 with positive outlook, Fitch: BBB- with stable outlook
Specifications of the Power Purchase Agreement	Statutorily guaranteed feed-in-tariff degressed rate of PHP 8.69 (USD 0.19) per kWh plus an annual escalation in electricity prices to account for inflation and exchange rate fluctuations. The rate has been set and approved for 20 years by the Government's Energy Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 14.10 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>During construction/erection: performance bond issued by Deutsche Bank for the EP.</li> <li>During operations: performance ratio guarantee with a maturity of 5+5 years of an 'investment grade' bank based in a OECD-country, structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> </ul>
Project Insurance Coverage (amount insured)	<ul> <li>Erection All Risks Insurance covering material damage (USD 73,284,240), third party liability (USD 594,008) and delay in start-up (USD 7,582,265)</li> <li>Transmission Line All Erection Risk Insurance (USD 1,872,599)</li> </ul>
Insurer (coverage ratio)	AIG Philippines Insurance (29%), Pioneer Insurance and Surety (28%), Mapfre Insular Insurance (20%), Malayan Insurance (20%) and UCPB General Insurance (2%)
Status	In full commercial operation since March 2016









Solar power plant

# Telangana I

#### **OVERVIEW**



PROJECT SITE India



CAPACITY
12 MW



REACH OF ELECTRICITY SUPPLY 18,277 people

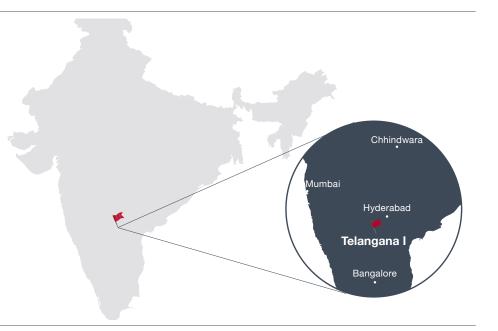


CO<sub>2</sub> REDUCTION **8,240** tonnes p.a.



INVESTMENT VOLUME (CAPEX)

11.8 million USD





Project Special Purpose Vehicle (SPV)	Talettutayi Solar Projects Private Limited ("Telangana I")
Location	<ul> <li>Palwai Village, Mahbubnagar District, State of Telangana, India</li> <li>Coordinates: 16.153026° N, 77.763979° E</li> </ul>
Technical Specifications	<ul> <li>Project site: 163,594 m²</li> <li>Solar irradiation at project site: 1,987.7 kWh/m²/year (SolarGIS)</li> <li>Grid connection: To an existing 33 kV Gadwal TSTRANSCO substation, 13.5 km away</li> <li>Fixed tilt mounting structure, using polycrystalline solar PV technology</li> <li>19,278 modules of rating 310Wp and 19,152 modules of rating 315Wp</li> </ul>
New permanent jobs	8 in the plant
Supplier/Manufacturer	Solar Modules: Trina Solar (China); Solar Inverters: ABB (Switzerland); Inverter Transformer: Voltamp (India); Mounting Systems: Profab (India), Metalkraft (India) and Aircon (India); Control Panels: Avana (India); HT Cables: Havells (India); LT Cables: Havells (India); String Cable: Lapp (Germany); Junction Boxes: Statcon (India)
General Contractor (EPC)	Sterling and Wilson Pvt. Ltd.
Operations & Maintenance	Sterling and Wilson Pvt. Ltd.
Lender's Engineer	Sgurr Energy India
Electricity Offtake Counterparty	Grid Connection Agreement and Power Purchase Agreement with Southern Power Distribution Company of Telangana Limited
Credit Rating Electricity Offtake Counterparty	CARE: B+
Specifications of the Power Purchase Agreement (PPA)	Statutorily guaranteed Tariff fixed rate INR 6.89 (USD 0.11) per kWh, allocated through a reverse auction bidding process. The rate has been set and approved for 25 years by the Telangana State Electricity Regulation Commission.
Minimum guaranteed revenue in the first full year of operations	USD 2.2 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>EPC: Unconditional and irrevocable bank guarantee (performance ratio guarantee) with a maturity of 5 years by the Union Bank of India. Structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> <li>Solar Modules: 25-year power output warranty provided by Trina Solar and underwritten by PowerGuard.</li> </ul>
Project Insurance Coverage (amount insured)	Industrial All Risks Policy (USD 10.63 million)
Insurer	New India Assurance Company (100%)
Status	In full commercial operation since June 2016









