



We are working on new technologies such as floating and hybrid solutions.

Our commitment, timely execution and risk mitigation is what makes us unique.

- Kannan Krishnan
COO – Solar (India and SAARC)
Sterling and Wilson Solar Limited

Sterling and Wilson Solar is one of the leading end-to-end solar engineering, procurement and construction (EPC) solutions provider globally. The company's strength lies in the end-to-end capabilities that have enabled it to become a comprehensive and trusted EPC solutions provider across the globe. "Our operations are supported by a competent and sizable design and engineering team that are responsible for designing innovative and cost-effective solutions. Our commitment, timely execution and risk mitigation is what makes us unique, says **Krishnan, Excerpts** from an exclusive interview with **Construction Times**.

India's stated vision is to reduce the carbon footprint by nearly 33% by 2030 and achieve 175 GW renewables capacity by 2022. What is your take on this and where do we stand now?

India's achievements in the last decade in accelerating renewable capacity addition have been remarkable. After adopting its National Electricity Plan (NEP) in 2018, India remains on track to overachieve its "2°C compatible" rated Paris Agreement climate action targets. India stated its vision to reduce the emissions intensity of GDP by 33-35% by 2030, compared to 2005 levels; it also aims to increase the share of non-fossil-based energy resources to 40% of installed electric power capacity by 2030, with help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF).

Despite its low per capita emissions, India has made significant commitments in its intended Nationally Determined Contribution (NDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015 as part of the Paris Agreement. Although not stated in the NDC, we assume that the target to create an additional carbon sink of 2.5-3 GtCO₂e

through additional forest and tree cover by 2030 is cumulative, representing an average annual carbon sink of 167-200 MtCO₂e over the period 2016-2030.

Though India has come a long way in renewable energy, especially solar, the deployment has seen various policy challenges; renegotiation of PPAs, curtailment of solar power, extremely delayed payments in some states, policy flip-flops on open access and net metering, land possession difficulties and more. Thus, we need to overcome these few challenges to ensure continued growth. India surely offers promising potential for the growth of clean energy, which is supported by the government's vision to evolve as a sustainable economy.

What contributory role S&W has been playing to meet this target and how prepared is the entire eco-system?

65MW solar plant, Telengana.





▲
100 MW solar plant,
Rajasthan.

The solar energy sector plays a vital role in India's journey towards clean energy, and as a home-grown company we are continuously working together with different stakeholders in supporting this vision. India is one of the key markets for SWSL. Over the past decade, we have been one of the leading players in the domestic market, which is demonstrated by our growing market share. In the first quarter of the current fiscal, we have managed to book orders of 380 MWp despite the nationwide lockdown.

We believe that the next phase of innovation in solar sector will be powered by remote monitoring technologies which will be data driven.

For a highly successful company like S&W, from the investment perspective, how lucrative is the renewable energy sector - globally and in India as well?

Global investment in new renewables grew by 5% in H1 2020 despite the pandemic, according to a recent research by Bloomberg NEF. And, we expect that this investment is only projected to grow. In fact, at a time when the world is looking to consolidate costs, cutting down on coal-usage could be the priority.

The belief that a low carbon approach is the only way to survive has been embraced by everyone, including the large infrastructure funds. Renewable Energy projects are getting approvals from governments across the world. That makes financing and insurance easier, making such projects more lucrative and bankable.

The economic credentials of a clean-energy driven recovery look strong and we are highly optimistic of the market and investments in renewables. We have a visibility on the projects pipeline and expect to bid for 22 GW in FY'21 which are well-diversified across geographies including India.

What are the critical challenges the country is facing in bringing solar energy to scale?

Land is the biggest challenge we are facing. With

most of the optimized parcels getting utilized, we are left with fragmented and undiluted parcels. This increases the overall BOS price, thereby making developers difficult to match the tariff. Evacuation is another big challenge considering the availability of grid and S/S. PGCIL has come up with dedicated evacuation corridors for solar but considering the timeline of projects and ROW issues related to evacuation infrastructure, it is quite challenging. Due to the pandemic and the nation-wide lockdown, vendors are finding difficult to commit on timely delivery of supply.

