

# Sterling and Wilson Solar Limited

**Issue Snapshot:**

Issue Open: August 06 – August 08, 2019

Price Band: Rs. 775 – 780

Issue Size: 40,064,103 – 40,32,2581 eq shares (Entirely Offer for sale)

Issue Size: Rs. 3125.00 crs

QIB                                   atleast 75% eq sh  
 Non Institutional               upto 15% eq sh  
 Retail                               upto 10% eq sh

Face Value: Rs 1

Book value: Rs 63.79 (March 31, 2019)

Bid size: - 19 equity shares and in multiples thereof

100% Book built Issue

**Capital Structure:**

Pre Issue Equity:               Rs. 16.03 cr

Post issue Equity:               Rs. 16.03 cr

Listing: BSE & NSE

Global Co-Ordinators & Book Running Lead Managers: ICICI Securities Ltd, Axis Capital Ltd, Credit Suisse Securities (India) Private Ltd, Deutsche Equities India Private Ltd, IIFL Securities Ltd, SBI Capital Markets Ltd

Book Running Lead Manager: IndusInd Bank Ltd, YES Securities (India) Ltd

Registrar to issue: Link Intime India Private Ltd

**Shareholding Pattern**

Shareholding Pattern	Pre issue %	Post issue %
Promoter and Promoter Group	100.0	75.02
Public & Employee	0.00	24.98
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

Source for this Note: RHP

**Background & Operations:**

Sterling and Wilson Solar Ltd (SWSL) is a global pure-play, end-to-end solar engineering, procurement and construction (“EPC”) solutions provider, and were the world’s largest solar EPC solutions provider in 2018 based on annual installations of utility-scale photovoltaic (“PV”) systems of more than five mega-watt peak (“MWp”). It provides EPC services primarily for utility-scale solar power projects with a focus on project design and engineering and manage all aspects of project execution from conceptualizing to commissioning. It also provides operations and maintenance (“O&M”) services, including for projects constructed by third-parties.

SWSL offers a complete range of customized solutions for solar power projects. Its customers include leading independent power producers (“IPPs”), developers and equity funds. It adopts a consultative approach to its customers’ solar energy needs and capabilities, which enables to provide customized solutions to meet their requirements. SWSL follow a “hub-and-spoke” business model where it manages the complete supply chain from India, including the design and engineering functions, and engage a few suppliers and third-party subcontractors and procure part of the raw materials for its operations locally in each of its markets, where there is a cost advantage or to comply with local regulations. SWSL seeks to leverage this business model to procure products and services solutions for its customers at competitive prices. Its customers also benefit from its relationships with key stakeholders, such as, suppliers, project lenders and consultants, which help to execute projects for its customers efficiently and at competitive prices.

SWSL’s operations are supported by a competent and sizable design and engineering team who are responsible for designing solutions that are innovative and cost-effective, with an aim to increase the performance ratio of solar power. As of March 31, 2019, all of its design team is based in India, which provides it a cost advantage over its competitors. Its design and engineering team of 154 employees continually seeks to improve the efficiency of its solutions and services. It strategically focuses on markets that have conducive solar power policies and high solar resources, and invest in geographies with long-term solar opportunities. It adopts a disciplined expansion strategy that it customizes for each market with a view to enhancing its bidding abilities in these geographies.

The company operates an asset-light business model, under which its customers are responsible for sourcing and acquiring real estate while it typically leases equipment required for its operations. Its asset-light business model generally entails low capital expenditures and fixed costs, and offers flexibility and scalability to meet its customers’ needs, provide customized solutions and respond quickly to market conditions. It is able to operate with low working capital requirements as its EPC contracts are typically of short duration. SWSL typically requires an advance payment from customers for certain deliverables and its EPC contracts include shorter payment cycles from its customers compared to longer payment cycles from its suppliers. It strategically focuses on markets that have conducive solar power policies and high solar resources, and invests in geographies with long-term solar opportunities. It benefits from the brand reputation, industry relationships and project management expertise of the Shapoorji Pallonji group (the “SP Group”) and the Sterling and Wilson group (“S&W”). The SP Group is a global conglomerate and has over 150 years of experience as an EPC solutions provider in various industries across 45 countries. S&W has over 90 years of experience in offering EPC solutions with operations across 34 countries. It commenced operations in 2011 as the Solar EPC Division of SWPL. With effect from April 1, 2017, it demerged from SWPL and SWPL contributed substantially all of the assets and liabilities of its Solar EPC Division to SWPL.

**Objects of Issue:**

The objects of the Offer are to achieve the benefits of listing the Equity Shares on the Stock Exchanges and for the Offer of the Equity Shares by the Promoter Selling Shareholders. Further, SWSL expects that listing of the Equity Shares will enhance its visibility and brand image and

provide liquidity to its Shareholders and will also provide a public market for the Equity Shares in India. SWSL will not directly receive any proceeds from the Offer and all the Offer Proceeds will be received by the Promoter Selling Shareholders, in proportion to the Offered Shares sold by the respective Promoter Selling Shareholders as part of the Offer.

### Competitive Strengths

**Largest global solar EPC solutions provider in a fast growing solar industry:** SWSL were the world's largest solar EPC solutions provider, based on annual installations of utility-scale PV systems of more than five MWp, with a market share of 4.6% in 2018 which increased from 0.3% in 2014. It was also the largest solar EPC solutions providers in each of India, Africa and Middle East in 2018 with 16.6%, 36.6% and 40.4% market share, respectively, according to IHS Markit. In 2017, it won the bid for the 1,177 MWp solar power project in Abu Dhabi, which is the world's largest single location solar PV plant. Solar energy is one of the fastest growing forms of renewable energy. The total cumulative installed solar PV generation capacity could reach nearly 1,090 GWDC globally by 2022, compared to less than 100 GWDC at the end of 2012, and the levelized cost of electricity for solar PV projects decreased sharply between 2012 and 2018 and is expected to continue to decrease until 2030. Currently it has a presence across 26 countries with operations in India, South East Asia, Middle East and North Africa, rest of Africa, Europe, United States and Latin America and Australia, which has helped to diversify its business globally. Its execution track-record, relationships with customers and suppliers, and its innovative and cost-effective engineering project designs makes it well positioned to benefit from this positive trend and continue to expand its operations.

**Comprehensive end-to-end EPC solutions provider with a global execution track record:** SWSL is a global pure-play end-to-end solar EPC solutions provider. It provides EPC services primarily for utility-scale solar power projects with a focus on project design and engineering, and manage all aspects of project execution from conceptualizing to commissioning. It also provides EPC solutions for rooftop solar projects, O&M services, including for projects constructed by third-parties. It follows a "hub-and-spoke" business model where it manages the complete supply chain from India, including the design and engineering functions and engage supplies and third-party subcontractors, and procure raw materials for its operations locally in each of its markets, where there is a cost advantage or to comply with local regulations. SWSL seeks to leverage this business model to procure optimal product and service solutions for its customers at a cost advantage. Currently it has a presence across 26 countries and use its Subsidiaries and branch offices (which include Sterling and Wilson Pvt Ltd SWPL's branch offices) globally for its operations. It leverages these offices to strategically tap solar opportunities in markets in which it does not have a permanent presence as such opportunities arise. It strategically focuses on markets that has conducive solar power policies and high solar resources, and invest in geographies with long-term solar opportunities. It adopts a disciplined expansion strategy that it customizes for each market with a view to enhancing its bidding abilities in these geographies. Its operations are supported by its global supply chain, relationships with suppliers and a large design and project execution team in India, which gives a cost advantage over its competitors and helps it win bids and repeat orders.

**A dedicated design and engineering team focused on innovation and developing efficient and cost effective engineering solutions:** SWSL operations are supported by a competent and sizable design and engineering team that are responsible for designing innovative and cost-effective solutions with an aim to increase the performance ratio of solar power projects. As of March 31, 2019, all of its design and engineering team is based in India, which provides it a cost advantage over its competitors. Its design and engineering team is engaged on its projects from the pre-bid stage through commissioning. At the pre-bid stage, its design and engineering team, evaluate and provide innovative design solutions for each potential solar power project and once it wins the bid, they work with its project execution team to implement the designs and overcome challenges through design solutions. In addition, at a project site in Philippines, it leveraged its design and engineering expertise to overcome topographical challenges of the project site by deploying an innovative flood resistant three leg module structure. As a result of its detailed market studies and geography specific approach, SWSL's engineering and design team was able to provide a solution of deploying the bi-facial module technology at the solar power project in Oman on limited available land. Its design and engineering team seeks to improve the efficiency of its solutions and services. It also leverages its experience of providing O&M services to understand solar modules and other equipment, which helps it to improve its services and win repeat orders

**Strong relationships with customers and other key stakeholders:** SWSL offers a complete range of customized solutions for solar power projects. Its customers include leading IPPs and developers such as Marubeni, EDF Renewables, Alten, Sunseap, Sao Mai, Enfinity, ACWA Power and BNRG Renewables, and equity funds. It adopts a consultative approach to its customers' solar energy needs, which enables it to provide customized solutions to meet their requirements. Its global network connects its customers to key stakeholders and allows its customers to reduce the number of service providers they need to engage with, thus saving them time and cost, while also providing enhanced supply chain visibility. As part of its global network, it maintains relationships with other key stakeholders in the industry, such as, a diversified group of global and local suppliers of modules and other raw materials as they are critical to the success of its supply chain. It also maintains relationships with state-owned and private project lenders and private equity houses to assist its customers, thereby enhancing the bankability of the project. SWSL also has relationships with market participants as it conducts continuous learning and development programs while executing solar power projects, which helps them stay updated with latest market studies and new

technologies and innovations. It also conducts ongoing training for engineers and subcontractors, which helps SWSL build long term relation them.

