

Scaling up Rooftop in Bihar's Cities: Identifying Challenges and Opportunities

PANEL DISCUSSION I

Bihar is the 13th largest state in the country with an area of 94,163 km² and the 3rd largest state by population (as per census 2011). It is one of the fastest growing states in India. However, the growth in the power sector is not proportionate to its rapid economic growth. The per capita electricity consumption of Bihar was 258 kWh in 2017-18, which remains far behind the National average of 1149 kWh. In the last six years, the demand for electricity in the state has grown at an annual rate of about 8%, but the power supply position remains dismal, leading to a very high peak demand deficit. As per the Central Electricity Authority (CEA), the peak power deficit in Bihar is 18.9% and the energy deficit is 19.2% for the year 2017-18 (1). Despite solar being economically competitive to conventional sources of energy, with falling generation costs and improving efficiency, solar energy hasn't made a major stride in the state's energy mix.

With reference to the urban energy crisis, solar rooftop projects are quite the game changers in addressing the energy crisis in urban areas and in achieving the state targets of 1,000 MW by 2022. Solar rooftop projects are a boon to tier-2 cities that are

not only consistently suffering from a major energy crisis, but have also been battling with deteriorating air quality.

Patna, the capital city of one of the fastest growing states has a solar potential of 227 MW that can be achieved by 2025 as per CEED's study in 2015 (2). In 2017, the Government of Bihar came out with at the new Bihar Policy for Promotion of Bihar New and Renewable Energy Sources 2017, which is still one of the most comprehensive and well-defined targets in the country aiming to harness 3,433 MW from Renewable energy sources. It was aimed to bring in over Rs. 20,000 crores of investment for the state.

Residential households can significantly save their electricity bills through a solar power system on their roof. Similarly, for industrial and commercial consumers too, solar rooftop offers a better bottom line in terms of massive saving on energy expenditure. In terms of retail tariff, solar offer better economics to industrial and commercial consumers despite non-availability of subsidy. The solar rooftop also score better also on AT& C losses as in this case, generation is close to consumption so no major transmission

1 <http://www.cea.nic.in/reports/annual/lgbr/lgbr-2018.pdf> Market Report - 3

2 <http://ceedindia.org/rooftop-revolution-uncovering-patnas-solar-potential-launched/>

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losses. Despite so many advantages and benefits, there is only 400 MW of grid-connected solar rooftop in the country. In Bihar too, the grid-connected solar rooftop is still a rare occasional sight and that too on a very small scale. In our research, we find that despite having massive potentials, the required ecosystem for solar rooftop growth is missing in the state. The solar rooftop is also facing perception-level issues whether it can provide electricity at a consistent level in all condition meeting high-level demand. Further, it also witnessing barriers at the technical, regulatory and policy level due to lack of awareness and hands-on experience.

Further, upfront financing is a challenge for all the customers for putting up solar panels. Despite the fact that the MNRE and RBI have noticed all the banks to include residential rooftop installations as part of the home/home improvement loan dated on November 19, 2014 and with over 10 centralised banks like, Bank of India, State Bank of India, Central Bank of India, Dena Bank, Allahabad Bank, Punjab National Bank, Indian Bank, etc. (3) for up to Rs. 10 lakh per household. So far only less than 1% of Home loan borrowers opt for including solar rooftop projects in their properties. This is largely due to the lack of

awareness among the borrowers and lack of interest in advertising by the banks themselves on the rooftop projects. In this session, we would like to analyze more on this topic on financing rooftop can be made as easy as getting a personal loan or a car loan and also what are the other challenges in this regard.

The larger commercial and industrial consumers face their own set of unique challenges. Larger rooftop installations can range anywhere from 50kW up to 500 kW depending on the space and size of the consumer and these consumers need more niche financing models for them to utilize this policy to the fullest. Another aspect that one needs to pay heed to is the compensation mechanism when an end consumer feeds in more than what it consumes, at present at the end of the billing cycle every year, the end consumer will not be paid anything extra, whereas states like Jharkhand provide Rs.3.50 for additional unit generated. This is too less entertaining for larger scales players to install rooftop solar and this needs to be addressed at the earliest.

An important aspect of the Bihar New Renewable Energy Policy was the creation of a "Roof Bank", a document/portal where all the available roof spaces for installation

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will be listed out so developers can have easy and transparent access to them for speeding up the installation timeline. This concept is still in papers and has not been transformed into a like of potential sites, The panel discussion also hopes to untangle the uncertainties regarding the Roof bank system and how this can benefit for the consumers, developers and the state.

Therefore, in this panel discussion, we are exploring and probing these following questions and seeking a response from our esteemed panelists on how to push forward solar rooftop growth in Bihar so that the existing urban electricity crisis can be addressed.

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