Pilot Scheme of MNRE for Large Scale Grid Connected Roof Top Solar Power Generation

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1. Background

Government of India launched Jawaharlal Nehru National Solar Mission (JNNSM) in January 2010 with a view to accelerate development and promotion of solar energy technologies in the country. India is having high potential of generating solar power as availability of solar radiation in various parts of the country is quite good. Solar PV systems represents an attractive option due to low cost and ability to install in various sizes (kW to MW level). Ministry of New and Renewable Energy (MNRE) has brought out various schemes for promoting solar power projects in different capacity ranges. This includes utility scale megawatt size projects as well as off-grid applications up to 100 kW.

To meet the JNNSM objectives, large area roof top installations are considered as one of the potential route. In this type of systems, the generated solar power is may be self-consumed and excess power could be fed to grid. These projects are envisaged to mitigate diesel consumption when the buildings are operating with diesel generator backup. In European countries, grid interactive roof top systems are adding huge quantities to the overall solar power capacities. MNRE has brought out pilot scheme to promote grid connected roof top PV solar PV systems with a view tro generate feedback and further promotion in India.

2. Objectives of the scheme

Acute power shortages in India are making most of the commercial and office establishments to have diesel generator backup. By setting up the grid interactive solar power plants on the rooftops would help in reducing the consumption of diesel during the day time in the areas where grid power is intermittent. If the grid power is continuous, the solar power generated will be utilized along with the grid power and the proportionate amount of grid power usage will get reduced. During minimum load periods (e.g. during weekends), the excess power generated from solar systems could be fed to grid. The consumer can be compensated for the exported power as per policy by the State. Connectivity of these projects to the grid also has to be in accordance with the prevailing CEA guidelines or policy by the State regulators/ DISCOMs.

The specific objectives of the scheme include:

- Demonstration of grid connected roof top solar power plants to facilitate reduction in consumption of diesel for power generation and dependency on grid power.
- To establish the effectiveness of these solar systems in different locations of India.

3. Approach

The scheme is being implemented by Solar Energy Corporation of India (SECI). SECI has already concluded the bidding process to implement these projects. Capacity allocations in three cities, viz. Bangalore, Chennai and Delhi have been made to the successful bidders. As a part of scheme, the grant support would be provided through SECI and SECI will monitor the projects during implementation and as well as after implementation for at least two years.

The buildings for setting up solar PV roof top system would be identified by the successful bidders and the beneficiary is required to meet 70% of the project cost in lieu of benefit of electricity at free of cost. The MNRE, State Nodal Agency and SECI would also facilitate identification of buildings and interaction with State Energy Regulator and State DISCOMs wherever necessary.

Highlight of the scheme would be to have involvement of beneficiary from concept to installation. Beneficiaries are encouraged to get in touch with the project developer as well as SECI as and when felt necessary by him.

4. Financial support

30% subsidy on the system cost arrived at the conclusion of bids by SECI to the developer to whom the project has been allocated. The system cost also includes annual maintenance charges for 2 years. The manner of disbursal of subsidy is as follows:

- 20% after successful installation and commissioning of the system
- 5% after one year of successful operation of the project
- Balance 5% after two years of successful operation of the project.

5. Project size:

Under this scheme, project size between 100 kW to 500 kW is allowed. The minimum size of project size can also be arrived through adding roofs of different buildings available in same campus.

6. Eligible Buildings

All buildings of the Government, PSUs, Commercial establishments, hospitals, cold storages, warehouses, industries and educational institutions. SECI in consultation with MNRE would ensure at least 50% of coverage for the Government/ PSU buildings in the overall capacity allocation under this scheme.

7. Submission of Proposals from interested beneficiaries:

- Interested beneficiaries may apply for the projects where adequate shadow free roof area (@1000-1200 sq. metrs /100kW) is available.
- Priority will be given to the projects which would have approved funds to meet the system cost.
- The proposals may be submitted to the following as per the format for submission of proposals is enclosed in Annexure-1 (also available on www.mnre.gov.in):

  Sr. Manger (SPV)
  Solar Energy Corporation of India
  NBCC Plaza, Tower-1, 4th Floor
  Saket, New Delhi-110017
  e-mail: ybkrseci@gmail.com, ashvinikr@nic.in

Format for submission of preliminary information about the roof top project proposal to SECI: (to be submitted on company letter head)

Sr. No	Item	Details
1	Name of the contact person	
2	Name of the Institution/Company: Address:	
3	Proposed capacity (kWp)	
4	Available roof area (m^2): Roof type (RCC, sheets etc): Roof orientation (E-W or N-S): Roof size (Length X Breadth): Any structures nearby causing Shade: Expected Clear roof area:	
4	Connected load: Monthly electricity consumption (units): Average peak load and time: Average minimum load and time: Connected distribution line (11kV/33kV):	
5	**Details of Back up (if any):** DG Set capacity: Monthly Diesel consumption (last 6 months average)	
6	**Financial Commitment:** Indicate the source to meet 70% of the project cost. Status of approval	Approved by competent authority : YES/NO If yes enclose the letter.