**Strong parentage and ability to leverage global “SP” brand:** SWSL benefit from the brand reputation, industry relationships and project management expertise of the SP Group and S&W. The SP Group is a global conglomerate and has over 150 years of experience as an EPC solutions provider in six major business areas and operations across 45 countries. Currently, S&W has over 90 years of offering EPC solutions and has operations across various industries, including mechanical engineering and plumbing, co-gen solutions, transmission and distribution, turnkey data centers, diesel generators and renewables in 34 countries. It benefits from global presence and stakeholder relationships of the SP Group and S&W. In particular, before entering a new market, it typically leverages from the SP Group’s and S&W’s presence in that market to get a head start in establishing its operations. In addition, SP Group’s and S&W’s relationships with key stakeholders has helped it establish connections with major customers and market leading subcontractors, lenders, designers and consultants. SWSL has benefited from their robust project management processes, including bidding discipline, market studies, operational expertise and track record, which help it bid for and execute large-scale projects in short timelines.

**Strong growth and financial performance backed by an asset-light business model:** SWSL has demonstrated strong financial performance and its total income has grown at a CAGR of 72.37% from Rs16,500.65 million in Fiscal 2017 to Rs84,499.33 million in Fiscal 2019. Driven by its strong operational capabilities, it has been able to minimize costs and achieve healthy profit margins. Its EBITDA increased from Rs 646.71 million in Fiscal 2017 to Rs 8,516.26 million in Fiscal 2019. Its profit after tax has grown at a CAGR of 172.82% from a combined profit after tax of Rs314.32 million in Fiscal 2017, to a consolidated profit after tax of Rs 4,505.35 million in Fiscal 2018, and Rs6,382.33 million in Fiscal 2019. SWSL’s strong growth and financial performance has been facilitated by its focus on risk management and reliance on clearly defined internal processes to manage its business. Its risk assessment approach considers risks in different geographies based on existing market presence, market size, growth opportunity and geo-political risks. It also seeks to limit its counterparty credit risk exposure by focusing its project selection on solar power projects that generally achieve financial closure before it commences its operations. SWSL operates an asset-light business model, under which its customers are responsible for sourcing and acquiring real estate while it typically leases equipment required for its operations. Its asset-light business model generally entails low capital expenditures and fixed costs, and offers flexibility and scalability to meet customers’ needs, provide customized solutions and respond quickly to market conditions. SWSL is able to operate with low working capital requirements as its EPC contracts are typically of short duration. It typically requires an advance payment from customers for certain deliverables and its EPC contracts include shorter payment cycles from its customers compared to longer payment cycles from its suppliers.

**Experienced key management personnel, project management and operations team with experience in the global solar EPC industry:** SWSL are led by a management team with extensive experience in the solar EPC industry and the solar power sector, deep understanding of managing projects and a proven track record of performance. Benefitting from the experience of the management team, their quick decision making abilities and strategy to focus on key markets for opportunities, since 2011, it has been able to expand its operations across 26 countries and achieve notable market rankings, such as its ranking as the world’s largest solar EPC utility-scale PV provider in 2018. SWSL has an experienced global team of 1,160 employees as of March 31, 2019. It benefits from the broad experience gained by its management and project execution teams through their involvement in end-to-end solar EPC projects. Its management and certain members of its project execution teams bring a deep understanding of the local markets in which they operate with strong global project execution expertise that enables it to identify and take advantage of strategic opportunities. Its teams are committed to growing its business, as demonstrated by its track record of project execution and financial results. SWSL conducts continuous learning and development programs for its employees, to keep its employees updated with the latest market studies and new technologies and innovations.

#### Business Strategy:

**Maintain market leadership through strategic expansion of overseas operations:** SWSL aims to maintain its market leadership position through strategic expansion, including through roll up acquisitions in the markets in which it currently operates and into new geographies that present attractive opportunities. Currently, it has a presence across 26 countries, with its Subsidiaries and branch offices globally, and plans to continue expanding its operations. SWSL’s strategy is to focus on markets with conducive solar power policies and high solar resources. It aims to establish a permanent presence in regions that has continuous and large solar opportunities and leverage this regional presence to strategically access local geographies as needed. It also aims to leverage the global presence of the SP Group and S&W to give it a head start in expanding its operations in new geographies.

**Grow customer base and maintain relationships with other key stakeholders:** There is a substantial opportunity to grow SWSL’s customer base in existing and new markets through a combination of its strong track record and market leadership in the regions in which it operates, its global presence (including through the broader network of the SP Group and S&W) and its relationships with key stakeholders in the solar power industry. SWSL intends to develop this opportunity by continuing to invest in its business development, tendering and marketing functions to optimize its ability to identify, evaluate and win new customers. SWSL also intends to continue building relationships with its

existing customers and other key stakeholders, such as engineers, suppliers and consultants. Its strategy is to connect its customers to such key stakeholders and reduce the number of service providers they need to engage with, with an objective to save them time and cost. The company follows its key customers to new markets and this helps it identify new markets and opportunities early in the process. It intends to leverage its global presence and relationships to secure repeat projects with its customers and demonstrate to its customers the time and resource savings that they can generate by re-engaging its services.

**Focus on increasing operational and financial efficiency:** SWSL plans to continue focusing on operational and financial efficiency by investing in its competent and sizable design and engineering team in India and their innovative engineering efforts. Having this talent pool in India gives it a low cost base to use these resources and execute projects. In addition, it is continually evolving its internal processes for project execution, frequently update its risk assessment matrix, stay updated with new technology and continue leveraging the global presence of the SP Group for its operations. SWSL intends to continue to devote significant resources to recruit, train and retain a talented workforce and offer competitive compensation packages, training and career opportunities to attract and retain capable employees. Through its geography specific market approach, building strong customer and stakeholder relationships and operational efficiency, it intends to tailor its business model, and enhance its ability to bid for solar power projects independently and accordingly reduce dependence on the SP Group.

**Focus on expanding O&M, rooftop solar EPC and solar storage solutions:** SWSL plans to continue expanding its O&M operations to solar power projects that were not constructed by it. It is building a dedicated team for its O&M operations that is focused on adopting a targeted approach to winning contracts for O&M services. It intends to first expand its O&M operations in the regions where it has EPC operations, and enter markets that has conducive solar power policies with commissioned solar power projects. It also intends to continue developing its data analytics processes through the CMS and CMMS that it has licensed from SWPL and leverage its experience of providing O&M services to understand solar modules and other equipment, which will help SWSL improve its EPC and O&M services and win repeat orders. In addition, it plans to expand its rooftop solar EPC solutions which started in Fiscal 2016. It also intends to benefit from the evolving energy storage and ancillary service technologies, and intends to leverage from SWPL's energy storage capabilities by offering solar + storage solutions.

## Industry

### Overview of the Global Solar Power Industry

Renewable energy sources, such as solar energy, have become significant contributors to power capacity growth additions globally. The global energy landscape has been transforming, with a rapid uptake in renewable energy sources, such as solar energy, as a result of increasing cost competitiveness, improving technology and robust government approaches to climate change. According to IHS Markit, the share of solar photovoltaic ("PV") generation capacity annual additions in global power generation capacity annual additions has increased from 9.8% in 2012 to 25.3% in 2018, and could increase to 38.4% in 2022. According to IHS Markit, by 2022, total cumulative installed solar PV generation capacity could reach nearly 1,090 giga-watt direct current ("GWDC") globally, compared to less than 100 GWDC at the end of 2012. The share of solar PV generation capacity in installed power capacity has been growing across the regions. In India, the share of solar PV generation capacity in installed power capacity base has grown from 1% in 2012 to 6% in 2018, and is expected to increase to 12% in 2022.