## Solar power plant

# Telangana II

#### **OVERVIEW**



PROJECT SITE India



CAPACITY
12 MW



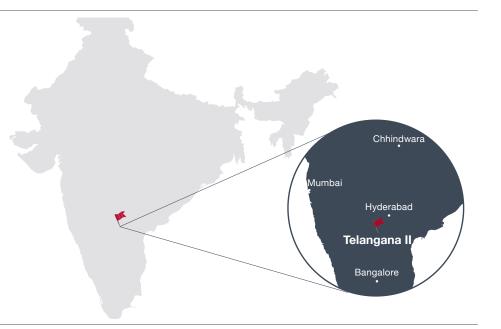
REACH OF ELECTRICITY SUPPLY 18,277 people



CO<sub>2</sub> REDUCTION **8,240** tonnes p.a.



INVESTMENT VOLUME (CAPEX)
11.8 million USD



Project Special Purpose Vehicle (SPV)	Talettutayi Solar Projects Private Limited ("Telangana II")
Location	<ul> <li>Palwai Village, Mahbubnagar District, State of Telangana, India</li> <li>Coordinates: 16.153026° N, 77.763979° E</li> </ul>
Technical Specifications	<ul> <li>Project site: 163,594 m²</li> <li>Solar irradiation at project site: 1,987.7 kWh/m²/year (SolarGIS)</li> <li>Grid connection: To an existing 33 kV Gadwal TSTRANSCO substation, 13.5 km away</li> <li>Fixed tilt mounting structure, using polycrystalline solar PV technology</li> <li>19,278 modules of rating 310Wp and 19,152 modules of rating 315Wp</li> </ul>
New permanent jobs	8 in the plant
Supplier/Manufacturer	Solar Modules: Trina Solar (China); Solar Inverters: ABB (Switzerland); Inverter Transformer: Voltamp (India); Mounting Systems: Profab (India), Metalkraft (India) and Aircon (India); Control Panels: Avana (India); HT Cables: Havells (India); LT Cables: Havells (India); String Cable: Lapp (Germany); Junction Boxes: Statcon (India)
General Contractor (EPC)	Sterling and Wilson Pvt. Ltd.
Operations & Maintenance	Sterling and Wilson Pvt. Ltd.
Lender's Engineer	Sgurr Energy India
Electricity Offtake Counterparty	Grid Connection Agreement and Power Purchase Agreement with Southern Power Distribution Company of Telangana Limited
Credit Rating Electricity Offtake Counterparty	CARE: B+
Specifications of the Power Purchase Agreement (PPA)	Statutorily guaranteed Tariff fixed rate INR 6.89 (USD 0.11) per kWh, allocated through a reverse auction bidding process. The rate has been set and approved for 25 years by the Telangana State Electricity Regulation Commission.
Minimum guaranteed revenue in the first full year of operations	USD 2.2 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>EPC: Unconditional and irrevocable bank guarantee (performance ratio guarantee) with a maturity of 5 years by the Union Bank of India. Structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> <li>Solar Modules: 25-year power output warranty provided by Trina Solar and underwritten by PowerGuard.</li> </ul>
Project Insurance Coverage (amount insured)	Industrial All Risks Policy (USD 10.63 million)
Insurer	New India Assurance Company (100%)
Status	In full commercial operation since June 2016









# Solar power plant

## Maharashtra I

#### **OVERVIEW**



PROJECT SITE India



CAPACITY **67.2 MW** 



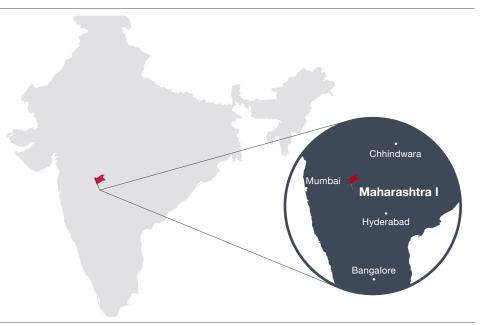
REACH OF ELECTRICITY SUPPLY 126,196 people

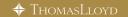


 $CO_2$  REDUCTION 41,200 tonnes p.a.