We could see an increase in lead time of critical components. Despite government's interventions and support in terms of repayment moratorium, the current under-construction projects could see a delay in financial closures. Captive projects especially in the rooftop segment will see a delay since companies will prefer to conserve cash in short term. However, this segment is likely to revive in long term.

The solar and storage pairing is still relatively new. How do you assess the growth prospects, and how competitive are the regulatory platforms catalysing the growth?

The share of renewable energy sources in the overall energy mix has increased across the world – a crucial element in decarbonising the electricity sector. As this share grows, energy systems, especially solar PV, need to become increasingly flexible in order to match the changes in demand and supply. Considering India's ambitious renewable energy targets, battery storage is becoming the need of the hour, as it is ideally suited to overcome the intermittency issues related to renewable energy.

The Government is introducing round-the-clock (RTC) tenders, wherein the project would need to provide power for 24 hours. This is possible if solar is blended with other sources such as wind or hydro or would be coupled with an energy storage system. Recently, SECI has concluded a 400 MW RTC bid. We are developing our team to technically analyse bids as it requires lot of integration from design end. We are also studying the regulatory frameworks to integrate them.

What has been the impact of pandemic on the business prospects and how have you been able to sustain the pressures?

The recent months have been a difficult phase, and we have observed challenges in the global as well as domestic market due to the Covid-19 pandemic. Despite this, business acquisition has not been impacted significantly. We have managed to secure some prestigious projects globally, entered new markets and boosted our presence in existing markets for the first quarter of FY 2021.



◀ Floating Solar - Kerala.

We have booked new orders for 1 GW capacity from India as well as international markets of Australia and USA.

The main challenge, however, has been in terms of execution due to the disruption in supply chain. However, with the resumption/ supply of solar PV panels and other critical equipment, and the Covid-19 situation stabilizing in some countries, work has started to pick up pace. That said, projects in countries like Australia and Chile were not significantly affected, the work was on but at a slower pace. Whereas, in countries like India, Jordan, Kenya, the work came to a grinding halt in the past few months. However, with the restrictions getting lifted gradually in these markets, construction activities have begun.

Due to current situation, we have also observed the shortage of migrant labour force, and we feel that mobilizing these workers back to the sites is a time-consuming effort. Hence, we have started training the locals to work at the sites. This will also help in generating employment for the local residents. By doing this, we hope to compensate the shortage of labourers anticipated for the next couple of months.

What is the impact of technology like IoT and Big Data on solar industry? How have you been able leverage the edge in your projects and back up support areas etc.?

IOT coupled with data analytics provides a technological platform to achieve plant's performance, reduce costs, realize economies of scale, thereby sustaining the bottom line. We believe that the next phase of innovation in solar sector will be powered by remote monitoring technologies which will be data driven. Tracking and analysis of sensor data will help us monitor the physical health of the plant. It will help us mitigate equipment level faults. We thereby maintain

information at a centralized level. Predictive analytics will help us in proactive detection of faults, degradation, and failures in devices such as modules, inverters, and transformers. This will lower plant downtime and generation loss due to device failure.

What do you think will be some major technology trends in solar energy sector?

Technology is transforming the solar power industry. There are a series of new developments which will contribute to the industry's progress. One trend to look forward to is usage of artificial intelligence/ machine learning. This allows the technology to adapt to the needs of the business. New solar applications such as Bifacial Modules and Floating Solar are gaining traction and acceptance and are expected to grow strongly in the coming years. There will be an increased focus on renewable energy coupled with battery technologies.

What is your current order book status and how do you expect the growth in the next five years?

The current order book is approximately INR 14,000 crore. The orders received post March 31, 2020, is around 40% of the overall previous year order inflow in terms of the orders won. We are highly optimistic of the solar industry outlook and would be participating in around 22 GW of bids this year, which are well-diversified across the globe. The solar business has been growing at a steady pace of around 20% CAGR globally and we expect it to be growing at the same rate, if not more, for the next five years. We have expanded our presence in 25 countries across Asia, Africa, the Middle East, Australia, Europe and the Americas. Due to this, we can address opportunities that exist in these markets and see ourselves very relevant in this phase for the years to come. **CT**

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