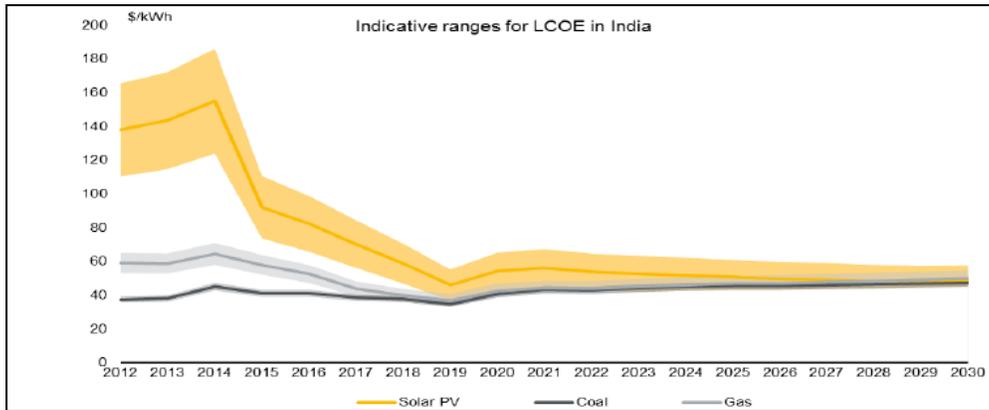
According to IHS Markit, annual solar PV installations have seen strong growth globally, increasing from 31.6 giga-watts ("GW") in 2012 to 103.0 GW in 2018, representing a growth of 21.8% CAGR. Regionally, for the period from 2012 to 2018, annual solar PV installations increased by 9.9 GW in India, 0.7 GW in South East Asia, 4.5 GW in the Middle East & North Africa, 1.1 GW in the rest of Africa, 6.9 GW in the United States, 5.8 GW in Latin America, 3.6 GW in Australia and 46.1 GW in the rest of the world (primarily in China and Japan). According to IHS Markit, the global annual solar PV installations run-rate could increase to 148.4 GW by 2021. Regionally, for the period from 2018 to 2021, annual solar PV installations is expected to grow at 11.7% CAGR in India, 70.6% CAGR in South East Asia, 22.2% CAGR in the Middle East & North Africa, 42.0% CAGR in the rest of Africa, 30.0% CAGR in Europe, 17.4% CAGR in the United States, 5.4% CAGR in Latin America and 8.1% in Australia. On an aggregate basis, this represents a cumulative 20.0% CAGR growth in annual solar installations in India, South East Asia, the Middle East & North Africa, the rest of Africa, Europe, the United States, Latin America and Australia from 49.1 GW in 2018 to 84.8 GW in 2021.

### Growth of the Solar Power Industry

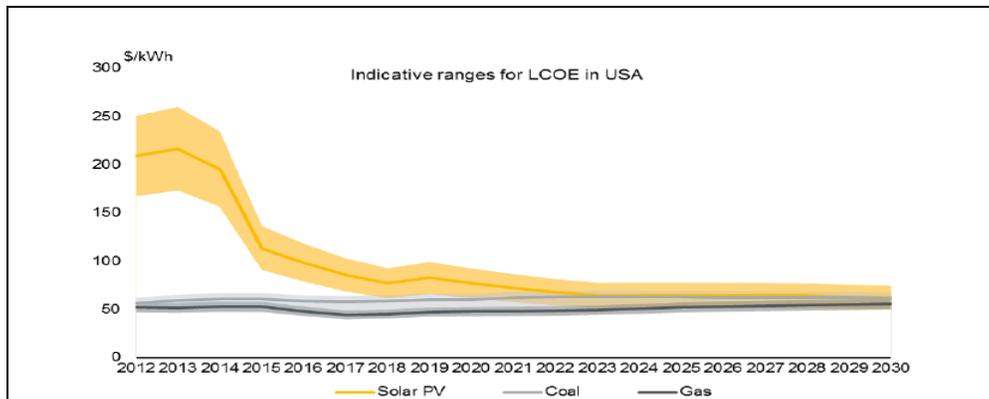
#### Declining costs of solar energy

The use of solar energy has become increasingly competitive over the years due to the declining costs associated with its use, making this a key factor driving the global growth of the solar industry. Solar energy has emerged as a low-cost source of energy and has become lower in cost than traditional energy sources, such as coal and gas, in some key markets. Awarded tender prices for large solar PV projects have fallen below the cost of conventional power generation in several markets with high solar resources.

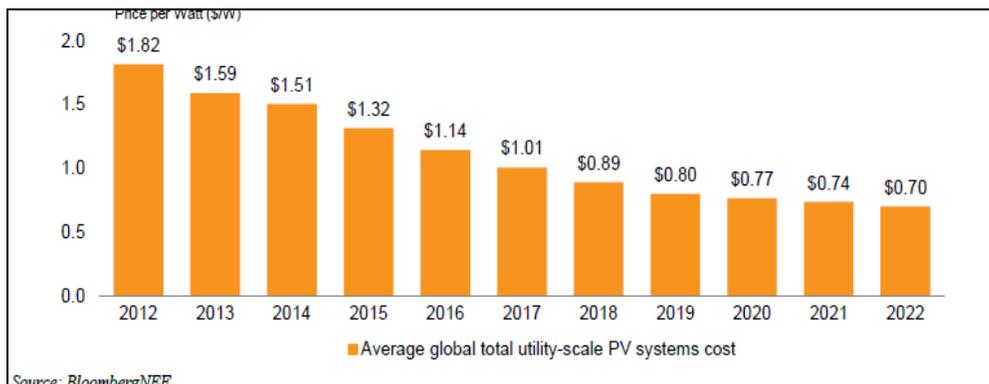
According to IHS Markit, in India, the levelized cost of electricity (“LCOE”) (a measure used to calculate the average total cost of producing electricity over a 25-year system lifetime) of solar PV systems decreased sharply between 2012 and 2018, and is expected to continue to decrease until 2030. In comparison, other sources of energy in India, such as coal, have seen a general increase in costs in recent years. The figure below depicts the year-on-year changes in LCOE of solar PV systems in India, in comparison with traditional energy sources, such as coal and gas.



According to IHS Markit, in the United States, the LCOE of solar PV systems has also generally decreased between 2012 and 2018, and is expected to continue to decrease until 2030. In contrast, traditional sources of energy in the United States, such as coal and gas, have seen an increase in costs in recent years. The figure below depicts the year-on-year changes in LCOE of solar PV systems in the United States, in comparison with traditional energy sources, such as coal and gas.



The declining costs of using solar energy can be attributed to a decrease in the costs of solar PV systems. According to BloombergNEF’s 4Q 2018 Global PV Market Outlook report published November 19, 2018, the average global total utility-scale PV systems cost decreased from \$1.82/watt in 2012 to \$0.89/watt (DC) in 2018, and is expected to further decrease to \$0.70/watt (DC) in 2022. The figure below depicts the year-on-year global average cost of major components in utility-scale PV systems.



A key driver of this decline in costs of solar PV systems is the decreasing costs of solar PV modules over the years, with the average price of solar PV modules decreasing by 68.5% between 2012 and 2018, according to BloombergNEF. The share of modules and invertors as a percentage of total PV system costs has declined globally from 58.3% in 2012 to 38.4% in 2018 and is expected to further decline to 33.8% by 2022. Improvement of module efficiency, while not directly affecting the module price, lowers the per watt spending of non-module components in the system. The figure below depicts the year-on-year change in composition break-up of global utility-scale PV system costs. The decline in cost of solar modules has contributed to bringing down the costs of generating PV electricity, making solar energy competitive with retail energy prices in most developed markets, and with wholesale energy prices in areas with significant solar energy resources. In the countries that first developed specific support schemes for PV, the most common approach was the fixed feed-in tariff (“FiT”), paying the system owner for each unit of electricity produced. In 2008, government-set feed-in tariffs for PV-generated power were in general above US\$450/mega-watt hour (“MWh”). In 2018, many government support policies adopted tenders instead of fixed feed-in tariffs, with low-end bids from companies with access to low-cost financing coming in below US\$40/MWh. According to IHS Markit, further declines in the cost of solar energy may continue driving global deployment of solar PV systems to generate electricity.