INVESTMENT VOLUME (CAPEX) 60.3 million USD





Project Special Purpose Vehicle (SPV)	Talettutayi Solar Projects Four Private Limited ("Maharashtra I")
Location	<ul> <li>Chatgaon Village, Beed District, State of Maharashtra, India</li> <li>Coordinates: 18.961683° N, 76.212849° E</li> </ul>
Technical Specifications	<ul> <li>Project site: 1,239,654 m²</li> <li>Solar irradiation at project site: 1,954 kWh/m²/year (SolarGIS)</li> <li>Grid connection: To an existing 132 kV Talegaon MSETCL substation, 5.5 km away</li> <li>Part of the plant uses a seasonal tracking system with the remaining using a horizontal single axis tracking system, using polycrystalline solar PV technology</li> <li>102,241 modules of rating 325Wp and 104,774 modules of rating 320Wp</li> </ul>
New permanent jobs	94 in the plant
Supplier/Manufacturer	Solar Modules: JA Solar (China); Solar Inverters: Sungrow (China); Inverter Transformer: Sudhir (India); Power Transformer: Voltamp (India); Horizontal Single Axis Tracker: Arctech Solar (China); Mounting Systems: Arctech Solar (China), Tata (India); Control Panels: Ashida (India), Symatic (India); HT Cables: Polycab (India); LT Cables: Polycab (India); String Cable: Uniflex Cable Unicab (India); Junction Boxes: Trinity Touch (United Kingdom)
General Contractor (EPC)	Tata Power Solar Systems Pvt. Ltd.
Operations & Maintenance	Tata Power Solar Systems Pvt. Ltd.
Lender's Engineer	TUV Rheinland (India) Pvt. Ltd.
Electricity Offtake Counterparty	<ul> <li>Grid Connection Agreement with Maharashtra State Electricity Distribution Company Limited</li> <li>Power Purchase Agreement with Solar Energy Corporation of India (SECI)</li> </ul>
Credit Rating Electricity Offtake Counterparty	ICRA: AA+
Specifications of the Power Purchase Agreement (PPA)	Statutorily guaranteed Tariff fixed rate INR 4.43 (USD 0.07) per kWh, allocated through a reverse auction bidding process. The rate has been set and approved for 25 years by Solar Energy Corporation of India.
Minimum guaranteed revenue in the first full year of operations	USD 9.9 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>EPC: Unconditional and irrevocable bank guarantee (performance ratio guarantee) with a maturity of 5 years by the State Bank of India. Structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> <li>Solar Modules: 25-year power output warranty provided by JA Solar and underwritten by PowerGuard.</li> </ul>
Project Insurance Coverage (amount insured)	Industrial All Risks Policy (USD 61.74 million)
Insurer	ICICI Lombard General Insurance Company (100%)
Status	In full commercial operation since August 2017









# Solar power plant Karnataka I

# OVERVIEW



PROJECT SITE India



CAPACITY 40.5 MW



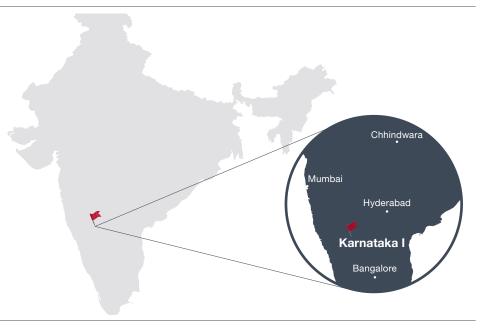
REACH OF ELECTRICITY SUPPLY 72,236 people



 $CO_2$  REDUCTION **24,720** tonnes p.a.



INVESTMENT VOLUME (CAPEX) 35 million USD





Project Special Purpose Vehicle (SPV)	Talettutayi Solar Projects One Private Limited ("Karnataka I")
Location	<ul> <li>Chikkoppa Village, Koppal District, State of Karnataka, India</li> <li>Coordinates 15.652016° N, 75.992484° E</li> </ul>
Technical Specifications	<ul> <li>Project site: 721,049 m²</li> <li>Solar irradiation at project site: 1,973.7 kWh/m²/year (SolarGIS)</li> <li>Grid connection: To an existing 110 kV Yelburga KPTCL substation, 5.5 km away</li> <li>Fixed tilt mounting structure, using polycrystalline solar PV technology</li> <li>62,360 modules of rating 325Wp and 62,720 modules of rating 320Wp</li> </ul>
New permanent jobs	32 in the plant
Supplier/Manufacturer	Solar Modules: JA Solar (China); Solar Inverters: Sungrow (China); Inverter Transformer: Shilchar (India); Power Transformer: Raychem (India); Mounting Systems: NewSol AG (Switzerland); Control Panels: ERL (India), Techno Craft (India); HT Cables: Polycab (India); LT Cables: Polycab (India); String Cable: Lapp (Germany); Junction Boxes: Trinity Touch (United Kingdom)
General Contractor (EPC)	Juwi India Renewable Energies Pvt. Ltd.
Operations & Maintenance	Juwi India Renewable Energies Pvt. Ltd.
Lender's Engineer	TUV Rheinland (India) Pvt. Ltd.
Electricity Offtake Counterparty	<ul> <li>Grid Connection Agreement with Karnataka Power Transmission Corporation</li> <li>Power Purchase Agreement with Solar Energy Corporation of India (SECI)</li> </ul>
Credit Rating Electricity Offtake Counterparty	ICRA: AA+
Specifications of the Power Purchase Agreement (PPA)	Statutorily guaranteed Tariff fixed rate INR 4.43 (USD 0.07) per kWh, allocated through a reverse auction bidding process. The rate has been set and approved for 25 years by Solar Energy Corporation of India.
Minimum guaranteed revenue in the first full year of operations	USD 5.63 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	<ul> <li>EPC: Unconditional and irrevocable bank guarantee (performance ratio guarantee) with a maturity of 5 years by ANZ Banking Group. Structured as a CFD (contract for difference) which guarantees the difference between contracted revenue and actual energy production of the plant.</li> <li>Solar Modules: 25-year power output warranty provided by JA Solar and underwritten by PowerGuard</li> </ul>
Project Insurance Coverage (amount insured)	Industrial All Risks Policy (USD 33.35 million)
Insurer	ICICI Lombard General Insurance Company (100%)
Status	In full commercial operation since January 2018









