Research

CRISIL
An S&P Global Company

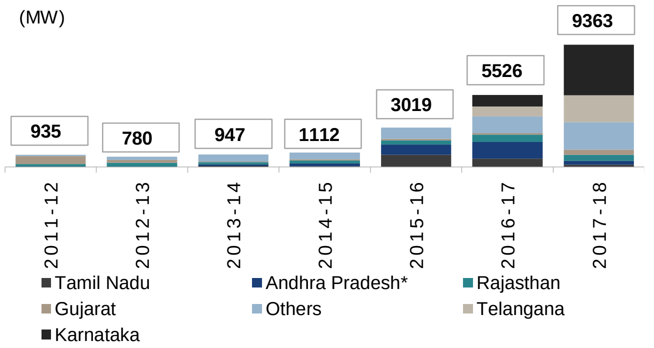
Robust solar allocations and a duty scare

Government push comes with a catch

July 2018

Screenshots

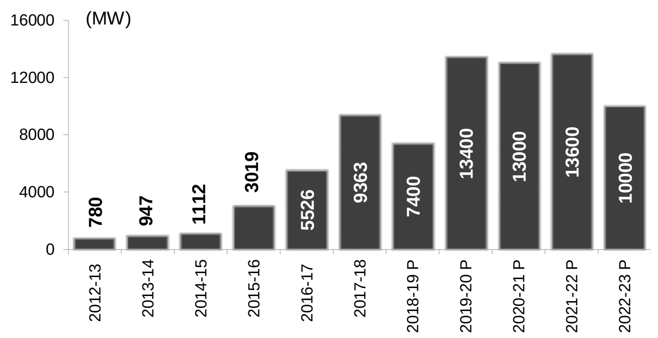
Capacity addition up 8-fold in last 4 years…



*Note: *Andhra Pradesh includes the capacity additions for Telangana state till FY 2016; Capacity additions for Karnataka state is mentioned in "Others" category from FY 12-16.*

