

F. No. 32/1/2024 – SPV Division
Government of India
Ministry of New & Renewable Energy

Atal Akshay Urja Bhawan,
Lodhi Road, New Delhi - 110 003
Dated: 18th October, 2024

ORDER

Subject: New Solar Power Scheme (for Tribal and PVTG Habitations/Villages) under PM JANMAN and PM JUGA

In continuation to the Ministry's Order of even number dated 04.01.2024, issuing approval for the implementation of New Solar Power Scheme (for Particularly Vulnerable Tribal Groups (PVTG) Habitations/Villages) under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN), the sanction of the President is accorded for the implementation of the revised New Solar Power Scheme (for tribal and PVTG Habitations/Villages) under PM JANMAN and Pradhan Mantri Janjatiya Unnat Gram Abhiyan (PM JUGA) in place of the previous New Solar Power Scheme (for Particularly Vulnerable Tribal Groups (PVTG) Habitations/Villages) under PM JANMAN. The Implementation Guidelines of the Scheme are attached.

2. The Scheme will cover electrification of One Lakh un-electrified households (HHs) in Tribal and PVTG areas identified by Ministry of Tribal Affairs (MoTA) by provision of off-grid solar systems. The scheme includes a provision for providing off-grid solar lighting in 1500 Multi-Purpose Centres (MPCs) in PVTG areas as approved under PM JANMAN. Similarly, the scheme also includes provision for solarisation of 2000 public institutions through off-grid solar systems as approved under PM JUGA. The off-grid solar systems shall be provided only where electricity supply through grid is not techno-economically feasible. The financial outlay approved for the scheme under PM JANMAN and PM JUGA is given below:

| S. No. | Components | Central Share (100%) | Approved Financial Outlay (in Rs. Crore) | Timeline |
|--------|--|---|--|--------------------------|
| 1 | Provision of 0.3 kW Solar off-grid system for 1 lakh Tribal and PVTG HHs | Rs. 50,000 per HH or as per actual cost | 500 | FY 2023-24 to FY 2025-26 |
| 2 | Solar street lighting and provision of lighting in 1500 MPCs of PVTG areas | Rs. 1 lakh per MPC | 15 | |
| 3 | Solarisation of 2000 public institutions through off-grid solar systems | Rs 1 lakh per kW | 400 | FY 2024-25 to FY 2028-29 |

3. The funds for the implementation of the scheme would be met from the DAPST allocation of the Ministry of New and Renewable Energy (MNRE) with an overall approved financial outlay of Rs.915 Crore. Year-wise funds approved and allocated for the scheme as per cabinet approval is given below:

| Year | FY24 | FY25 | FY26 | FY27 | FY28 | FY29 | Total |
|---|------|------|------|------|------|------|-------|
| Funds allocated for HHs and MPCs (Rs. Cr) | 20 | 255 | 240 | | | | 515 |
| Funds allocated for Public Institutions | | 50 | 125 | 125 | 100 | | 400 |

4. The implementation of scheme will come into effect from the date of issue of Administrative Approval along with its Implementation Guidelines. The sanctions and approvals already issued under previous New Solar Power Scheme (for Particularly Vulnerable Tribal Groups (PVTG) Habitations/Villages) under PM JANMAN shall be continued and considered under this scheme.

5. This sanction issues in exercise of the powers delegated to this Ministry and with the concurrence of the IFD vide their Dy. No. 266 dated 18.10.2024.



(JK Jethani)
Scientist 'F'

Enclosed: As above.

To

1. All Central Government Ministries and Departments
2. ACS/Principal Secretaries/Secretaries (Renewable Energy/Energy/Power) of 30 States/UTs identified by MoTA under PM JUGA
3. DISCOMs/State Nodal Agencies of 30 States/UTs
4. Tribal Welfare Departments of 30 States/UTs
5. Principal Director of Audit, Scientific Audit-II, DGACR Building, I.P. Estate, Delhi
6. Pay and Accounts Officer, Ministry of New and Renewable Energy, New Delhi

Copy to:

1. PS to Hon'ble Minister for New & Renewable Energy
2. PS to Hon'ble Minister of State for New & Renewable Energy
3. PPS to Secretary/AS/JS&FA, MNRE
4. PPS to Secretary, MoP/MoTA
5. All JS/Advisors/EA/DDG& Group Heads, MNRE
6. Director (NIC), MNRE to upload this on the Ministry's website

Ministry of New and Renewable Energy

Implementation Guidelines for New Solar Power Scheme (for Tribal and PVTG Habitations/Villages) under PM JANMAN and PM JUGA

1. Background

1.1 The Union Cabinet on 28.11.2023, approved the proposal of Ministry of Tribal Affairs (MoTA) on Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) with total outlay of Rs. 24,104 crores (Central Share: Rs. 15,336 crore and State Share: Rs. 8,768 crore) to focus on eleven critical interventions through Nine-line Ministries for implementation. The Mission, inter-alia, covers implementation of New Solar Power Scheme (for PVTG Habitations/Villages) for electrification of one lakh un-electrified households (HHs) in PVTG areas located in 18 States and UT of Andaman & Nicobar Islands, by provision of off-grid solar systems where electricity supply through grid is not techno-economically feasible. In addition, the New Solar Power Scheme has a provision for providing solar lighting in 1500 Multi-Purpose Centres (MPCs) in PVTG areas where electricity through grid is not available. The financial outlay approved for this purpose is given below:

| S. No. | Components | Approved Financial Outlay (in Rs. Crore) |
|--------|--|--|
| 1 | Provision of 0.3 kW solar off-grid system for 1 lakh PVTG HHs @ Rs. 50,000 per HH or as per actual cost (Illustration given at Annexure-I) | 500 |
| 2 | Solar street lighting and provision of lighting in 1500 MPCs of PVTG areas where electricity through grid is not available, @ Rs. 1 lakh per MPC | 15 |