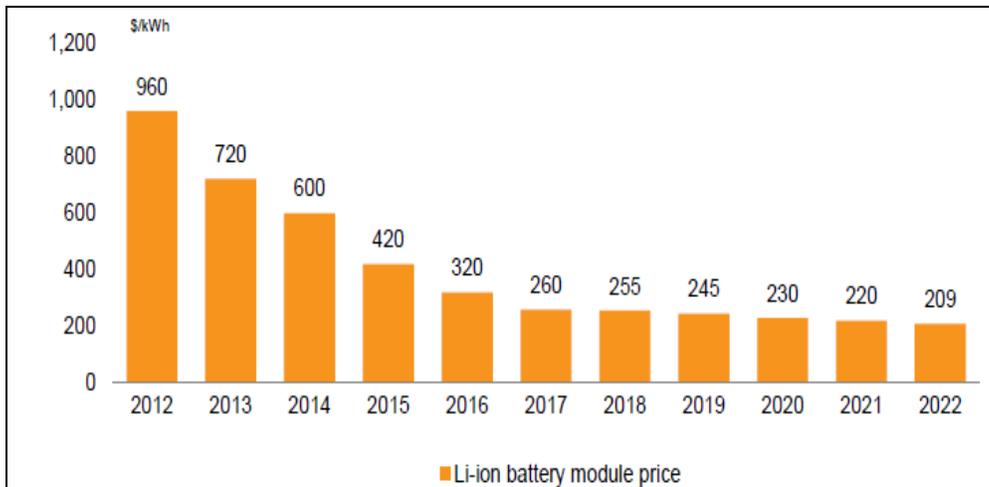
**Greater efficiency in installation and commissioning process**

Another factor driving the growth of the solar energy industry is the efficient installation process of solar PV plants. Governments in countries with rapidly growing electricity demand are also considering solar energy as an option for rapidly increasing power generation capacity. The installation time of solar PV plants are significantly shorter compared to other large-scale power generation sources, potentially driving down installation costs. Once any administrative steps have been completed, it can take between a few months to a year to install a major solar PV plant. In contrast, other large-scale power generation sources can take significantly longer to complete installation. Solar PV technology is also scalable so that plants can be built to suit the available land and grid connections. PV systems can also be built as captive power plants directly connected to the end-user, designed to suit the user’s electricity demand. The transportation of materials in the installation of solar PV plants may also be more efficient compared to other large-scale power plants. Solar PV plants do not require fuel, which may be an advantage in terms of transportation, particularly in emerging markets with distribution challenges. As long as solar PV plants continue to benefit from such advantages in the installation and commissioning process, the solar power industry is likely to continue to grow.

**Solar energy storage to be the next major driver of growth**

According to IHS Markit, the increasing use of battery energy storage in solar PV plants could help to drive further growth in the solar industry. Pairing batteries with solar PV plants helps to overcome the inherent intermittency of solar PV generation by smoothing output and/or storing generated energy which can then be utilized when energy is not being generated in off-peak times. This trend has been accelerated by significant reductions in battery costs. The average price of a lithium-ion battery module for front-of-the-meter energy storage applications fell by 73.0% from 2012 to 2018, as depicted in the chart below.

**Price of a lithium-ion battery module for front-of-the-meter energy storage applications**



According to IHS Markit, global solar PV installations paired with battery energy storage has increased from 76 mega-watts (“MW”) in 2012 to 3,825 MW in 2018. This is expected to increase to 9,232 MW in 2022. The figure below depicts the year on year cumulative global solar PV installations paired with battery energy storage.

## The Solar Power Industry Value Chain

The key players in the solar power industry value chain are as follows.

### *Owners/operators*

The owner of a solar PV asset is the end-investor, either for short or long-term investments, which receives revenues generated by selling electricity. The owner may have a specific portfolio of PV assets, or include single PV assets in a broader portfolio of power generation plants. In addition to the main investors, there may also be many local investors that hold minority shares of projects. Owners of PV assets include: the utility or independent power producer (“IPP”) owner, which is typically a company focused on owning and operating power generation assets; financial owners, such as fund managers or institutional investors that operate PV assets on behalf of shareholders, fund participants or other stakeholders; private owners, such as a small company or family that owns stakes in select PV assets or small distributed PV systems; or end-user owners that own PV plants with the main purpose of consuming the electricity directly.

### *Financiers*

Financiers provide debt financing to solar power projects. This can either be short-term bridge financing for the construction of the project, or long-term debt financing provided to the main developer or asset owner. Types of financiers include: commercial banks that provide debt funding under commercial terms in the given jurisdiction; development finance institutions that are national or multilateral donors that provide financing to projects falling within the agency’s mandate in the form of direct debt to the project developer or channeled via a commercial bank; or in-house equity funding, through which larger investors may also finance projects on the balance sheet without borrowing money.

### *EPC solutions providers*

Engineering, procurement and construction (“EPC”) solutions providers coordinate the turn-key construction of a solar PV plant, including design and engineering. The EPC role in a project will vary according to the developer’s preferences. Projects for EPC providers range from: full turn-key EPC projects, where the EPC provider fully manages plant construction and typically provides operations and maintenance (“O&M”) services for the plant for two to five years, making a margin on the procurement of components and on the services provided; partial EPC projects, where the EPC provider is only hired for the engineering and construction of the plant; or in-house EPC projects, where the EPC provider only takes on specific sub-contracted tasks from an in-house EPC team. Some EPC solutions providers have also found opportunities in project development. The project is often sold immediately before construction, and an EPC contract is signed.

### *Suppliers*

Key suppliers in the solar power industry include PV module suppliers, PV inverter suppliers and balance of system suppliers. Companies within the PV module supply chain are typically manufacturing focused and consist mainly of polysilicon, wafer, cell and module manufacturers, although a large number of companies have expanded downstream to become active as developers or EPC solutions providers in recent years. PV inverter suppliers are mostly large industrial electronics companies, with the solar power industry accounting for a small share of their business. Specialist PV inverter companies also exist, although most are currently focused on diversifying into other adjacent industries, such as energy storage and O&M services for full solar PV systems. Balance of system suppliers include a wide range of companies providing a diverse set of products, from the racking and mounting of PV modules to cabling and electrical connectors. The vast majority of these companies focus on manufacturing one specific component of PV systems.

### *O&M service providers*

O&M service providers ensure the functioning of the solar PV plant. This can be done under a comprehensive contract or through partial sub-contracting. O&M service providers include: full asset management and O&M providers, in which the O&M contract can include both the commercial and technical management of a PV asset, although many asset owners contract separate providers for the two; EPC providers that provide O&M services as part of their package; pure-play O&M service providers, in which the O&M provider supplies a range of services which can vary greatly between contracts, typically for a period of five years; and in-house O&M service providers, in which the asset owner performs the O&M with an in-house team and only sub-contracts specific tasks.

## The Solar EPC Industry

### **Overview of the solar EPC industry**

Solar EPC solutions providers coordinate the turn-key construction of a PV plant, including design and engineering. The EPC role in a solar PV project will vary according to the developer’s preferences and the EPC provider will require enough financial resources to commit to the project.

Projects for solar EPC solutions providers range from full turn-key EPC projects, where the EPC provider manages plant construction in its entirety and typically provides O&M services for the plant for two to five years, making a margin on the procurement of components and on the services provided; partial EPC projects, where the EPC provider is only hired for the engineering and construction of the plant; or in-

house EPC projects, where the EPC provider only takes on specific sub-contracted tasks from an in-house EPC team. Some EPC solutions providers have also found opportunities in project development. The project is often sold immediately before construction, and an EPC contract is signed. The figure below summarizes the different work streams and business modules for solar PV EPC players.

### Competition in the solar EPC industry

The solar EPC industry is highly fragmented, but has been tending towards increased consolidation in recent years. According to IHS Markit, the combined global market share of the twenty largest solar EPC solutions providers increased from 15.0% in 2010 to 28.0% in 2015. In 2017, this declined to 20.0% as a result of significant solar PV construction activity in China, where EPC activity is highly fragmented. Excluding China, the combined global market share of the five largest solar EPC solutions providers in 2018, based on annual installations of utility-scale PV systems of more than five MWp, increased from 5.7% in 2015 to 19.3% in 2018. In 2010, global solar PV system additions were dominated by Europe with a large number of local EPC solutions providers based in countries such as Germany, Italy and Spain. As Europe scaled back its support schemes for solar PV systems, competition increased, and scale became an important factor for EPC solutions providers. As solar PV deployment has grown, successful EPC solutions providers have been able to scale-up their businesses and increase their market share. In recent years, new companies have entered the solar EPC industry, particularly in newer markets like Australia. This has, in combination with fragmented solar EPC activity in China, slightly increased fragmentation globally. According to IHS Markit, as an increasing number of projects larger than 100 MW are being built, the total global market share of the twenty largest solar EPC solutions providers is likely to increase.

Successful solar EPC solutions providers have not only offered the most competitive prices, but have also demonstrated a track-record of strong design and engineering capabilities, on-time project completion and as expected or higher plant performance. Successful EPC solutions providers have also built up relations with suppliers and other stakeholders, like consultants and local sub-contractors in order to execute projects on time. When evaluating a project, lenders also evaluate the strength of the EPC provider, with EPC providers with a strong track-record and good lender relations increasing the bankability of the project. The financial strength of solar EPC solutions providers is becoming an increasingly important factor for developers to ensure that the EPC provider has enough liquidity to complete the construction according to schedule.

Key market barriers to entering the solar EPC industry include financial capability, track-record and experience, and local licenses. Many markets regulate construction activities requiring solar EPC solutions providers to set up local entities with appropriate permits/licenses. In newer markets where EPC providers have less experience in building solar PV systems, the shortage of highly experienced engineers may also be a barrier to entry, resulting in high competition in acquiring key staff.

Even though financial strength is an important factor during the construction process, well-managed EPC solutions providers can maintain liquidity through a steady inflow of revenue from various projects. The EPC business does not require any heavy initial investments in machinery or equipment, and many services can be outsourced. This creates flexibility with regard to managing liquidity. In many instances, EPC solutions providers can also access bridge financing to maintain liquidity during the project construction phase.