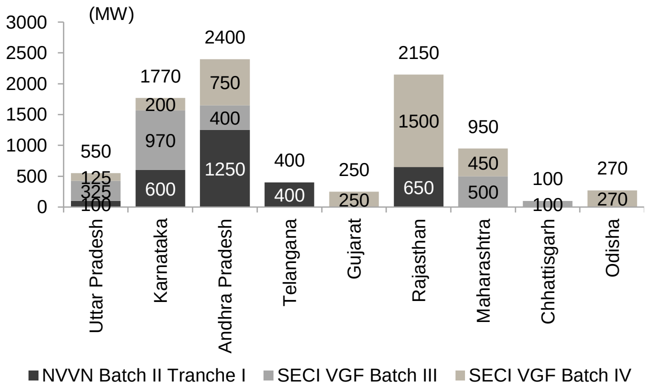
Source: MNRE, CRISIL Research

…and expected stay robust



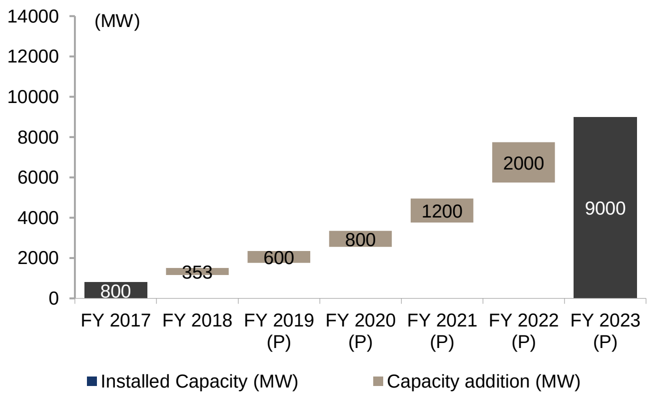
Source: MNRE, CRISIL Research

~4.7 GW under construction in Batch III and IV



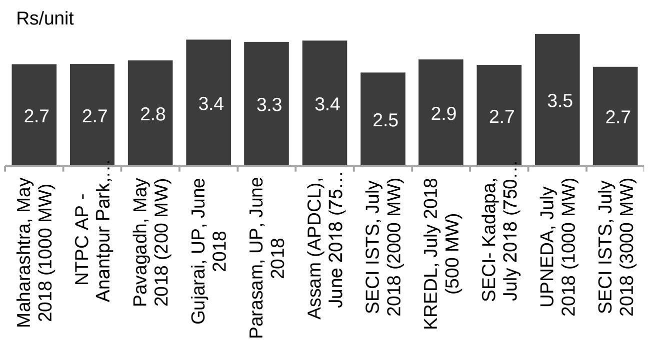
Source: MNRE, CRISIL Research

7-8 GW additions expected in rooftop solar



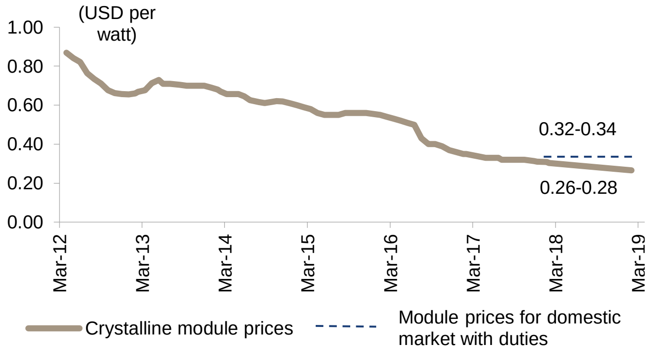
Source: CRISIL Research

Tariffs have been range-bound this fiscal…



Source: State policy documents, CRISIL Research

…but could rise as module prices spurt post duty



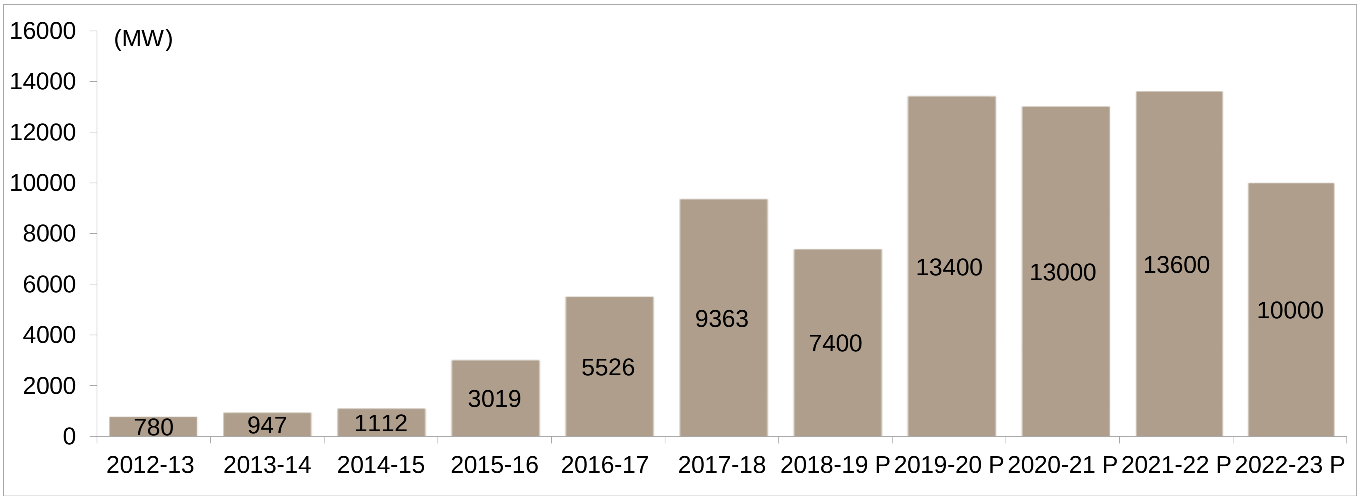
Note: Global average prices for modules; Source: PV Insights, CRISIL Research

Around 57 GW solar capacity to be added in five years…

CRISIL Research expects solar power capacity addition to ramp up to 56-58 GW between fiscals 2019 and 2023, compared with 20 GW between fiscals 2014 and 2018. This will be driven by capacities allocated/ tendered under -