Solar power plant Karnataka II



PROJECT SITE India



CAPACITY **27 MW** 



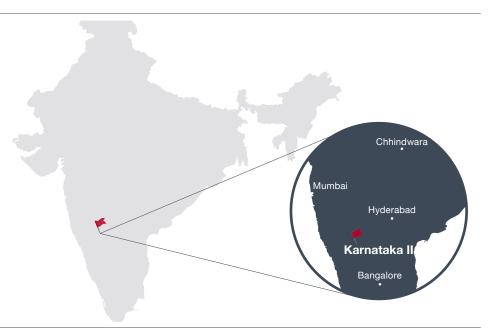
REACH OF ELECTRICITY SUPPLY 41,988 people



CO<sub>2</sub> REDUCTION **16,553** tonnes p.a.



INVESTMENT VOLUME (CAPEX)
13.8 million USD



Project Special Purpose Vehicle (SPV)	Talettutayi Solar Projects One Private Limited ("Karnataka II")
Location	<ul> <li>Kerehalli Village, Koppal District, State of Karnataka, India</li> <li>Coordinates 15.371604° N, 76.307229° E</li> </ul>
Technical Specifications	<ul> <li>Project site: 484,328 m²</li> <li>Solar irradiation at project site: 2,026 kWh/m²/year (SolarGIS)</li> <li>Grid connection: To an existing 110 kV Kerehalli KPTCL substation, 2 km away</li> <li>Fixed tilt mounting structure, using polycrystalline solar PV technology</li> <li>29,295 modules of rating 325Wp and 53,136 modules of rating 330Wp</li> </ul>
New permanent jobs	12 in the plant
Supplier/Manufacturer	Solar Modules: JA Solar (China), Solar Inverters: TBEA (China), Inverter Transformer: Shilchar (India), Power Transformer: Voltamp (India), Mounting Systems: Ganges Internationale, Control Panels: TBD, HT Cables: Apar Industries Ltd. (India), LT Cables: Apar Industries Ltd. (India), String Cable: Apar Industries Ltd. (India), Junction Boxes: Trinity Touch (United Kingdom)
General Contractor (EPC)	Jakson Limited
Operations & Maintenance	Jakson Limited (5 years)
Lender's Engineer	TUV Rheinland (India) Pvt. Ltd.
Electricity Offtake Counterparty	<ul> <li>Grid Connection Agreement with Karnataka Power Transmission Corporation</li> <li>Power Purchase Agreement with Bangalore Electricity Supply Company (BESCOM)</li> </ul>
Credit Rating Electricity Offtake Counterparty	ICRA: A
Specifications of the Power Purchase Agreement (PPA)	Statutorily guaranteed Tariff fixed rate INR 3.04 (USD 0.04) per kWh, allocated through a reverse auction bidding process. The rate has been set and approved for 25 years by Karnataka Electricity Regulatory Commission.
Minimum guaranteed revenue in the first full year of operations	USD 2.04 million
Third party guarantees additional to the market standard warranties provided by suppliers, manufacturers and EPCs	In negotiation with suppliers, manufacturers and EPCs.
Project Insurance Coverage (amount insured)	Erection All Risks Policy (USD 4.86 million)
Insurer	ICICI Lombard General Insurance Company Limited
Status	Under construction. The plant is expected to achieve commercial operations in Q3 2019.

