Green Growth and Energy Transformation

Presentation Event of Project Design on Decentralized Renewable Energy (DRE) Integration in Rajasthan
October 30, 2017
Event Report

Background:

In April 2016, CUTS International, in collaboration with Friedrich Ebert Stiftung (FES) India, commenced a project called Green Growth and Energy Transformation (Grow-Get) to create an implementable strategy for energy transformation in the state of Rajasthan and West Bengal through fostering dialogue among various stakeholders to identify and align their common interests by creating social coalitions.

The ultimate aim of the initiative is to increase the share of renewable energy into the overall energy mix of the nation. In order to facilitate this dialogue, multi-stakeholder long-term working groups called '**Seed Communities**' had been created at the state level.

Through deliberations and discussions, the seed communities identified **Solar for Education** was identified as the catalytic project to bring energy transformation in rural areas of Rajasthan and urban areas of West Bengal. The ultimate aim of the project was to create a **Project Design** to develop a roadmap for optimal energy planning of the state. To deliberate further on the project, four discussions were conducted to understand the challenges at the grassroots and challenges pertaining to financing, policies and technology. The challenges and potential solutions identified during these deliberations have been addressed in the Project Design. The solutions identified in the project design for solar for education are essentially a subset of the larger Decentralised Renewable Energy space.

The **Project Design was released in the Presentation Event** organized by CUTS International on October 30, 2017. This was followed by a panel discussion to discuss the technical and non-technical aspects of the project design.

Proceedings:

- Mr. Pradeep Singh Mehta, Secretary General, CUTS International, in his welcome address, referred to the need of Solar for Education in the state of Rajasthan. The state has nearly 50% schools that are un-electrified and the others that experience acute power outage. Solarisation of education has other extended benefits as well. The project can potentially also create new jobs and non-farm sources of livelihoods in rural areas and semi-urban areas.

- Mr. H.P. Tiwari, Director, Rajasthan Patrika, in his address, emphasized on promoting market mechanisms in the solar energy space for the sector to improve competitiveness and investments.
- Mr. Simran Grover, Founder, Bask Research Foundation, emphasized on the advantages of Decentralised Renewable Energy in providing sustainable, reliable and affordable source of power to the remote areas of Rajasthan and hence the need to advocate for integration of DRE in the energy planning of Rajasthan.
- Abhishek Kumar, Director, CUTS International, presented the key aspects of the Project Design. The project design addresses three major concerns of the DRE space.
  Firstly, the challenges associated to the Solarisation of education in Rajasthan are similar to the challenges faced by the overall DRE space in the state.
  Secondly, the project design supports an integrated long term energy planning for the state, in consultation with all the concerned stakeholders. Solarisation can be done through various technologies. However, it is essential to first assess the economic feasibitlity of implementation of DRE solution vis-à-vis investment in upgradation of grid infrastructure of the discoms.
  Thirdly, as the state finance is under stress due to absorption of liabilities of discoms in the form of transmission and distribution losses under the UDAY scheme, there is a need to promote market mechanisms in the sector.
  In order to strategically integrate DRE into the energy planning of the state, the project design identifies three clusters with varied load profiles, population density and suitable DRE technologies. The clusters are,
    - completely off-grid locations;
    - clusters connected to grid with poor power supply
    - semi urban clusters with industrial load with unreliable power supply
  Since, discoms are a major stakeholder for integration of DRE, it is essential to address their concerns as well.

Panel Discussion:

Mr. Tarun Singh, Senior Scientist, Ministry of New and Renewable Energy (MNRE), presented the initiatives undertaken by the Ministry in promoting development of DRE space in the country, by implementing capital subsidy schemes for beneficiaries and skill development programmes.
The Ministry shall also lay out a Mini-grid and Micro-grid policy for off-grid applications which shall be in coherence with the recently launched Saubhagya Scheme.

Mr. Kaushik Sanyal, Additional General Manager, Tata Power Delhi Distribution Corporation Ltd., brought forward the potential savings of Discoms in Rajasthan, by integrating DRE generation into their RPO targets. According to him, Rajasthan Discoms can save at least INR 19000 crores by conducting consumer awareness programmes, where the electricity generated by consumers through renewable sources is included into the RPO mandates of the Discoms. In addition to this, by promoting energy efficiency practices and promoting ESCO models in commercial and industrial consumers, these savings can further be increased.

Following points were discussed during the panel discussion:

- Need for integrated planning of energy for Rajasthan:

- ***Financial losses to discoms:***
  Cooperation of Discoms is imperative to integration of DRE into energy planning, therefore, it is essential to understand the concerns and challenges faced by them in the process. Discoms tend to lose a considerable amount of revenue due to integration of DRE with grid connected power. This is because, the bulk consumers, namely Industries and commercial consumers, who are cost-plus consumers, then, prefer to generate through captive solar plants. This directly impacts the quantum of energy sold to the industrial and commercial consumers. In addition to this, non-revision of tariff in past years has also created a huge revenue gap.
  In order to reduce the burden of losses, **a simultaneous compensation package** should be provided to the Discoms to ease off the burden of decreasing sale of energy. It is suggested that **National Clean Energy Fund** could be utilized to provide compensation packages to the Discoms.

- ***Need to reduce the Duality in electrification:***
  In order to fulfill the Central mandate for grid extension, the Discoms invest in grid extension. There are that simultaneous investments in both off grid and grid extension. as a result, it leads to doubling of infrastructure and efforts. Eventually, one of these investments turn out to be sunk cost for the state. There is a need for Discoms and the state to cooperate and avoid duality of electrification.

  - A step in this direction would also be to conduct a cost-benefit analysis to optimize the deployment of fund and technology. It would help to understand the cost of installing a DRE solution vis-à-vis investment in upgradation of distribution infrastructure.
  - Also, the MNRE and State Nodal Agencies maintain separate lists of Channel Partners to be eligible for capital subsidy schemes of the Ministry and tendering process of the State Nodal Agencies.

- ***Need for clarity in policy framework for DRE:***
  Every state has different mandates with respect to including off-grid solutions into RPOs. Clarity in mandate on including off-grid DRE into RPOs will help increasing its uptake in the state. The state regulator for electricity can guidelines and framework for inclusion of off-grid generation of renewable energy to be counted for RPO targets of the Discoms.
  As the mandates set by the state regulators for RPOs are fixed, Discoms cannot consume renewable energy more than their RPO targets. Therefore, they also need to invest in setting up infrastructure for evacuating additional renewable energy procured. Counting off-grid generation into RPO mandates of the discoms can further decrease the investment costs for maintaining open access infrastructure.