

## Rooftop energy: on boosting solar power

[Bengaluru's aerial mission](#) to produce a three dimensional map of rooftop solar power potential using Light Detection and Ranging (LIDAR) data can give this key source of power a big boost. Similar mapping exercises have been carried out in several countries over the past few years to assess how much of a city's power needs can be met through rooftop solar installations. A survey helps determine usable rooftops, separating them from green spaces, and analyses the quality of the solar resource. With steady urbanisation, solar maps of this kind will help electricity utilities come up with good business cases and investment vehicles and give residents an opportunity to become partners in the effort. An initiative to rapidly scale up rooftop solar installations is needed if the target of creating 40 GW of capacity connected to the grid by 2022 is to be realised. Rooftop solar power growth has demonstrated an overall positive trend, including in the fourth quarter of 2017 when tenders for 220 MW represented a doubling of the achievement in the previous quarter. But this will need to be scaled up massively to achieve the national target. Going forward, domestic policy has to evaluate the impact of factors such as imposition of safeguard duty and anti-dumping duty on imports, and levy of the goods and services tax on photovoltaic modules. The industry is apprehensive that the shine could diminish for the sector during the current year, unless policy is attuned to the overall objective of augmenting capacity.

Major solar projects that connect to the grid often face the challenge of land acquisition and transmission connectivity. This has led to a delay in planned capacity coming on stream during 2017: nearly 3,600 MW did not get commissioned during the last quarter, out of a scheduled 5,100 MW. What this underscores is the importance of exploiting rooftop solar, which represents only about 11% of the country's 19,516 MW total installed capacity at the start of 2018. The Centre should come up with incentives, given the enormous investment potential waiting to be tapped and the real estate that can be rented. The southern States and Rajasthan together host the bulk of national solar infrastructure on a large scale. With some forward-looking policymaking, they can continue to lead by adding rooftop capacity. India, which is a founder-member of the International Solar Alliance launched in Paris during the climate change conference more than two years ago, must strive to be a global leader. Initiatives such as the Bengaluru mapping project can contribute to assessments of both real potential and risk. This is crucial for projects on a large scale involving significant exposure for financial institutions, including banks. With ongoing improvements to solar cell efficiency and battery technology, rooftops will only get more attractive in the future.

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