### The Global Solar Power Industry

#### India

The solar power industry in India has been flourishing. Complementary central and state government policies, such as the Smart Cities Mission, National Tariff Policy in 2016 and the recently proposed Electricity Amendment Bill in 2018, and the commissioning of projects under large central and state capacity allocations coupled with the increasing price competitiveness of solar energy, has led to a surge in solar PV installations. Infrastructure support by the Government of India (“**Gol**”), such as the Solar Park Policy in 2014, and the improved financial condition of electricity distribution companies under the Ujwal DISCOM Assurance Yojana scheme (“**UDAY Scheme**”) have also been key drivers of growth. With the Gol targeting to commission 100 GW of solar PV installations by 2022, the solar industry in India has strong growth potential and the overall market for solar EPC solutions providers in India is expected to grow at a comparable pace.

#### Africa

Several countries in the region have benefited from government initiatives in recent years that encourage the use of renewable energy. In South Africa, 2.6 GW of PV capacity has been awarded through the Renewable Energy IPP Procurement Programme to date, of which 1.6 GW has come into operation. A 2.2 GW quota has been announced for future bid rounds. In Kenya, a FiT programme attracted developers to build up a pipeline, but projects did not start installation until 2017-18 with the 55 MW Garissa project being the only installed project to date. Under the FiT program, Kenya Power signed 0.3 GW of PPAs at KSh 12/kWh (approximately USD 120/MWh) between 2015 and 2017. A draft energy bill allowing generators to supply renewable energy to consumers directly may also drive growth in Kenya. The Federal Government of Nigeria has moved to strengthen the energy sector and tackle acute and consistent power shortages in the country. In 2016, the Nigerian Bulk Electricity Trader signed 14 PPAs (1 GW) with solar PV projects. In 2018, the Federal Government of Nigeria asked the

African Development Bank for support on the Nigeria Electrification Project, which aims to increase access to electricity in off-grid areas of the country through the activities of the Rural Electrification Agency, relying predominantly on solar technology.

### Middle East

Dubai and Abu Dhabi have taken the lead on the procurement of large-scale PV projects in the region. In Dubai, three phases of PV projects have been tendered to IPPs as part of the Mohammed bin Rashid Al Maktoum solar park, of which 213 MW of the awarded capacity has been completed, while the 800 MW third phase is expected to be completed by 2020. Under the Dubai Clean Energy 2050 plan, Dubai has raised its PV targets to 25.0% solar by 2030 and 75.0% by 2050 and has increased the planned size of the Mohammed bin Rashid Al Maktoum solar park to 5 GW. In Abu Dhabi, the 1,177 MW Sweihan PV plant is scheduled for commissioning in April 2019. New tenders for further solar parks in Abu Dhabi are under planning. The energy crisis in Jordan has spurred interest in renewables, with two rounds of PV auctions for 450 MW capacity being held and the third round for 150 MW capacity attracting bids from 14 companies. Net-metering and wheeling (the transportation of electric energy from within an electrical grid to an electrical load outside the grid boundaries) have also taken off as options for consumers to offset high electricity bills, spurring the deployment of utility-scale PV projects under bilateral PPAs. Jordan's state-owned utility company is also working on the Green Corridor project, aimed at improving the integration of renewable energy projects by expanding the capacity of the grid. Oman plans to install around 2 GW of solar power by 2024, with the Oman Power and Water Procurement Company launching a 500 MW Ibrill Solar IPP tender in December 2017 and the Petroleum Development Oman awarding a 100 MW Amin Solar PV IPP project to a consortium in October 2018. Saudi Arabia has made several announcements on solar power targets and tenders since 2012. In 2017, a 300 MW PV plant was tendered and awarded, and is currently under construction, and in January 2019, the Saudi Renewable Energy Project Development Office ("REPDO") announced that it was planning to tender 2,225 MW of solar capacity in 2019 across 11 projects. By 2023, REPDO targets 20 GW of PV.

### Macroeconomic Overview of the Global Economy

According to CRISIL Research, there is a strong correlation between the gross domestic product ("GDP") of a country and its power consumption, especially for developing countries. As countries grow, industrialization and prosperity improves, thereby impacting per capita power consumption.

Per capita power consumption has grown steadily at the global level, led by developing and under-developed nations. In developed nations, although total power consumption has generally increased, consumption on a per capita basis has remained steady owing to efficiency measures. On the other hand, developing nations have shown a strong increase in per capita power consumption, as large-scale electrification programs continue to connect rural areas and living conditions of the general population improve. With millions still not connected to the electricity grid, this increase is expected to continue in the short to medium term, according to CRISIL Research.

### India

According to International Monetary Fund ("IMF") forecasts, after overtaking China in 2018, India is likely to retain its position as the fastest-growing economy in the world in 2019. India's GDP is expected to grow healthily to 7.4% in 2019, led by re-monetization and easing of the initial difficulties faced under the goods and services tax ("GST") mechanism. While the pain of demonetization and GST implementation will be frontloaded, the benefits will be felt over a period of time. Hence, GDP growth has been strong in 2018 over the weak base of 2017. The ongoing liberalization of India's foreign direct investment ("FDI") regime has also triggered a surge in investment, especially after the launch of the 'Make in India' campaign in October 2014. Net FDI inflows have risen from approximately \$22.0 billion in 2014 to approximately \$44.8 billion in 2018. Growth will also find support from private consumption, driven by continued government spending on construction activities, benign inflation and revision in government salaries at the state level. The strong increase in world trade and investments among developed economies indicates increased manufacturing growth, driving economic growth in India. However, protectionism could cloud global growth forecasts. Key risks flagged by IMF include protectionist sentiment and inward-looking policies that harm international trade, geopolitical tensions and a sharp tightening of global financial conditions.

### Africa

The GDP of the African region has grown for most of 2008 to 2017, with 2015 and 2016 being the exceptions. This may be attributed to a rise in domestic demand, partly met by import substitution and improved agricultural production. Public and private investment, both major constituents of GDP, have grown over the years, keeping the region's economic growth steady. Tightening of financial conditions in the United States, such as the raising of benchmark interest rates and winding down of the stimulus program, may constrain global liquidity and reduce demand. This may hinder growth in major African economies since they rely on international capital markets for financing needs. Also, waning of commodity prices may hit Africa's GDP owing to weaker export earnings. Going forward, domestic consumption, labor productivity, gains in the industry, agriculture and services sectors and public expenditure will dictate the region's growth.

## Australia

Led by strong domestic demand and year-on-year population growth of 1.5%, Australia has grown strongly at 2.6% year-on-year from 2007 to 2018. Growing domestic demand and an accommodating global environment, led by strong end-use mineral demand from energy-hungry countries, such as China and India, has kept Australia's GDP growth rates buoyant. The labor market has remained strong and created jobs in excess of the working age population growth. Going forward, the current unemployment rate of 5.3% is expected to reduce by another percentage point. This signals greater household consumption and increased spending. Although the country has experienced healthy GDP growth rates over the past decade, protectionist sentiment, trade wars and macroeconomic risks may dampen growth. With Sino-Australian trade accounting for approximately 44.0% of Australia's GDP, weaker Chinese markets may have repercussions on Australia as well. With the Reserve Bank of Australia forecasting 3.5% GDP growth in 2019 and 2020, the rise in household consumption, which is the largest part of the economy at over 50.0%, is likely to shape the GDP curve going forward.

## Middle East

The Middle East's economic performance has been mixed over the years. Moderate growth up to 2014 was offset in 2015 and 2016 with a slump in oil prices. However, prices have risen ever since, propping up GDP growth. While Iran is faltering under sanctions imposed by the United States, countries like Iraq, Jordan, Lebanon, and Oman are struggling to establish political stability. Elevated debt levels and regional conflicts present headwinds to strong growth. With mounting global trade tensions and volatility in international financial markets, spillover risks are high. Going forward, domestic demand, including private consumption, will be a major driver of growth. With oil prices expected to rise in the short-term owing to the impact of sanctions on Iran, prices are expected to decline in the medium term due to larger shale oil production in the United States. A rebound of GDP growth as a result of increased global oil prices is therefore unlikely. However, improvement in the fiscal space and consumption-led growth may lead to steady growth in the region.

## South America

The GDP of the region has shown staggered growth with a strong rise from 2009 to 2011, stagnation from 2009 to 2014 and then bouts of contraction over the next two years. After these two years of contraction, the region grew modestly, led by stronger-than-expected growth in Brazil and improved private consumption. Retail trade and industrial production grew in Brazil despite a reduction in construction activity and reduced consumer confidence. Floods in Chile reduced mining output and recessions in Argentina and Venezuela had a bearing on growth prospects. Economic growth in South America is expected to be modest. Brazil and Argentina, which account for more than half of the region's economy, are expected to revive slightly, although growth momentum is expected to be curbed due to domestic problems and global market volatilities. Smaller economies like Chile may grow at a faster pace but such growth is unlikely to be enough to offset the drag of the rest of the South American economy.

