

# Rooftop Solar Market in India

An insight into Current Growth, Challenges and Future Outlook of Solar Rooftop

Column By: Kirtiraj Jilkar, Business Head – Solar, Thermax



**R**ooftop solar market in India has a very healthy growth in the recent past on account of falling prices and increasing cost of power, especially for industrial & commercial customers.

The current installed capacity of rooftop solar systems is 4.3 GW as of March 31, 2019 and it is estimated that by 2022 the installed capacity will reach 15 GW, which shall be around 38% of the government's 40 GW target.

Capacity addition in FY 2019 is expected to be more than 2300 MW, which is likely to be almost 50% higher than in 2018 with commercial & industrial segment likely to dominate the overall growth.

Commercials have been and shall continue to remain the key driver in this segment. Rooftop solar systems have already achieved grid parity for commercial and industrial consumers, and are gradually becoming attractive for large residential consumers.

Despite huge potential, the availability of finance and high upfront investment remains a huge constraint.

Maharashtra, Rajasthan, Gujarat, Karnataka and Tamil Nadu are the top 5 states and account for more than half of the share of the total market in rooftop solar sector.

Rooftop market has seen a lot of churn in past 5 years with the share of projects finalized on opex basis going up from an almost negligible number in 2012 to more than a third of the total market in 2018.

Given the limited entry barriers, this segment has been highly fragmented with share of unorganized players and customers opting for self EPC going up from 1/3rd of the total market in 2014 to more than 3/4th in 2019, with more than 25 players competing for a place in the remaining 2/4th of the addressable market.

While this increased competition has resulted in falling EPC prices, it has also resulted in sub-standard projects with delayed completion and below par performance on account of improper engineering & execution from local players on account of limited or no experience of handling complex rooftop projects.

There have been challenges for the rooftop segment in the recent past because of regulatory changes like imposition of safeguard duty, GST, BIS implementation niggles and policy reversals resulting in project delays; however overall sentiment remains optimistic with the segment expecting a healthy growth in the coming years.

While the government is trying to encourage growth in this segment which is mainly driven by private players from the commercial & industrial segments, clarity around regulatory approvals required from state authorities, single window clearance in a time bound manner for the same and implementation of net-metering policies across states will go a long way in sustaining and boosting the growth rate as these are key imperatives for private players to decide on implementing rooftop solar projects within their premises.

Even those states that allow net metering have a cap on the amount of power that can be fed back into the grid with metering guidelines and their on-ground implementation varying widely across states.

The disparity among states in terms of drafting of net-metering policies or solar policies in general also vary significantly thereby posing challenges for quick proliferation of rooftop solar, for e.g. Gujarat does not allow for solar projects to be installed on opex basis, furthermore the state policy also caps installation of solar at 50% of the connected load or up to a MW whichever is lower.

Tamil Nadu has set up a condition wherein approval for installing solar is available subject to TANGEDCO clearance, which is only available for customers connected to the grid via an express feeder.

Uttar Pradesh recently issued a notification whereby they want to shift from a concept of net-metering to gross me-



tering with a reduced compensation for excess power fed into the grid; this will adversely affect the viability of solar.

While these are some of the examples, the inference from such disparities is a considerable amount of ambiguity around possible capacities that could be installed and hence delayed decision making impeding the growth. These indirect restrictions on possible solar capacity that can be installed are also result of the fact that most of the DISCOMS in India, barring a few, have a negative bottom line and industrial & commercial customers happen to be cross-subsidising the heavily subsidized agricultural & residential power consumers.

Any reduction in off-take of power by the industrial and commercial clientele on account of self-generation will result in further deterioration of the financial health of DISCOMS.

Rooftop systems, in our opinion, requires a very fine system design and integration capabilities, technology strength, EPC expertise and experience to carry out O&M of small power generating projects.

To conclude, the rooftop solar market has a promising future as it has entered a phase of self-drive mode on account of falling EPC prices, increasing industrial tariffs & increased environmental awareness among end-users.

Addressing some of the challenges mentioned above will go a long way in ensuring that this momentum continues to drive growth in coming years. ■

*The Article is contributed by the management of Thermax*

*Designing solar system which ensures seamless integration is key for any rooftop project and such multi-dimensional expertise is indeed the core strength of Thermax that is evident from more than 100 satisfied customers with many of them being repeat customers, thereby reinforcing their faith in Thermax's capabilities.*

For details visit: <https://www.thermaxglobal.com/solar-solutions/solar-photovoltaic/>