- **NSM:** Central government-level allocations under Phase II Batch III and IV with ~4.7 GW under implementation and another 150 MW in the tendering phase as of July 2018.
- **Other central government schemes:** The Solar Energy Corporation of India (SECI) has also started tendering and allocation under the Inter-State Transmission System (ISTS) scheme, wherein projects are planned for connections with the ISTS grid directly. Under this, the SECI has already allocated 5 GW and has another 3 GW in the tendering phase. Besides, the government has also announced a 2.5 GW solar-wind hybrid scheme to facilitate higher utilisation of resources and 10 GW of manufacturing capacity-linked projects.
- **State solar policies:** Given central government thrust, states have also come out with aggressive targets to be achieved by 2022 under their respective solar policies. While 7.3 GW is under construction, based on already allocated schemes, another 1.7 GW is expected to be tendered and allocated over fiscal 2019, based on upcoming tenders under various state policies as on July 2018.
- **PSUs:** The government is also encouraging cash-rich PSUs to set up renewable energy projects. NTPC has already commissioned over ~880 MW of capacity and has tendered/ allocated another 2,750 MW. Similarly, Indian Railways has committed to 5 GW of solar power by 2025. Other PSUs, including NLC, 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 the improvement in discom infrastructure, continuation of net metering regulations/ benefits and other regulatory incentives.

Solar capacity addition expected over fiscals 2019 to 2023



Source: MNRE; CRISIL Research

…but safeguard duty could hinder implementation temporarily

Following a petition filed by the Indian Solar Manufacturers' Association (ISMA) in December 2017, seeking imposition of safeguard duty, the Directorate General of Safeguards (DGS, now converted to Directorate General of Trade Remedies or DGTR) had recommended a 70% safeguard duty in January 2018.

The DGTR reviewed the recommendation and on July 16, 2018 proposed imposition of safeguard duty as follows:

Year of imposition	First year	Second year, first half	Second year, second half
Duty rate	25%	20%	15%

Source: Directorate General of Trade Remedies, CRISIL Research

This proposal has been approved by the Ministry of Finance on July 31, 2018, with immediate effect.

As per CRISIL Research's analysis, a 25% safeguard duty entails a rise in capital costs by 15-20%, which would have a 30-40 paise per unit impact on bid tariffs so as to maintain the same rates of return.

We expect some delay in project implementation on account of the duty as the 'change in law' clause is expected to be sought for ~12 GW of under-construction projects. This could cause some procedural delays as developers would have to approach the appropriate authorities (Electricity Regulatory Commissions) to approve the new tariffs with pass-through of costs.

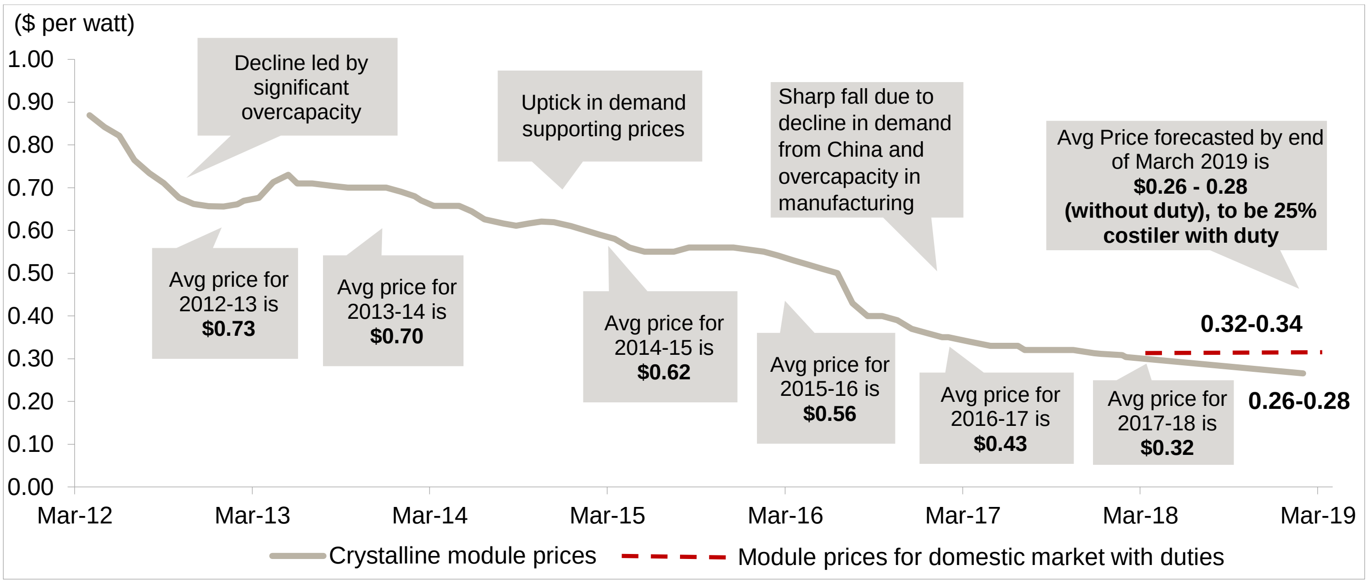
Logically, domestic module manufacturers would become the main suppliers to solar developers in India. However, their supply capacities are far short of the annual demand of the sector. Hence, we expect a rise in capital costs over the near term due to the duty, as even domestic module manufacturers are likely to charge a premium on their products in the event of a surge in demand. But as domestic capacities expand and integrated foreign players set up units in India, costs could drop again.