## United States

GDP numbers for the world's largest economy have experienced cyclical upswings and downswings over the last decade. The United States' real GDP growth rate is expected to slow to approximately 1.5% by 2022 according to IMF estimates. This is in line with the Federal Reserve's expectations of economic growth slowing to 2.3% in 2019. The long run growth forecast stands at 1.9%. This may be attributable to ensuing trade wars, slower unemployment growth, declining construction activity and higher interest rates. Movements in core inflation, wage growth, labor market conditions and earnings growth of companies will sway GDP numbers. The anticipated slowdown in the global economy poses headwinds to US growth rates

## Risks to the Growth of the Solar Power Industry

Trade policies have, in recent years, become a major concern for the solar power industry. Policies that either remove support schemes or create barriers to installing new solar PV systems could negatively impact the solar power industry, and such actions within individual countries could impact total global demand for solar PV systems depending on the size of the specific market. Intensified price competition also poses another risk to the solar power industry. As price competition intensifies, profits could deteriorate and cash reserves could be diminished for a large portion of companies across the value chain. If large suppliers, in particular, are less solvent, this could have a negative impact on many companies in the solar industry. Newer technologies could also emerge in the long term, potentially displacing solar energy as a competitive source of new power generation. However, according to IHS Markit, this is unlikely to happen over the next ten years.

## Key Concerns:

**If solar photovoltaic ("PV") and related technologies are regarded as unsuitable for widespread adoption, or if demand for solar power does not develop or takes longer to develop than SWSL anticipate, its revenues may decline and may be unable to sustain profitability:**

The solar power market is still developing and the extent of acceptance of solar power as a form of energy generation remains uncertain. In many of the geographies in which SWSL operates, the solar power market is at an early stage or nascent stage of development and it cannot be assured that a sustainable market for solar power will emerge in those countries. Historical and current market data on the solar power industry are not as readily available as those for more established industries where trends can be assessed more reliably from data gathered

over a longer period of time. If solar PV technology is regarded as unsuitable for widespread adoption or the demand for solar power or solar power projects fails to develop or takes longer to develop than it anticipates, its revenues may decline and may be unable to sustain profitability.

**SWSL may work on projects for a limited number of customers in a financial period:** SWSL neither assure that it will be able to maintain the historic levels of business from its key customers or that it will be able to replace these key customers should it lose any or all of them. Since SWSL is dependent on its key customers for a significant portion of its operations, the loss of any one of its key customers or a significant reduction in demand from such key customers could have a material adverse effect on the business, future prospects, results of operations and financial condition.

**Several of key raw materials and components are sourced from a single or a limited group of local or global third-party suppliers giving rise to supplier concentration risks:** SWSL's failure to obtain raw materials and components that meet its quality, quantity and cost requirements in a timely manner could interrupt or impair its ability to provide its services or increase SWSL's operating costs. It depends on a limited number of suppliers for its key raw materials. In addition, it engages with local and global suppliers for raw materials for its projects and any adverse regulations for engaging local suppliers; import and export restrictions; transportation and related infrastructure failures; or deterioration in diplomatic relationships and bilateral trade disputes could increase supply costs which could have a material adverse effect on SWSL's operations and financial condition. Any constraints on its suppliers may result in an inability for SWSL to meet its development plans and its obligations under customer contracts, which may have a material adverse effect on the business. In addition, reductions in SWSL's order volume may put pressure on suppliers and could result in increased material and component costs, materially and adversely affecting its business, financial condition and results of operations.

**Global business operations are subject to global and local risks related to economic, regulatory and, social and political uncertainties:** Currently, SWSL has a presence across 26 countries. It uses its subsidiaries and branch offices (which include SWPL's branch offices) globally for its operations. Its business is therefore subject to diverse and constantly changing economic, regulatory and social and political conditions in the jurisdictions in which it operates. Operating in the international markets exposes SWSL to a number of risks globally. To the extent that its operations are affected by unexpected and adverse economic, regulatory and, social and political conditions in the countries in which it operates, it may experience operational disruptions, loss of assets and personnel and other indirect losses that could materially and adversely affect the business, financial condition and results of operations.

**Operates in a competitive industry:** SWSL's business depends on its ability to continually win bids for solar power projects and its current business strategy focuses on increasing the number of solar power projects to which it provides EPC services and expanding its operations into new geographies. It bid for solar power projects and compete with other EPC solutions providers based on, among other things, pricing, technical and design and engineering expertise, financing capabilities, past experience, amount and type of guarantees given and track-record. The bidding and selection process is also affected by a number of factors, including factors which may be beyond control, such as market conditions or government incentive programs. In addition, SWSL's competitors may choose to enter into strategic alliances or form affiliates with other competitors to its detriment. Suppliers or subcontractors may merge with its competitors which may limit the choice of subcontractors it has available which may limit the flexibility of its overall service capabilities. There can be no assurance that its current or potential competitors will not offer the services it provides comparable or superior to those that it offers at the same or lower prices; adapt more quickly to industry challenges; or expand their operations at a faster pace than it does. Increased competition may result in price reductions, reduced profit margins and loss of market share, thereby causing a material adverse effect on its operations, prospects and financial condition.

**SWSL may be unable to accurately estimate costs under fixed-price EPC contracts, fail to maintain the quality and performance guarantees under EPC contracts and may experience delays in completing the construction of solar power projects:** SWSL enter into fixed-price EPC contracts with most of its customers. It estimates essential costs, such as the cost of construction materials and direct project costs, at the time it enters into an EPC contract for a particular project and these are reflected in the overall fixed-price that it charges its customers for the solar power project. However, these cost estimates are preliminary, and at the time it submits bids for a project or enter into EPC contracts, SWSL may not have finalized these costs in its related contracts with subcontractors, suppliers and other parties involved in the solar power project. Its EPC contracts may include provisions allowing for changes by its customers to the scope of work. Such provisions generally allow to reprice the EPC contract and charge its customer for any additional work. Other than through such changes, SWSL generally cannot reprice or renegotiate an EPC contract once it has been entered into with its customer. As a result, any failure to accurately estimate costs could result in its actual costs exceeding its estimated costs, thereby causing an increase in its construction costs and working capital requirements, and as a result, it may incur losses. SWSL also faced delays in completing the construction of a solar power project in Morocco for various reasons, including extreme weather conditions and certain topographical challenges. Another project in Zambia was delayed due to difficult topographical conditions, such as sinkholes and limestone. Delays in project completion may subject the company to penalties under its EPC contracts and harm its reputation with its customers and other stakeholders. Furthermore, delays on

its part, beyond a specified period stipulated in the contract, may require it to purchase the solar power project from the developer, which could have a material adverse effect on its financial condition, cash flow and results of operations.

**EPC contracts generally include provisions permitting SWSL's customers to terminate the agreement at their convenience:** SWSL's EPC contracts typically include provisions permitting its customers to terminate the EPC contract prior to the issue of a notice to proceed ("NTP") or at their convenience with a relatively short notice period. In such circumstances, it is generally able to recover actual costs incurred until that time, but it does not recover the full payment that would otherwise have been due to it under the contract. If SWSL's customers cancel some of its significant EPC contracts and it is unable to secure new contracts on substantially the same terms, or if its customers use such termination rights as leverage to re-negotiate the terms and conditions of the EPC contract, including pricing terms, changes to the scope of work or delivery schedule, this may materially and adversely affect the business, financial condition and results of operations.

**Depend on various subcontractors and suppliers to procure materials and construct and provide services and solutions:** SWSL enters into contracts with subcontractors and suppliers to supply equipment, materials and other goods and services for its EPC and O&M businesses and for providing certain services related to its operations. It is subject to the risk that suppliers or subcontractors may not perform their obligations under their respective contracts with it. Its profitability largely depends on the ability to manage costs relating to its EPC operations. SWSL's most significant cost is the cost of construction materials, including modules, inverters and trackers, the prices of which are subject to price volatility. It also makes advance payments in connection with its procurement agreements for equipment and materials used in its operations. SWSL may not be able to recover such advance payments and would suffer further losses if any subcontractor, supplier or specialist agency fails to fulfil its delivery obligations under its contract, including failing to provide sufficient quantities of materials of such quality as specified in the contract. It is also required to negotiate product and performance warranties and related insurance, for itself and its customers, with suppliers. Its failure to negotiate the product and performance warranties and procure insurances from suppliers for the required scope and period or at all, exposes it to the risks of compensating its customers for any defects in the modules or inverters. Where the warranty period by SWSL's suppliers is shorter in duration than its warranty obligations under the EPC contract, it may be exposed to further claims in case of defects and this may materially and adversely affect its profitability and financial condition.

