Green Growth and Energy Transformation

Solar for Education

Seed Community Meeting

Friday, May 18, 2018, Kolkata

Report of Proceedings

I) Background

CUTS International along with Friedrich-Ebert-Stiftung (FES) has been steering an initiative, '**Green Growth and Energy Transformation',** viz., Grow GET in India, especially at the sub-national level in the states of Rajasthan and West Bengal as well as at the National Level in Delhi. Grow GET aims to create a necessary discourse alliance for sustainable energy transformation, facilitating the transition from fossil to non-fossil fuel regime, across the country.

In the **first year (2016)** of its implementation in West Bengal, Grow GET focussed on **identifying a catalytic project** which would contribute and expedite the green growth objective of the state. The catalytic project would be one which would be technically viable, commercially feasible, socio-politically acceptable and consequently could be scaled up for implementation. Several project ideas were vetted over a series of deliberations by a group of stakeholders, referred to as the Seed Community, and **Solar for Education** was identified as the project with considerable potential to cater to the energy transformation initiative and contribute to the green growth objective of the state. The **Seed Community** comprises of technical and financial experts, academia, project developers, users and beneficiaries, officials from industry associations, ex-policy makers and regulators.

In the **second year (2017)**, the programme primarily focussed on identifying probable areas where Solar for Education could be implemented in the state and assessing the **needs, demands and challenges** pertaining to each interest group, such as the project developers, financiers, policy makers and consumers. As an outcome, CUTS had prepared a **Project Design Document (PDD),** which can provide strategic solutions towards greater uptake of rooftop solar in educational institutions by addressing key challenges. It would be pertinent here to mention that Solar for Education primarily looks forward to solarising the private educational institutions of West Bengal, as the state government has already taken initiatives to implement rooftop solar photo voltaic systems in the government institutions.

The programme in its **third year (2018),** aims to capacitate officials from the private educational institutions of Kolkata, who are willing to install rooftop solar photo voltaic

(RSPV) systems. Capacity building exercises would include edifying the officials on contract evaluation and techno-financial aspects. In addition to this, the programme will provide a platform for the key stakeholders, such as officials from educational institutions, project developers, policy makers and subject experts to build a liaison between them.

II) Seed Community Meeting: An Overview

The second phase of the programme commenced with a **Seed Community Meeting,** which was organized on May 18, 2018, in Kolkata, with an objective to validate the solar training module, prepared jointly by **CUTS International** and **Bask Research Foundation.** The module will be used as the key reference document for training and capacity building of the officials from educational institutions and financial institutions. The **West Bengal Seed Community** provided their valued inputs and suggestions on the training module presented by Simran Grover, Founder and CEO of Bask Research foundation.

III) The Rooftop Solar Photo Voltaic Training Module: Content

The draft training module, which is also a **comprehensive guide book** for installing rooftop solar photo voltaic systems, has sections focused on providing off-grid, on-grid and hybrid solar rooftop photo voltaic solutions, metering and energy accounting mechanisms, project financing, site assessment and feasibility study, project preparation, project execution, plant performance and operation and maintenance.

IV) Key excerpts from the Seed Community Meeting

The participants included the Seed Community Members of West Bengal, academia, representatives from solar project developers and officials from educational institutions who are willing to install rooftop solar PV systems. A presentation from Simran Grover was followed by feedbacks from the participants which have been classified here as general feedback, which includes recommendations on the project design and specific propositions pertaining to the training module. Following are the specific recommendations:

General feedback

a. **Need for an incentive based model to promote rooftop solar photo voltaic (RSPV) solutions:** RSPV solution is not perceived as a necessity and an asset; rather it is being apprehended, by some probable users, as a liability which would require additional financial burden as well as dealing with certain technical complexities. A business model which will provide incentive to the key stakeholders involved in the process, especially to the consumers, project developers and financiers, would help to create an enabling environment and hence facilitate up scaling of the Solar for Education project.

b. **Need to build discourse alliances across several stakeholder communities to create a conducive environment:** The key essence of the initiative has been to engage with several stakeholder groups, understand their needs and challenges, create the narrative and build the discourse which would act as a catalyst for each of the groups and thereby also cater to their interest for scaling up of the Solar for Education theme. This is expected to create an enabling ecosystem for a greener, fossil to non-fossil fuel regime.
c. **Transformative change making potential of Solar for Education, setting it apart**: While several project ideas could have been taken forward to be implemented in the state of West Bengal, which also had the ability to facilitate a greener growth of the state, it is the transformative change making potential of the Solar for Education theme, which has set it apart from other project ideas.
d. **Need to capacitate the consumers on the techno-commercial feasibility as well as contract evaluation of a project:** Lack of clarity of the consumers on techno-commercial viability of RSPV projects as well as lack of capacity of the consumers to comprehend and evaluate proposals from project developers and contract documents has only magnified an ambivalent perception about RSPV solutions. Focussed capacity building of consumers on these two aspects will help to create an enabling ecosystem. Techno-commercial analysis of projects as well as contract evaluation would help consumers take informed decisions on the investment depending on the return and would also enable them to understand the risks associated as well as edify them on after sales agreements.
e. **Need to capacitate the Financial Institutions (FIs):** While consumers need to be capacitated on the benefits of installing a RSPV system, scaling up of the programme could only be possible if FIs, including banks are stimulated to support the theme. Capacitating the FIs with clear indications of their benefits is required for greater acceptance and uptake of the project. The capacity building exercise would include a risk assessment of financially supporting the installation of RSPV systems and mitigate the apprehension of the FIs about supporting the same. Business models ensuring return to the lending agencies would be deliberated upon in the capacity building workshops.
f. **Lack of availability of guide books on RSPV systems in the public domain:** Unavailability of a comprehensive guide book on RSPV systems in public domain has been another key challenge towards catalysing the RSPV market. The training module will be first-of-a-kind guide book which would provide solutions to several consumer queries as well as would be a reference material for other key stakeholders such as financial institutions.

