



High operating costs burn up solar units' funds

Dust, lack of skilled workforce, dearth of water and high temperatures - all contribute to extra costs of maintenance

Dust, high temperatures and the dearth of water are contributing to a significant increase in the cost of operating solar power plants in the country...

Too hot

The solar panels that are used are not designed for such high temperatures, Tata Power Solar Systems CEO and Executive Director Ashish Khanna said...



T.C.A. SHARAD RAGHAVAN

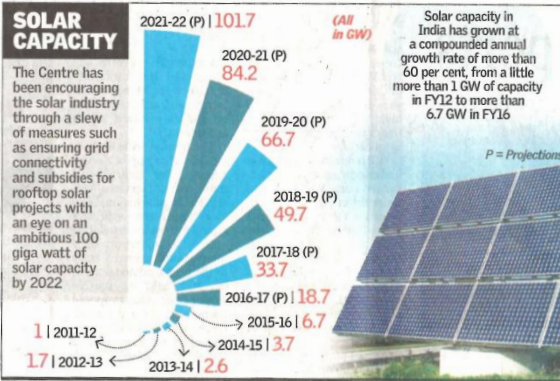
India ranks among the highest in the world in terms of solar irradiation with an average reading of 5.1 kilowatt hours (KwH) per square metre...

While the Centre has been encouraging the solar industry through a slew of measures such as ensuring grid connectivity and subsidies for rooftop solar projects...

Dust is a problem, especially in Rajasthan, where the dust conditions are really bad and require frequent cleaning around two times a month...

SOLAR CAPACITY

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Source: Ministry of New and Renewable Energy

Solar capacity in India has grown at a compounded annual growth rate of more than 60 per cent, from a little more than 1 GW of capacity in FY12 to more than 6.7 GW in FY16

New and Renewable Energy projected these figures to grow to 18 GW by the end of FY17, eventually reaching its target of 100 GW by 2022.

Rooftop solar

The government also plans to incorporate the still-dormant rooftop solar sector into its target for 2022, which means that individual households will also have to factor in the operational costs of having solar modules on their roofs...

country, said.

The cleaning cost is about Rs.2 per module, Mr. Mehta added. In Andhra Pradesh and Telangana, for example, we need to clean once a month, but in Rajasthan we need to clean the modules twice a month...

There are different types of dust, Ivan Saha, President and Chief Technical Officer, Vikram Solar said. There is alluvial dust (present in plains of north India and delta regions of south India).

Cleaning costs

Frequent cleaning, almost on a fortnightly basis, is required in most parts of Rajasthan and Gujarat owing to dry sandy dust, Mr. Saha said.

But apart from the dust, one other main issue is the hardness of the water, Mr. Khanna explained. Hard water is not suitable for cleaning, and so we have to

invest in reverse osmosis and other technology to make it suitable.

Since many large-scale power plants are located in the interior regions of Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh and parts of South India, getting soft water on sites becomes difficult at times.

Therefore, reverse osmosis or distillation plants have almost become mandatory for solar plants in order to provide water which can be used for cleaning modules.

Apart from treating the water, the unavailability of a steady water supply also proves to be a problem for solar plant operators.

We require about 3-4 litres of water to clean each module, Mr. Mehta said. Water availability, especially in the remote areas where there are solar plants, is a problem. So we need water tankers. Overall, the system of operations and the issues specific to India have resulted in the operations of solar plants in India being more expensive than in most

other countries. Operations and maintenance (O&M) is highly automated in the West as compared to primarily manual O&M services in India, where it can be estimated to be between Rs.9-12 lakh per year per megawatt, Mr. Saha said.

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In remote areas with high temperatures, we find that we are not getting the required units of power. The panels do not yield their optimal usage

Ashish Khanna, CEO and Executive Director, Tata Power Solar Systems

The result—higher operational costs—coupled with historically low tariffs for solar power could pose a future risk for the industry, according to Mr. Mehta.

Solar tariffs in India have fallen tremendously, 16.1 cents per unit in November 2010 to 6.7 cents per unit in January 2016, among the lowest rates in the world, according to EY.

Despite renewing interest in the sector, they have sparked concerns about risks in projects that assume strict cost parameters to turn a profit at such low tariffs. Ten to fifteen years down the line, operational costs will increase and revenues will start to flatten, Mr. Mehta said. So there is definitely a risk to profitability.

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