**Orders in order book may be delayed, modified or cancelled:** SWSL's order book, which it define as the value of solar power projects for which it has entered into definitive EPC contracts minus the revenue already recognized from those projects, was Rs 38,315.77 million, as of March 31, 2019. Order book projects only represent business that is considered 'firm', although cancellations or unanticipated variations or scope or schedule adjustments may occur. Due to changes in project scope and schedule, it cannot predict with certainty when, or if the solar power projects in its order book will be performed. In addition, when a project proceeds as scheduled, it is possible that its customers may default and fail to pay amounts due. It cannot be guaranteed that the income anticipated in its order book will be realized on time, or at all. Any project cancellations or scope adjustments, which may occur from time to time, could reduce the amount of its order book and the income and profits that it ultimately earn from the contracts. Any delay, cancellation or payment default could have a material adverse effect on the business, results of operations and financial condition.

**Depend on SWPL for certain services as a result of the Demerger and it may encounter difficulties adjusting to operating as a separate company after the Demerger, which may materially and adversely affect the business, financial condition, cash flow, prospects and results of operations:** SWSL began operations in 2011 as a business segment of SWPL and with effect from the Appointed Date, it completed its Demerger from SWPL on May 14, 2018. It has historically operated as part of SWPL's corporate organization, and SWPL has provided it with various corporate functions. Following the Demerger, SWPL is under no obligation to provide assistance other than the services agreed under the Framework Agreement. Under the Framework Agreement, it depends on SWPL for utilizing some of its branch offices for its operations. SWPL, certain of its foreign branch offices and project offices (the "Foreign Branches") and certain of its subsidiaries (the "SWPL Relevant Subsidiaries") has been authorized to represent it in connection with its contracts entered into prior to the Demerger until the expiration such contracts or the novation of such contracts. SWPL, the Foreign Branches and the SWPL Relevant Subsidiaries has been authorized to execute necessary project-related documentation, tracking payment due dates, notifying it of impending payments, initiating or defending any action, suit or other legal proceedings and generally facilitating dealing with counterparties in relation to such contracts. Any failure by SWPL, the Foreign Branches or the SWPL Relevant Subsidiaries in performing these services efficiently or on time could have a material adverse effect on the financial condition, cash flows and results of operations. In addition, as result of the Demerger, SWSL has limited experience in conducting its operations on a standalone basis and it may encounter operational, administrative and strategic difficulties as it adjusts to operating as a standalone company. This may cause SWSL to react more slowly than its competitors to market conditions, may divert its management's attention from running its business or may otherwise harm the operations.

**Required to provide bank guarantees and performance guarantees under EPC contracts:** As is customary in the EPC services industry, SWSL is usually required to provide financial and performance bank guarantees to secure its financial and performance obligations under the respective contracts for its projects. These guarantees are typically required to be provided within a few days of the signing of an EPC

contract and remain valid until the expiration of the defect liability period prescribed in that EPC contract. Where any such guarantee is invoked during the subsistence of a contract, it is likely to be required to replace such guarantee with another guarantee. In addition, letters of credit are often required to satisfy payment obligations to suppliers and subcontractors. It may not be able to continue to obtain new financial and performance bank guarantees in sufficient quantities to match its business requirements. If SWSL is unable to provide sufficient collateral to secure the financial bank guarantees, performance bank guarantees or letters of credit, its ability to enter into new contracts or obtain adequate supplies could be limited. Events that adversely affect the insurance and bonding markets, and the banking markets generally, may result in bonding, financing or letters of credit becoming more difficult to obtain in the future, or being available only at a significantly greater cost. If SWSL is not able to continue obtaining new letters of credit, bank guarantees and performance bank guarantees in sufficient quantities to match its business requirements, it could have a material adverse effect on its future revenues and business prospects.

**SWSL may not be successful in implementing global expansion strategy effectively, which could have a material adverse effect on the long-term growth of the business, financial condition and results of operations:** As part of SWSL's expansion strategy, it focusses on new markets and conduct on-the-ground market diligence to tap new opportunities and where necessary, expand its operations through acquisitions and equity investments. As it grows, it expects to encounter additional challenges to its global network supply chain, internal processes, external construction management, capital commitment process, project funding infrastructure, financing capabilities and regulatory compliance. Its existing operations, personnel, systems and internal controls may not be adequate to support the growth and may require to make additional unanticipated investments in its infrastructure. To manage the future growth of SWSL's operations, it will be required to improve its administrative, operational and financial systems, procedures and controls, and expand, train and manage its growing employee base. If SWSL is unable to manage its growth effectively, it may not be able to take advantage of market opportunities, execute its business strategies successfully or respond to competitive pressures. As a result, its business, prospects, financial condition and results of operations could be materially and adversely affected.

**Any failure by SWSL's customers to meet their contractual commitments could materially and adversely affect the working capital requirements:** SWSL depend on its customers to fulfil its contractual obligations under EPC contracts with them. Its EPC services are provided under fixed-price short-term EPC contracts to private and state-owned solar power developers. Any reduction, delay or cancellation of orders from one or more of its significant customers; unilateral change of contractual technological specifications by one or more of its customers; failure to reach an agreement with its customers on the pricing terms or sales volumes under various contracts; loss of one or more of its significant customers and failure to identify additional or replacement customers; or failure of any of significant customers to make timely payment, may cause material fluctuations, or a decrease, in its working capital requirements and revenue. SWSL's financial condition, profitability and cash flow are also dependent on the creditworthiness of its customers and their ability to pay it promptly when due. Its customers may have low credit ratings and any inability to comply with their contractual payment obligations or the commencement of any insolvency or liquidation proceedings against them during the term of the EPC project could cause working capital shortages and materially and adversely affect its business, results of operations, financial condition and cash flow.

**Technological changes, evolving customer requirements and emerging industry trends may affect the business, may render current technologies obsolete and may require SWSL to make substantial capital investments:** Future success of SWSL depends, in part, on its ability to respond to technological advances, evolving customer requirements and emerging industry standards and practices on a cost-effective and timely basis. The development and implementation of such technology entails technical and business risk and not insignificant implementation costs. It cannot be assured that it will be able to successfully implement new technologies or adapt its processing systems to evolving customer requirements or emerging industry standards. Changes in technology may make newer solutions more competitive than SWSL's or may require it to make additional capital expenditure to upgrade its facilities and technology. If SWSL is unable, for technical, legal, financial or other reasons, to adapt in a timely manner to changing market conditions, evolving customer requirements or technological changes, its business, financial condition and results of operations could be materially and adversely affected.

**Business operations relies on consistent solar weather conditions and unfavourable solar weather conditions could have a material adverse effect on the business, financial condition and results of operations:** Solar power is highly dependent on weather conditions and the profitability of SWSL's operations depends not only on observed solar conditions at the project site but also on the consistency of those solar conditions. Unfavourable weather conditions could impair the effectiveness of solar power projects; reduce their output beneath their rated capacity; require the shutdown of key equipment; impede the operation of solar power projects; and could materially and adversely affect its forecasted revenues and cash flows. Sustained unfavourable weather could also unexpectedly delay the installation of solar power projects, which could result in a delay in project completion and could have a material adverse effect on the business, financial condition and results of operations.

**As a significant percentage of sales are denominated in foreign currency, SWSL is exposed to currency translation and transaction risks:** The Indian Rupee has been volatile and as of March 31, 2019, the Indian Rupee was Rs 69.44 compared to one US\$ and Rs77.98 compared to

one Euro. Although its reporting currency is the Indian Rupee, it conducts certain business operations and incur costs, such as local manpower and equipment leasing costs, in the local currency of most countries in which SWSL operates. In addition, payments under most of its EPC contracts with its customers outside India are denominated in U.S. dollars and certain acquisitions and equity investments are made in foreign currency. As a result, SWSL are subject to currency translation and transaction risk. Because its financial results are reported in Indian Rupees, if it generates revenue or earnings in other currencies, the translation of those results into Indian Rupees can result in a significant increase or decrease in the amount of those revenues or earnings. Further, to the extent that it is unable to match revenues received in foreign currencies with costs paid in the same currency, exchange rate fluctuations between such currencies could have a material adverse effect on its liquidity or SWSL's ability to efficiently utilize its working capital. Therefore, volatility in currency exchange rates may have a material adverse effect on the business, financial condition and results of operations.

**An increase in interest rates or tightening of the supply of capital in the global financial markets could make it difficult for the customers to finance their solar power projects, potentially reducing the demand for its services and solutions which may have a material adverse effect on the business, financial condition and results of operations. Further, such conditions could also impact the ability to obtain funding at optimal costs:** Many of SWSL's customers depend on debt and/or equity financing to fund the initial capital expenditure requirement to develop, engineer and build their solar power projects. As a result, an increase in interest rates, or a reduction in the supply of project debt financing or tax equity investments, could reduce the number of solar power projects that receive financing or could otherwise make it difficult for SWSL's customers to secure the financing they require. This could result in receiving fewer services and solutions orders, which could have a material adverse effect on the business, financial condition and results of operations.