Feedback on Training Module

a. **Need to simplify the training module, viz. guide book:** The guide book is expected to act as a reference module for consumers, many of whom might be unable to understand the techno-financial terminologies and hence a simpler

version of the module in lucid language would be able to cater to larger group of consumers.

b. **Pictorial representation to make the module more attractive for the readers:** Inclusion of pictures, graphs and charts in the module and demystifying the techno-commercial terminologies would help to appeal to a larger section of consumers who may be from non-technical and non-financial background.
c. **Need to include a hypothetical or real case example of designing a RSPV system:** The training module will be used to train the consumers and if the same contains a hypothetical or real case study, which analyses a sample roof space where the project may be implemented, it will help consumers have a better understanding of the factors, which play crucial roles towards installation of RSPV systems.
d. **Need to include a Cost-Benefit Analysis in the module:** The training module will become more inclusive, informative and exhaustive if cost-benefit analysis of a sample plant is included in it for reference. A business blue print bearing a reference of the financial decision making tools such as Pay Back Period, Return on Investment and Internal Rate of Return of a sample project would be beneficial to the consumers for decision making. An interested consumer may refer to the same for the benefit calculation.
e. **Need to introduce a provision of financial assurance against Performance of Plants:** A consumer needs to be assured of the performance of the RSPV system. Unlike consumers from the western and the southern states of India, where solar insolation is higher, consumers from West Bengal remain apprehensive about installing solar PV systems and their consequent performances. Financial assurance of compensation for the consumers, if the system performs below an accepted standard of performance, would help them be confident and assured of using RSPV systems. A memorandum of understanding to this end, between the solar project developer and the consumer, about the developer providing financial aid to the consumers in case the system fails to attain the contracted Performance Ratio (P.R.), would boost the confidence of the consumer and hence boost the market.
f. **Relationship building with DISCOMs, a key to the success for the project:** DISCOMs have a major role to play towards upscaling of the grid connected RSPV market. Apart from allowing a consumer to connect to the grid and providing the Net Meter, the DISCOMs also need to ensure grid balancing and estimate the demand-supply gap. In addition, the DISCOMs need to ensure that the institutions shift from a single phase connection to a three phase connection, before they are installing a grid tied RSPV system. However, this entails additional cost for the consumer and hence if the same could be included in the training module, it will help the consumers have a better understanding of the costs which need to be born. A good relation between the consumer, project

developer, DISCOM officials and financiers can help to expedite the installation of a RSPV plant.

g. **Need to include an exhaustive checklist for installing RSPV systems in the module:** Including an exhaustive checklist, in the training module, which will provide information of the processes to be followed for installing RSPV systems would help consumers comprehend the necessary actions to be taken and procedures to be followed.
h. **Need to introduce an interactive workbook to capture perceptions of participants:** A workbook to capture the perceptions of the participants from the forthcoming workshops of Grow GET with the educational institutions, financial institutions, solar project developers and DISCOMs would be important in terms of understanding their needs and aspirations. Including relevant sections from the workbook to the module could make the module comprehensive.

Highlights

- **Abhishek Kumar:** The training module, which is expected to be a reference guide for many interested consumers as well as the financial institutions, would be a first of a kind to be available in the public domain.

- **Avijit Ghosh:** Inclusion of Cost-Benefit analysis in the module would be beneficial for decision making of probable consumers. A provision of financial assurance against Performance of Plants would help to increase the consumer confidence.

- **Bratindra Bhattacharya:** Need for an incentive based business model to promote rooftop solar photo voltaic (RSPV) solutions in West Bengal.

- **D.P. Mallick:** A business model which would ensure the return on investment for the Financial Institutions would stimulate the RSPV market of the state.

- **Karuna Singh:** Pictorial representations, including graphs and charts would make the module more appealing to the education sector.

- **Rajib Das:** Relationship building with DISCOMs, a key to the success for the project.

- **Sanjukta Mukherjee:** Introducing an interactive workbook to capture perceptions of participants could be exciting for them and also help make the module more inclusive.

- **Satrajit Sanyal:** A business blue print bearing a reference of the financial decision making tools such as Pay Back Period, Return on Investment and Internal Rate of Return of a sample project would be beneficial to the consumers for decision making.

- **Subhendu Ray:** Inclusion of an exhaustive checklist for installing RSPV systems in the module will make it more comprehensive.

- **Surya Chandak**: Simplifying the training module, devoid of techno-financial terminologies, in a lucid language and including a hypothetical or real case of designing a RSPV system will make it more attractive for the readers.

Annexure –A

Agenda

10:00 am – 10:30 am	**Registration and Networking with Tea, Coffee**
10:30 am – 10:50 am	**Welcome Remarks** ➢ *Bratindra Bhattacharya, Director, CUTS International* ➢ *Abhishek Kumar, Director, CUTS International* ➢ *Sehaj Malik, Programme Adviser, Economy for Tomorrow, FES India*
10:50 am – 11:00 am	**Outline of activities under Green Growth and Energy Transformation for 2018**
11:00 am - 12:45pm	**Presentation of Draft Module for Capacity Building** ➢ *Simran Grover, Founder and CEO, Bask Research Foundation* **Interactive discussion on various aspects of the DraftModule** ➢ *Esteemed Seed Community Members, Grow GET Project*
12:45 pm - 01:00 pm	**Summarizing discussions and highlighting key points discussed**
01:00pm onwards	**Lunch**

Annexure –B

List of Participants

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Annexure - C

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