Research

CRISIL
An S&P Global Company

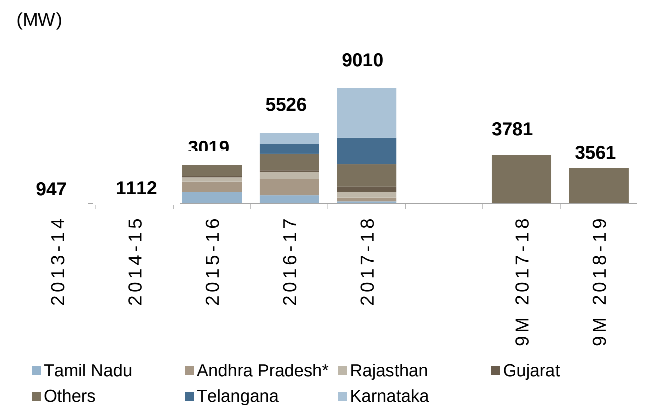
# Cloud over 100 GW target

Inconsistent government actions cast a shadow over developer sentiment; slows down capacity addition momentum

March 2019

# Solar snapshots

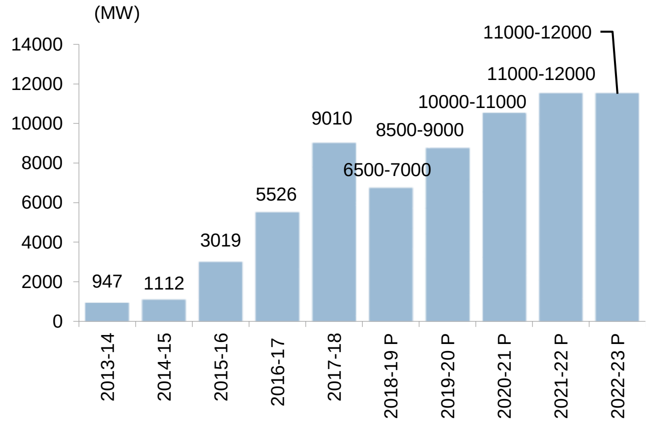
## Capacity additions subdued in Apr-Dec FY19




*Note: *Andhra Pradesh includes capacity addition for Telangana till FY16; Capacity additions for Karnataka is included in "others" category from FY12 to FY16.*