A weakening rupee will cause additional cost pressure with increased foreign exchange volatility faced by importers unless they have hedged in advance. This could amp up the cost pressure slightly.

That said, China's National Energy Administration in June 2018 reduced feed-in tariff (FiT) rates by RMB 0.05-0.07 per kWh. It also placed limits on capacity additions with distributed generation limited to 10 GW, and stopped subsidies for utility-scale solar projects. This will cause a weakening in demand for modules from the world's leading solar market, causing the excess capacities to find new markets such as India. As a result, module prices may weaken over the remaining portion of the fiscal, counteracting the safeguard duty to some extent.

The interplay of these factors will decide the final capital costs to be borne by solar developers over the quarters remaining this fiscal.

Weakening demand in China to offset hike in capital costs due to duty



Source: PV Insights, Industry, CRISIL Research

Higher RPO targets could pare compliance

To promote the installation of solar power systems across states, the government amended the National Tariff Policy (NTP) in fiscal 2016, proposing an increase in the solar renewable purchase obligation (RPO) target to 8% by fiscal 2022. Consequently, several states set RPO targets based on their respective renewable energy potential.

However, in June 2018, the Ministry of Power issued a revised trajectory as follows:

Long-term RPO trajectory	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Non-solar	8.75%	9.50%	10.25%	10.25%	10.25%	10.50%
Solar	2.75%	4.75%	6.75%	7.25%	8.75%	10.50%
Total	11.50%	14.25%	17.00%	17.50%	19.00%	21.00%

Source: Ministry of Power CRISIL Research

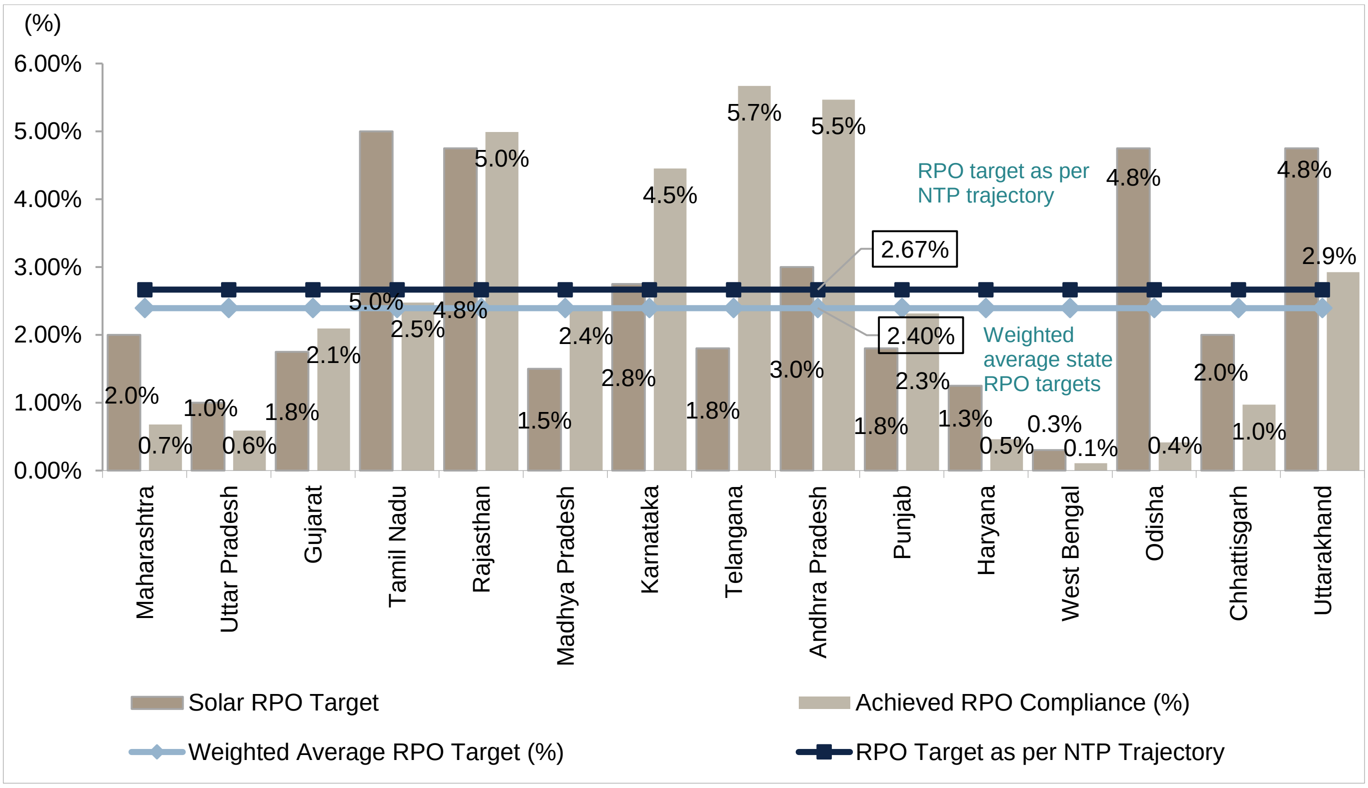
The revision also allowed for inter-replacement of non-solar and solar RPO, in case one fell short. Any backlog would be carried forward.

