India May Miss 100 GW Solar Power Target by 2022: Crisil Report

According to a recent report released by rating agency CRISIL, India may not reach its ambitious National Solar Mission target to add 100 gigawatts (GW) of solar power capacity by 2022.

Key Points

- Currently, India has a capacity to generate 21.65 GW of solar power and is expected to make an additional 56-58 GW of solar capacity addition between FY19 and FY23.
- A safeguard duty on solar modules from China and Malaysia has slowed the solar capacity addition. The fast-growing Indian market for solar components is dominated by Chinese companies due to their competitive pricing.
- The surge in imports led the government to impose a safeguard duty from 30 July for two years on solar cells and modules imported from China and Malaysia.

NOTE: What is a safeguard duty?
A safeguard duty or technically, product safeguard duty is a tariff or tax imposed by a country on the import of a specific commodity on the ground that the import is creating injuries to the local manufactures. Low pricing or cheap imports is an important reason for imposing safeguard duty.

- Individual states have also set aggressive targets under their respective solar policies. However, state government projects are not as well-funded and they have less access to cheap financing.
- India's solar mission target for the rooftop segment of 40 GW by 2022 is the key concern. Under this segment, the rooftops of commercial and industrial units are used to generate power to reduce dependence on the grid. However, since the cost of solar power at rooftops is expected to be higher it is not expected to add more than 8 GW by 2023.

Background

- Jawaharlal Nehru National Solar Mission (JNNSM) was launched in 2009 with a target for Grid Connected Solar Projects of 20,000 MW by 2022.
- The sector has witnessed rapid development with installed solar capacity increasing rapidly from 18 MW to about 3800 MW during 2010 - 15.
- In 2015, Government of India gave its approval for stepping up of India's solar power capacity target by five times, reaching 1,00,000 MW by 2022.
- The target will principally comprise of 40 GW Rooftop and 60 GW through Large and Medium Scale Grid Connected Solar Power Projects.

The Government of India has set itself a target of 100 GW of solar power by 2022, of which 60 GW is to come from utilities and 40 GW from rooftop solar installations. While the 60 GW target seems achievable, the country is lagging behind on the target set for rooftop solar.

- With a view to accelerating the deployment of rooftop solar power in the country, the Ministry of New and Renewable Energy (MNRE) has proposed the 'Sustainable Rooftop Implementation for Solar Transfiguration of India (SRISTI)' scheme.
- The government has set a target of reaching 100 GW of solar power installed capacity in the country by 2022, of which 40 GW is targeted through the solar rooftop.
- The Ministry is implementing Grid Connected Rooftop Solar (RTS) Power Programme in which subsidy/incentives are being provided for residential, institutional, social and Government sector. States/UTs have also taken conducive policy and regulatory measures for the promotion of solar rooftop.

What is rooftop solar?

> Rooftop solar installations — as opposed to large-scale solar power generation plants — can be installed on the roofs of buildings. As such, they fall under two brackets: commercial and residential. This simply has to do with whether the solar panels are being installed on top of commercial buildings or residential complexes.

What are the benefits?

- Rooftop solar provides companies and residential areas the option of an alternative source of electricity to that provided by the grid. While the main benefit of this is to the environment, since it reduces the dependence on fossil-fuel generated electricity, solar power can also augment the grid supply in places where it is erratic.
- Rooftop solar also has the great benefit of being able to provide electricity to those areas that are not yet connected to the grid — remote locations and areas where the terrain makes it difficult to set up power stations and lay power lines.

Why is it not being adopted widely?

- One of the major problems with rooftop solar — and what affects solar energy generation in general — is the variability in supply. Not only can the efficiency of the solar panels vary on any given day depending on how bright the sunlight is, but the solar panels also produce no electricity during the night. Arguably, the night is when off-grid locations most need alternative sources of electricity.
- Another major reason why rooftop solar is not becoming popular is that the current electricity tariff structure renders it an unviable option. Many states have adopted a net metering policy, which allows disaggregated power producers to sell excess electricity to the grid. However, the subsidised tariffs charged to residential customers undermine the economic viability of installing rooftop solar panels. The potential profit simply does not outweigh the costs.
- Storage technology for electricity is still underdeveloped and storage solutions are expensive. Residential areas also come with the associated issues of use restrictions of the roof — if the roof is being used for solar generation, then it cannot be used for anything else.