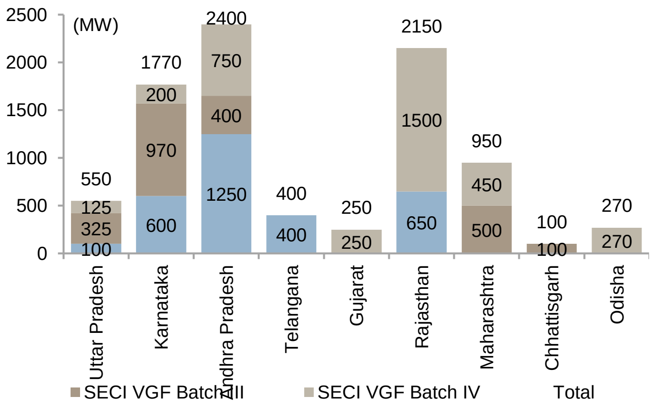
*Source: MNRE, CRISIL Research*

## 48-50 GW additions expected over FY19 to FY23



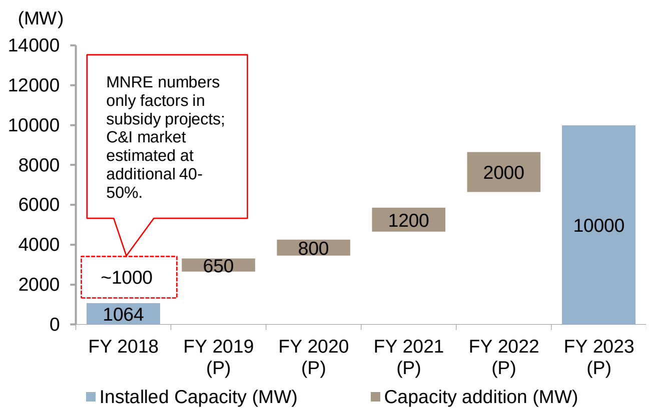

*Source: MNRE, CRISIL Research*

## About 9 GW tendered under Batch II, III and IV



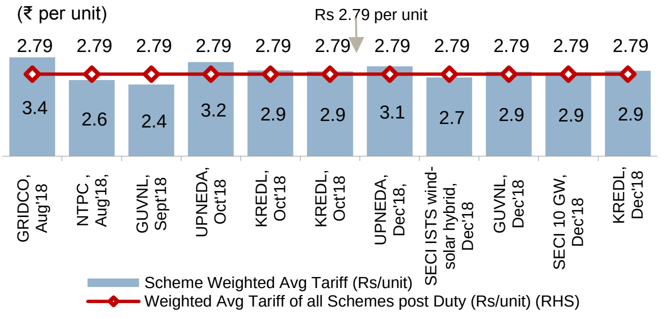

*Source: MNRE, CRISIL Research*

## 7-8 GW additions expected in rooftop solar



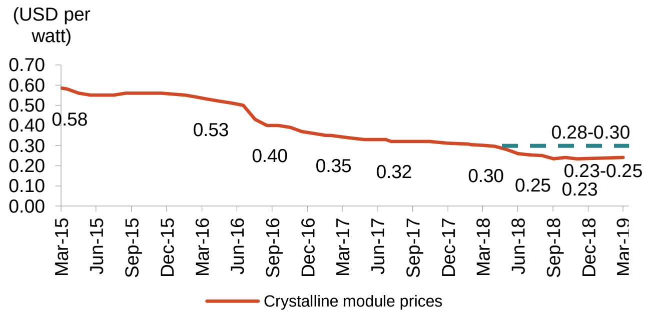

*Source: CRISIL Research*

## Weighted average tariff at Rs 2.8/unit post duty




*Source: Industry, CRISIL Research*

## Modules to remain at US$ 0.23-0.25 in short term




*Note: Global average prices for modules; Source: CRISIL Research*

## Outlook constrained as capacity additions get delayed

CRISIL Research expects solar power capacity additions of 48-50 GW between fiscals 2019 and 2023. However, developer sentiment has been negatively impacted by the lack of clarity on several policy issues and arbitrary bid cancellations, which is contrary to a supportive policy stance from the government.

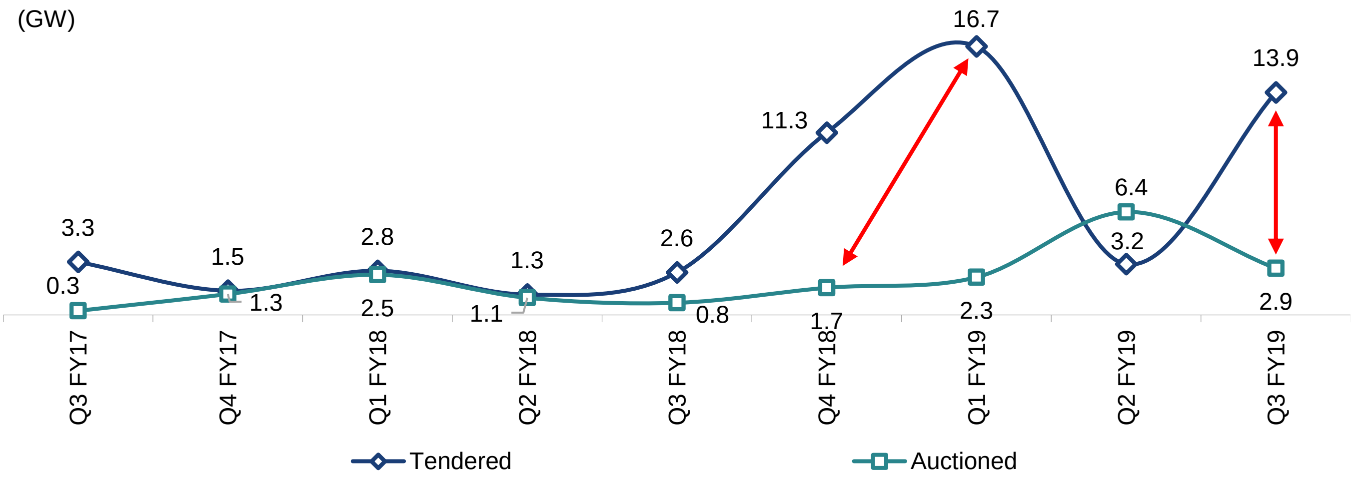
Over fiscals 2017 to 2019, while previously tendered capacities continued to be commissioned apace, certain risks to future project implementation manifested. There were frequent bid cancellations, lack of clarity on GST procedures, and cost pressure from the imposition of the safeguard duty on imported cells/modules. While, GST clarity was lacking for over a year with a final decision taken in December by the GST council, it ended with an increase in taxation compared to what was expected by the industry. Similarly, the safeguard duty has turned out to be a double whammy of sorts, impacting costs of solar power projects and not resulting in any significant offtake for the domestic manufacturing sector. This was coupled by cancellation of bids post auctions as state utilities / SECI found tariffs to be higher than expectations. Close to 4.7 GW was cancelled in such a manner over March - December 2018.

