

**318/29/2024- Grid Connected Rooftop
Government of India
Ministry of New and Renewable Energy
Grid Connected Rooftop Solar Division**

Atal Akshay Urja Bhawan,
Opposite CGO Complex,
Lodhi Road, New Delhi-110003
Dated: 21st June, 2024

Office Memorandum

Subject: Framework for enlistment of models of OEMs of Solar PV Modules and Inverters under PM-Surya Ghar: Muft Bijli Yojana

The Government of India approved the PM-Surya Ghar: Muft Bijli Yojana on 29th February 2024, aimed at installing rooftop solar plants in one crore households, with a total financial outlay of Rs. 75,021 crore. The administrative approval was granted to the scheme vide order No. 318/17/2024-Grid Connected Rooftop dated 16th March 2024.

2. To enable the consumers to make an informed choice in selection of products offering higher efficiency and warranty, Ministry has approved a framework for enlistment of models of OEMs of solar PV modules and inverters under the scheme and the same is attached as Annexure.

3. This issues with the approval of Hon'ble Minister, NRE.


(Suman Kumar)

Under Secretary to the Govt of India

To:

1. ACS/Principal Secretaries/Secretaries (Renewable Energy/Energy/Power) of all States/UTs
2. Discoms/Electricity Departments/State Nodal Agencies of all States/UTs
3. DG, NISE – for initiating the enlistment process
4. Director (NIC) for uploading on Ministry's website

Copy for information to:

1. PS to Hon'ble Minister of New & Renewable Energy
2. PS to Hon'ble Minister of State of New and Renewable Energy
3. PPS to Secretary/AS/JS&FA, MNRE
4. All Advisers & Group Heads
5. CMD, REC Ltd.
6. Sanction Folder

**Framework for enlistment of models of OEMs of Solar PV Modules and
Inverters under PM-Surya Ghar: Muft Bijli Yojana**

1. Background

1.1. The Government of India has approved PM – Surya Ghar: Muft Bijli Yojana on 29th February, 2024 to increase the share of solar rooftop capacity and empower residential households to generate their own electricity. The scheme has an outlay of Rs. 75,021 crore and is to be implemented till 2026-27. The administrative approval was granted to the scheme vide order no. 318/17/2024-Grid Connected Rooftop dated 16th March, 2024.

1.2. The PM Surya Ghar: Muft Bijli Yojana envisages installation of 1 crore households in the scheme period. In order to be eligible for the Central Financial Assistance, the residential consumers are free to choose any vendor of their choice registered on the National Portal.

1.3. The Ministry of New and Renewable Energy has prescribed technical standards and minimum technical specifications under the scheme for different component of RTS system, including solar PV panels and inverters, to ensure minimum quality. However, the nature of product of rooftop solar is such that it may not be possible for a layman consumer to technically understand or comprehend the detailed technical specifications of system components such as modules and inverters. Since these components comprise a significant component (>50%) of the overall system cost, it is important to assist the consumers under the scheme by providing some amount of confidence in higher performing models of Original Equipment Manufacturers (OEMs).

1.4. The Bureau of Energy Efficiency has notified the Star Labelling Programme for Solar PV Modules and Energy Labelling Programme for Solar Inverters based on certain technical parameters of these equipment. This framework document builds on the Labelling programme by including other criteria that is of relevance to

consumers (optimum area utilization, warranty, PV Cell quality) and establishes the methodology for listing models offering superior performance and placing this information on the National Portal for the benefit of the consumer.

2. Methodology

2.1. Eligibility Criteria

i. Solar PV Modules

The eligibility criteria for enlistment of solar PV modules under the scheme will be as follows:

- a. The module must be labelled with a **Star Rating of minimum 3 Stars** under the **Star Labelling Programme** for Solar Photovoltaic Modules as notified by Bureau of Energy Efficiency (BEE) from time to time.
- b. The solar PV module should be of minimum 500 W_p rated capacity.
- c. The solar PV model shall be offered with a product warranty of minimum 10 years from the date of commissioning at the consumer's premises, with respect to any manufacturing defect
- d. The module shall have a minimum fill factor of 77% at Standard Test Conditions (STC).

ii. Inverters

The eligibility criteria for enlistment of inverters under the scheme will be as follows:

- a. The inverter must be qualified under the **Energy Labelling Programme** for Inverters as notified by Bureau of Energy Efficiency (BEE) and as amended from time to time. However, for hybrid inverters, the eligibility requirement shall be based on the minimum overall efficiency as per the table below:

Rated Output Power (kW)	Minimum Overall Efficiency Requirement (to be tested at NISE)
1 kW	92%
Above 1 kW to 3 kW	93%
Above 3 kW to 5 kW	95%
Above 5 kW to 10 kW	96%
Above 10 kW to 20 kW	97%
Above 20 kW	98%

b. The inverter model shall be offered with a product warranty of minimum 8 years from the date of commissioning at the consumer's premises, with respect to any manufacturing defect

2.2. **Nature of Enlistment:** The enlistment of models of OEMs of modules and inverters is a voluntary programme and is intended to assist the consumers in making a more informed choice regarding the RTS system that they are procuring from registered vendors. Installations which do not utilize the enlisted models of OEMs under this framework will continue to be eligible for CFA under the program subject to their compliance with the scheme guidelines.

2.3. **Nodal agency:** National Institute of Solar Energy (NISE) would be the designated nodal agency for enlistment of Solar PV modules and inverters.

2.4. **Application:** The manufacturers of solar PV module and inverter will submit an online request to NISE in a prescribed format. The manufacturers can submit enlistment request for multiple models in a single application.

2.5. **Testing fees and charges:** No application/test fee will be payable by the manufacturer for enlistment. However, the manufacturer will be responsible to deliver the selected samples at NISE lab and collection of samples after testing. Testing fee and administrative costs of NISE will be reimbursed by the Ministry.

2.6 Sample selection: NISE team will visit the manufacturing plant/registered warehouse of the manufacturer for selecting the samples of the model number for which application has been made for enlistment. A total of 2 samples (in case of modules) and 1 sample (in case of inverter) will be selected for each applied model, through randomization from the production line or from the warehouse of the manufacturer. NISE team will put a seal/mark on modules/inverter selected for testing and note their unique serial number.

2.7 Testing: The manufacturer will transport the selected samples to NISE. The samples of Solar PV modules will be tested by NISE for efficiency and fill factor measurement in accordance with the applicable test standards. In case of inverters, the Overall Efficiency would be calculated in accordance with the relevant test standards as the ratio of the energy delivered by the device under test at the AC terminals within a defined measuring period to the energy provided theoretically by the PV simulator. As regards the necessary warranty, a certificate in a standard format will be provided from the manufacturer for the respective model.

2.8 Enlistment: The models satisfying the eligibility criteria will be enlisted and displayed on the National Portal.