Although overall solar RPO compliance is estimated at 95-96% for fiscal 2018, this is mostly on account of a few states, including Telangana, Andhra Pradesh, Karnataka, Madhya Pradesh, Gujarat and Rajasthan – which together account for nearly 70% of the total installed base -- overachieving vis-à-vis their existing RPO targets, as well as the low existing RPO targets set by state commissions.

States which had aligned their RPO trajectory to the NTP order by issuing petitions over the past two fiscals, will need to realign these to match the new order from the Ministry of Power. The higher targets, when followed by states, may cause overall compliance to fall to 70-80%, unless these states are able to purchase the required number of renewable energy certificates.

The state-wise performance would differ. This is because, certain states have either already installed significant solar capacities, while others are still planning to do so. Thus, Telangana, Karnataka, Andhra Pradesh, Rajasthan, Gujarat, etc, may be able to comply, while the likes of Delhi, Uttar Pradesh, and Punjab could lag.

Low RPO targets have aided overachievement by some states



Note: Compliance of most other states is close to zero; This is based on generation from installed capacity base of the states.

Source: Distribution Utility Tariff orders, MNRE, CRISIL Research

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@extcrisil.com

About CRISIL Limited

CRISIL is a leading, agile and innovative global analytics company driven by its mission of making markets function better.

It is India's foremost provider of ratings, data, research, analytics and solutions, with a strong track record of growth, culture of innovation and global footprint.

It has delivered independent opinions, actionable insights, and efficient solutions to over 100,000 customers.

It is majority owned by S&P Global Inc, a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

About CRISIL Research

CRISIL Research is India's largest independent integrated research house. We provide insights, opinion and analysis on the Indian economy, industry, capital markets and companies. We also conduct training programs to financial sector professionals on a wide array of technical issues. We are India's most credible provider of economy and industry research. Our industry research covers 86 sectors and is known for its rich insights and perspectives. Our analysis is supported by inputs from our large network sources, including industry experts, industry associations and trade channels. We play a key role in India's fixed income markets. We are the largest provider of valuation of fixed income securities to the mutual fund, insurance and banking industries in the country. We are also the sole provider of debt and hybrid indices to India's mutual fund and life insurance industries. We pioneered independent equity research in India, and are today the country's largest independent equity research house. Our defining trait is the ability to convert information and data into expert judgments and forecasts with complete objectivity. We leverage our deep understanding of the macro-economy and our extensive sector coverage to provide unique insights on micro-macro and cross-sectoral linkages. Our talent pool comprises economists, sector experts, company analysts and information management specialists

CRISIL Privacy

CRISIL respects your privacy. We may use your contact information, such as your name, address, and email id to fulfil your request and service your account and to provide you with additional information from CRISIL. For further information on CRISIL's privacy policy please visit www.crisil.com.

Disclaimer

Argentina | China | Hong Kong | **India** | Poland | Singapore | UK | USA | UAE
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 Follow us on @lifeatcrisil

CRISIL
An S&P Global Company