In such a scenario, CRISIL Research's outlook factors in the prevailing market dynamics, where regulatory/policy support is itself emerging as a key risk. The renewable energy domain is highly dependent on policy support and any uncertainty on that front can have strong negative consequences. Hence, considering the current regulatory haze, outlook has been revised downward. We continue to monitor the same and remain aware of a possibility of upsides to our call, once regulatory risk is mitigated to an extent. Further, adequate land availability, timely implementation of grid infrastructure, and the ability of players to raise low cost funds will also be crucial enablers.

## Pricing impasse slows momentum

The safeguard duty imposition has affected project costs by 10-15% and consequently led to a rise in bid tariffs. Though exemption via change in law is available as an option for projects already bid out prior to the duty, the regulatory process developers have to follow has also turned out to be long and arduous.

Additionally, as fresh bid allocations factored in this increase in costs, there was much posturing by state utilities. Already allocated capacities were cancelled at the pre-power purchase agreement (PPA) signing stage. This lowered developer/investor confidence, further discouraging participation in auction activity.




*Source: Industry; CRISIL Research*

As a result, there is a pile-up of tenders in the market with frequent delays in auctioning due to poor bid response. Consequently, the capacity addition pipeline has turned weaker for fiscals 2019 and 2020, as commissioning is getting delayed.

## Taxes and duties add to developer woes; declining duty trajectory to help

The GST imposition has increased taxation rates across all components required to develop a solar power plant.

For instance, pre-GST, solar modules were exempt from any additional custom duties and value added tax (VAT) in several key states. However, GST imposition now implies an additional IGST component (apart from existing BCD) on imports and CGST + SGST for modules procured domestically (replacing VAT/CST). This caused a rise in taxes (apart from BCD which is zero) from zero earlier.

Consequently, there was much confusion over the final tax rates applicable on a solar power project. The Ministry of New and Renewable Energy (MNRE) did issue a clarification last fiscal that entire solar projects should be taxable at 5%. However, if an engineering, procurement, and construction (EPC) contract included both supply and services it would be adjudged on a case-to-case basis. This created further concern, as most projects were set up on an EPC basis, whether in-house or outsourced. The issue lacked clarity for over a year, until the GST Council in December 2018 clarified with regards to EPC contracts by setting a ratio of 70:30 of the entire value of the EPC contract, where 70% will be taxed at 5%, and 30% at 18%, to factor in both the supply and service component.

This has caused much consternation in the sector as most projects are set up in EPC mode (both procurement and services). Even a simple supply order usually involves a service component, which would again attract the GST rates applicable to EPC contracts. The final tax rate works out to 8-9% instead of the earlier expected 5%, causing a cost increase of 3-4% on final capital costs.

