

India's PPP Model for rooftop solar programme

Renewable Energy

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Rooftop solar projects are a known phenomenon nowadays. From governments to citizens everybody agrees that the combination of one infinite resource (solar energy) and a finite resource (land) can produce beneficial results. However what is socially desirable is not always economically achievable. Rooftop solar projects till now have not been economically viable and face other issues such as ownership disputes.

Governments world-wide have tried to tackle this problem through providing subsidies to either the developers – who would then set up installations on rooftops; or to the citizens – who can then invest in the huge upfront costs required to procure and install a rooftop solar system.

Recently the Indian State of Gujarat has tried a novel Public Private Partnership (PPP) concept for providing boost to the rooftop solar programme in order to achieve the targets set under the Jawaharlal Nehru National Solar Mission. The Gujarat Government aims to set up 5 MW roof top solar projects in the state capital city of Gandhinagar - promoted as the model solar city of India.

The Project in brief

The Gandhinagar (Solar) Photovoltaic Rooftop Programme envisages selection of two developers who would install solar capacity of 2.5 MW each, power from which would be supplied to Torrent Power, which is the incumbent Distribution Licensee in Gandhinagar. Selection of project developer is on the basis of a tariff-based competitive bidding process which requires the bidders to quote tariff for a period of 25 years from the scheduled commercial operation date.

To each of the selected developer, the Gujarat Government shall provide access to around 25 state government owned building rooftops which should be sufficient to generate about 2 MW, while the balance 0.5 MW would be generated by installing rooftop systems on around 250 households. As per a government notification the city residents shall be encouraged to come forward to participate and shall be offered “*green incentive*” – which is set as INR 3/ kWh of electricity generated by the SPV system installed on their property. The project developer shall get paid by the procurer, i.e. Torrent Power according to his submitted bid.

Results of the bid process and lessons

While about 40 companies had expressed interest in the project, finally only four companies submitted their bids. This included Lanco Infratech, SunEdison, Azure Power and Mahindra Solar. Out of these **SunEdison** and **Azure Power** were selected and have been awarded for individual phases of 2.5 MW each. The International Finance Corporation (IFC) was the Lead Transaction Advisor for designing and implementing the transaction.

Depending upon the results of this pilot programme, the Gujarat Government wishes to launch similar projects in the cities of Surat and Rajkot.

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This unique PPP model can serve as a boost for developers who are increasingly finding it **difficult to acquire land** for their projects. Further such projects which ensure capacity addition within city limits also ease the burden of creating **incremental transmission capacities** required to wheel electricity generated from far flung places to demand centers.

However from the public participation there could be some concerns – primarily the benefit of allowing the **right of use to one's land** (in this case rooftop), which could be a source of income in future to the owner. Even with a very modest assumption of solar energy reception of about 200 KWh/ sq ft per year and a conversion factor of 18%, the land owner would at best receive about INR 8878 per month for a 1000 sq.ft of leased area. This is almost equal to an average rent value of about INR 8-10/ sq.ft of undeveloped land in Gandhinagar. Under such a scenario the terms and f conditions binding on the land owner would play a major role. Land owners would not be comfortable to enter into long-term binding contracts where there is a risk of disproportionate green incentive (currently INR 3/ kWh) versus the rise in rent income.

It's good to have a start though, as real learning's will only come from experience.

Author Bio: Rasika is the Founder of MindCrunch, a boutique business outsourcing and advisory firm which assists companies in conceptualizing and developing high quality Thought Leadership content – including White Papers, Case Studies and Thought Leadership Position Papers. In the past while working with Management Consulting firms KPMG and PwC, she has advised clients on business plans, market entry and growth strategies, competition analysis and PPP structuring. She regularly writes for business magazines such as SMEWORLD, Business Review India and EQ International. Rasika can be contacted at gokhale_rasika@yahoo.co.in OR www.mind-crunch.in