**Business operates in many locations around the world and relies on global supply chains:** SWSL currently has a presence in 26 countries globally and the occurrence of external social and political and/or environmental events, including, but not limited to, civil unrest, acts of terrorism and war, regional and global political or military tensions, strained or altered foreign relations, protectionism, strikes, flooding, drought, fire, earthquake, sandstorm, high velocity wind, tsunami and pandemic, in those territories and in other territories involved in its supply chains, may disrupt operations and may have a material adverse effect on the business, financial condition and results of operations.

**The solar power industry is heavily influenced by government regulations and policies:** The cost of solar energy currently exceeds, and SWSL will continue to exceed in the near term, the cost of conventional fossil fuel energy and certain non-solar renewable energy, particularly in light of low oil prices in recent years. The solar power industry is heavily influenced by government regulations and policies, as well as policies adopted by electric utilities companies. Examples of government-sponsored financial incentives to promote solar power include capital cost rebates, feed-in tariffs, tax credits, net metering and other incentives to end-users, distributors, system integrators and manufacturers of solar products. Governments may reduce or eliminate existing incentive programs for political, financial or any other reasons, which is difficult for SWSL to predict. In addition, an economic downturn could impair the fiscal ability of some governments to maintain existing incentive programs or to offer new incentive programs. Until the solar power industry reaches such a scale that it becomes cost-effective on non-subsidized basis, a significant reduction in the scope or discontinuation of government incentive programs could reduce demand for solar power projects and, as a result, cause a decrease in the demand for SWSL's services and solutions, which could have a material adverse effect on its business, prospects, financial condition and results of operations.

**Changing laws, rules and regulations and legal uncertainties, including adverse interpretation or application of tax laws and regulations, may materially and adversely affect the business, prospects, future financial performance:** Currently, SWSL has a presence across 26 countries. It uses its subsidiaries and branch offices (which include SWPL's branch offices) globally for its operations. As a result, its business, prospects, financial condition and results of operations could be materially and adversely affected by changes in law, or interpretations of existing laws, rules and regulations, or the promulgation of new laws, rules and regulations in India and other countries, applicable to it and its business, including potentially adverse tax consequences, such as scrutiny of transfer pricing arrangements by authorities in the countries in which SWSL operates, or implementation of potential tariffs and other barriers to trade.

**Any constraints in the availability of the electricity grid, including inability to obtain access to transmission lines in a timely and cost-effective manner, could materially and adversely affect the business, results of operations and cash flow:** Solar power projects and SWSL's customers rely on transmission lines and other transmission and distribution facilities to transmit power to electricity grids. If transmission and distribution networks are not readily available, which is the case in certain countries in which it operates, it engages contractors to build transmission lines and other related infrastructure, which may extend project timelines and increase project costs. Due to less developed grid infrastructure where SWSL energy assets are established, the electricity generated by solar power projects in such areas may cause frequency disturbances that may lead to power curtailments, a limitation that it currently faces. Such events could reduce the net power generation of renewable energy assets. If construction of renewable energy assets outpaces transmission capacity of electricity grids, it may be dependent on the construction and upgrade of grid infrastructure by the government or public entities of those countries. It cannot be assured that the relevant government or public entities will do so in a timely manner, or at all, which in turn could have a material adverse effect on the solar power industry, and consequently on its business, results of operations and cash flow.

**Profit & Loss**

Rs in million

Particulars	Pertaining to the Company(as derived from the Restated Consolidated Summary)		Pertaining to the SWPL- Solar EPC Division (as derived from the Carved Out Combined Financial Statements)	
	FY19	FY18 (For the period beginning March 9, 2017 to March 31, 2018)	FY17	FY16
Revenue from operations	82404.1	68717.1	16402.7	27394.3
Other Income	2095.3	127.1	97.9	70.4
Total Income	84499.3	68844.2	16500.7	27464.7
<b>Total Expenditure</b>	<b>75983.1</b>	<b>63339.6</b>	<b>15853.8</b>	<b>25506.1</b>
Cost of construction materials, stores & spare parts	56090.9	53734.5	11760.2	18871.1
Purchase of traded goods/ stock-in-traded goods	0.0	0.0	0.0	9.6
Changes in inventories of stock-in-trade	12.7	119.0	-129.7	-13.3
Direct project costs	16450.4	7336.3	2640.6	5204.0
Employee benefits expense	1778.9	986.2	599.8	329.8
Other expenses	1650.2	1163.6	983.1	1105.0
Share of (loss) of equity accounted investees net of income tax)	0	0	-0.2	0
PBIDT	8516.3	5504.6	646.7	1958.6
Interest	846.5	186.2	28.0	6.3
PBDT	7669.8	5318.5	618.7	1952.3
Depreciation and amortisation expense	78.0	31.7	15.7	9.3
PBT	7591.7	5286.8	603.0	1942.9
Tax (incl. DT & FBT)	1209.4	781.4	288.5	689.3
Current tax	1392.6	850.1	387.3	692.3
Current tax for earlier periods	28.2	0.0	0.0	0.0
Deferred tax (net)	-211.4	-68.7	-98.7	-3.0
PAT	6382.3	4505.4	314.5	1253.6
EPS (Rs.)	39.80	28.1	NA	NA
Equity	160.4	160.4	0.0	0.0
Face Value	1.0	1.0	1.0	1.0
OPM (%)	7.8	7.8	3.3	6.9
PATM (%)	7.7	6.6	1.9	4.6

**Balance Sheet:**

Rs in million

Balance Sheet Particulars	Pertaining to the Company(as derived from the Restated Consolidated Summary)		Pertaining to the SWPL- Solar EPC Division (as derived from the Carved Out Combined Financial Statements)	
	FY19	FY18	FY17	FY16
<b>Assets</b>				
<b>Non-Current Assets</b>	<b>672.3</b>	<b>415.6</b>	<b>208.3</b>	<b>81.6</b>
Property, Plant and Equipment	265.41	202.2	76.1	61.0
Capital work-in-progress	0.0	28.7	0.0	0.0
Goodwill	31.2	0.0	0.0	0.0
Other Intangible assets	18.3	10.4	8.8	5.7
Loans	11.7	0.0	0.0	0.0
Deferred tax asset (Net)	321.2	110.23	111.14	10.2
Non-current tax assets (net)	0.0	10.21	12.31	4.77
Other non-current assets	24.5	53.95	0.00	0.00
<b>Current assets</b>	<b>53246.9</b>	<b>48788.2</b>	<b>10577.0</b>	<b>7050.6</b>
Inventories	131.5	185.6	149.2	13.3

Investments	1.7	1.6	3.3	0.0
Trade receivables	19002.2	18214.7	6480.1	4682.6
Cash and cash equivalents	4207.7	954.7	37.6	2.1
Bank Balances other than cash and cash equivalents	337.7	86.7	71.0	307.2
Loans	19533.9	93.6	28.0	16.0
Derivatives	39.5	0.0	0.0	0.0
Other financial assets	2416.8	10298.8	3296.2	1832.0
Current tax assets	8.4	9.00	0.00	0.00
Other current assets	7567.5	18,943.60	511.61	197.45
<b>Total Assets</b>	<b>53919.2</b>	<b>49203.8</b>	<b>10785.3</b>	<b>7132.2</b>
<b>Equity &amp; Liabilities</b>				
<b>Shareholders Funds</b>	<b>8375.2</b>	<b>1938.8</b>	<b>566.2</b>	<b>-769.5</b>
Equity Share Capital	160.4	160.4	0.0	0.0
Capital reserve on demerger	-1817.4	-1817.4	0.0	0.0
Capital reserve	-16.5	-16.5	0.0	0.0
Foreign currency translation reserve	14.9	-35.2	0.0	0.0
Legal reserve	2.7	2.7	0.0	0.0
Retained earnings	10066.0	3672.0	0.0	0.0
Owners' net investment	0.0	0.0	566.2	-769.5
Non-controlling interests	-34.9	-27.2	0.0	0.0
<b>Non-Current Liabilities</b>	<b>86.1</b>	<b>55.8</b>	<b>31.9</b>	<b>11.2</b>
Provisions	86.1	55.7	31.9	11.2
<b>Current Liabilities</b>	<b>45457.9</b>	<b>47209.3</b>	<b>10187.3</b>	<b>7890.5</b>
Borrowings	22277.7	1841.4	3151.3	3.1
Total outstanding dues of micro enterprises and small enterprises	19.3	0.0	0.0	0.0
Total outstanding dues of creditors other than micro enterprises and small enterprises	19106.2	37397.9	4626.0	6738.5
Derivatives	0.0	104.2	194.5	31.9
Other financial liabilities	337.5	204.8	26.0	21.3
Other current liabilities	2446.0	7025.6	1810.4	771.9
Provisions	768.5	552.0	379.1	321.4
Current tax liabilities (net)	502.6	83.4	0.0	2.5
<b>Total Equity &amp; Liabilities</b>	<b>53919.2</b>	<b>49203.8</b>	<b>10785.3</b>	<b>7132.2</b>

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