The sector is also under pressure from an additional safeguard duty on modules, a key component in solar projects. The Directorate General of Trade Remedies imposed a safeguard duty of 25% on all imported cells/modules, except from developing countries (but including China and Malaysia) in July 2018, with the duty rate set to decline as follows:

| Year of imposition | July 30, 2018 - July 29, 2019 | July 30. 2019 - January 29, 2020 | January 30, 2020 - July 29, 2020 |
|---|---:|---:|---:|
| **Duty rate** | 25% | 20% | 15% |

*Source: Directorate General of Trade Remedies; CRISIL Research*

The duty has had a direct impact on capital costs raising it by 10-15%, despite module prices falling from US$ 0.30 per wattpeak in March 2018 to US$ 0.24 per wattpeak in December 2018. As a consequence, bid tariffs have moved up in the range of Rs 2.7-2.9 per unit, to be able to sustain current capital costs of Rs 34-35 million per MW.

Having said that, as the rate would be 20% from July 2019, it would give developers who participate in auctions post January 2019 the leeway to procure when the rate is lower. The same would hold true when rates go down to 15% after January 30, 2020. Hence, over the long term, once duty rates decline, as they should in a time bound manner, cost pressures would ease and tariffs would also start easing by ~5-10 paise per unit, *ceteris paribus*.

## Supportive policy delivery crucial for shadow to pass

We expect that the duty trajectory, which outlines a decline in safeguard duty rates over a two-year period, would help in lowering cost pressure. But this again has to be coupled with regulatory support that recognises prevailing market dynamics.

There are other issues as well, where overall policy coherence from the government is imperative. While, on one end, there is ample government support in terms of allocations and incentives, on the other, confusion has been created by policies under other government agencies.

For instance, clarification on the Goods and Services Tax (GST) procedures and its implementation for solar was not forthcoming for over a year, impacting commissioning schedules and project costs across developers.

However, the outlook still remains fairly positive for the sector as the government remains ambitious about achieving its fiscal 2022 target.

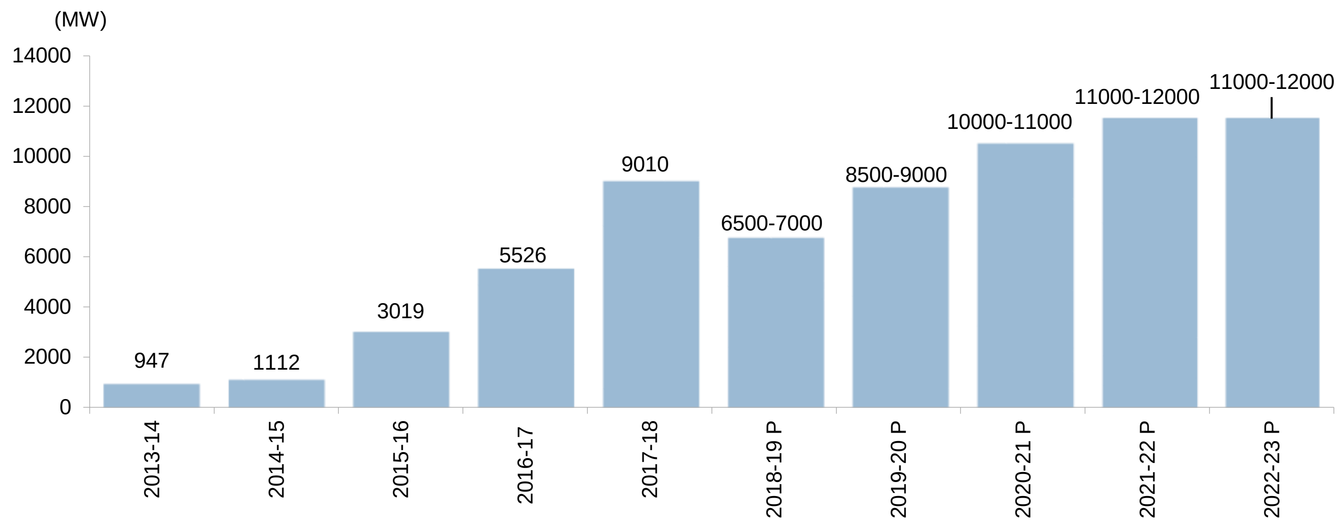
Further, recent amendments have provided fillip for the renewable energy market in India. One, is the upward revision in solar Renewable Purchase Obligation (RPO) achievement target from 8% earlier to 10.5% by fiscal 2022 (Ministry of Power notification dated 14th June 2018). Two, is the waiving off of the interstate transmission charges and losses on solar power till fiscal 2022. As earlier emphasised, implementation and enforcement of these policies remains critical.

## Installed capacity expected at ~60 GW by FY'22 and 70 GW by FY'23

A few key schemes that will drive additions are:

- **NSM:** Under NSM Phase II, Batch III and Batch IV, the Solar Energy Corporation of India (SECI) has tendered out ~6 GW of capacities (150 MW pending allocation) through its state-specific viability gap funding scheme. Of this, we expect ~2.2 GW to be commissioned over fiscals 2019-2021.
- **Other central government schemes:** The SECI has also started tendering and allocation under the Inter-State Transmission System (ISTS) scheme, wherein projects are planned for direct connection with the ISTS grid. Under this, the SECI has already allocated 2.6 GW and another 1.2 GW is in the tendering phase. Besides, it has allocated ~800 MW of wind-solar hybrid projects in December 2018 and floated another tender for ~1.2 GW. Yet another ~1.2 GW has been tendered/allocated by SECI under various other schemes outside of JNNSM.
- **State solar policies:** Given the central government's thrust, states have also come out with aggressive targets to be achieved by FY'2022 under their respective solar policies. While ~6.7 GW is under construction based on already allocated schemes, another ~7.5 GW is expected to be tendered and allocated over fiscal 2019, based on upcoming tenders under various state policies as on July 2018.
- **Public sector units (PSUs):** The government is also encouraging cash-rich PSUs to set up renewable energy projects. NTPC has already commissioned ~870 MW of capacity and has tendered/ allocated another 2,750 MW. Similarly, Indian Railways has committed to 5 GW of solar power by FY'2025. Other PSUs, including National Lignite Corporation (NLC), National Hydroelectric Power Corporation (NHPC), defence organisations and government establishments, are also expected to contribute.
- **Rooftop solar projects:** We expect ~8 GW of rooftop projects to commission by fiscal 2023, led by high industrial and commercial tariffs and declining levelised cost of energy for solar rooftop projects. The capacity addition would be supported by improvement in discom infrastructure, continuation of net metering regulations/ benefits, and other regulatory incentives.

**Upcoming solar capacity additions (FY19 to FY23)**




*Source: MNRE; CRISIL Research*

While, commissioning is expected to slowdown in FY'19 due to the impact of the duty and GST issues, FY'20 is weak due to delay in auction as several tenders got delayed/cancelled. However, FY'20 onwards, additions are expected to pick up due to several factors: Subsiding of / removal of the safeguard duty would ease cost pressures; commissioning of capacities auctioned with amended commissioning schedules of 21-24 months coupled with tenders now allocated with schedules of 15-18 months and aggressive tendering expected prior to FY'22 which is milestone year.

However, consistent regulatory support, adequate land availability, timely implementation of grid infrastructure, and the ability of players to raise low cost funds are key risks which constrain the outlook.


## Analytical contacts

**Rahul Prithiani**
Director, Industry Research-Analytical
rahul.prithiani@crisil.com

**Mayur Patil**
Associate Director, Industry Research-Analytical
MayurP@crisil.com

## Media contacts

**Saman Khan**
Media Relations
CRISIL Limited
D: +91 22 3342 3895
M: +91 95940 60612
B: +91 22 3342 3000
*saman.khan@crisil.com*

**Hiral Jani Vasani**
Media Relations
CRISIL Limited
D: +91 22 3342 5916
M: +91 982003 9681
B: +91 22 3342 3000
*hiral.vasani@crisil.com*

**Parmeshwari Bhumkar**
Media Relations
CRISIL Limited
D: +91 22 3342 1812
M: +91 841184 3388
B: +91 22 3342 3000
*parmeshwari.bhumkar@ext-crisil.com*

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**CRISIL Limited:** CRISIL House, Central Avenue, Hiranandani Business Park, Powai, Mumbai – 400076. India
Phone: + 91 22 3342 3000 | Fax: + 91 22 3342 3001 | www.crisil.com
/company/crisil @CRISILLimited /CRISILLimited /user/CRISILLimited /lifeatcrisil

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