1.2 Additionally, the Union Cabinet on 18.09.2024 approved the proposal of Ministry of Tribal Affairs (MoTA) on Pradhan Mantri Janjatiya Unnat Gram Abhiyan (PM JUGA) with total outlay of Rs.79,156 crore (Central Share: Rs.56,333 crore and State Share: Rs. 22,823 crore) for improving the socio-economic condition of tribal communities, by adopting saturation coverage for tribal families in tribal-majority villages and aspirational districts. The PM JUGA will cover about 63,000 villages of benefiting more than 5 crore tribal people of 30 states/UTs. The PM JUGA will cover electrification of un-electrified HHs in identified tribal villages, by provision of off-grid solar systems where electricity supply through grid is not techno-economically feasible. In addition, there is a provision for providing off-grid solar power plants in 2000 public institutions, in identified tribal villages, where grid connectivity is not feasible. The financial outlay approved for this purpose is given below:

| S.No. | Components | Approved Financial Outlay (in Rs. Crore) |
|-------|---|---|
| 1 | Electrification of un-electrified households (HHs) in identified tribal villages, by provision of off-grid solar systems in line with PM JANMAN | No separate allocation, to be utilized from the funds allocated under PM JANMAN |
| 2 | Providing off-grid solar power plants in 2000 public institutions | 400 |

1.3 Off-grid electrification is recommended only in locations where grid- connected electrification is not techno-economically feasible, as per norms specified by the Ministry of Power under Revamped Distribution Sector Scheme (RDSS). The State agencies will conduct ground survey and recommend electrification modes through grid or off-grid. The off-grid solution for electrification of HHs could be through provision of Solar Home Lighting Systems (SHLS) or Solar Mini-Grids, based on the results of field surveys. All HHs will be eligible to receive benefits in the selected tribal village/habitation.

2. Scope and Components

2.1 Electrification of HHs through Off-grid Systems:

(i) Solar Home Lighting System (SHLS):

2.1.1 For scattered un-electrified HHs, an off-grid SHLS along with necessary appliances such as LED bulbs and Fan will be installed free of cost. For this system configuration, the MNRE will provide the central share in the form of Central Financial Assistance (CFA) covering the entire cost of system with appliances, transportation, installation, onsite comprehensive maintenance services for 5 years and applicable taxes, to the implementing agencies. The off-grid SHLS will be equipped with Remote Monitoring System (RMS) to ensure proper functioning and maintenance. Specifications of the off-grid SHLS are provided at Annexure-II.

2.1.2 The Implementing Agency, under intimation to MNRE, has the flexibility to select system and appliances with higher specifications, however, the CFA support in such cases will be limited to Rs. 50,000 per household all-inclusive cost of the system and applicable taxes to the implementing agency as specified above. The implementing agency may source the balance funding requirement, if any, from their own resources, the State Government, PSU-CSR funds, etc.

2.1.3 Beneficiaries are required to furnish their Aadhaar number and other details as specified by the implementing agency. Beneficiaries are also required to submit a declaration confirming that the HH was not electrified under any scheme of Central/State Government or any Government agency. The implementing agency is also obligated to verify and ensure that the beneficiaries have not been covered under any earlier electrification program of the Central/State Government.

(ii) Solar Mini-Grids

- 2.1.4 For a cluster of HHs, Solar Mini-Grid of appropriate capacity, including battery bank, distribution lines, metering and other control equipment may be installed instead of providing off-grid SHLS to an individual HH. The MNRE will provide CFA support limited to Rs. 50,000 per un-electrified HH covered under the Mini-Grid. The Mini-Grid may be installed through CAPEX or RESCO mode, with CFA as above. The Mini-Grid developer will be responsible for operating and maintaining the Mini-Grid for a minimum period of 5 years.
- 2.1.5 All HHs electrified through Mini-Grids will be provided with necessary appliances including LED bulbs and fans and BoP as being provided in case of off-grid SHLS. The HHs under Mini-Grid will be eligible to draw electricity from the Mini-Grid. Street lights may also be covered under Mini-Grids. The Mini-Grids should be designed with Remote Monitoring System (RMS) and allow for a connection to the main grid in the future. Specifications and technical requirements of the Solar Mini-Grids are given at Annexure-III.

2.2 Solarisation of Multi-Purpose Centers (MPC)

- 2.2.1 For the identified MPCs where electricity connection through main grid is not feasible, electrification will be carried out by installation of off-grid solar power pack with battery bank. The maximum capacity of the solar power plant will be determined based on load conditions. The plant should have provision for RMS and connection to main grid in the future. Specifications and technical requirements of the off-grid solar power pack for the MPCs are provided at Annexure-IV.
- 2.2.2 Under this component, the Ministry will provide CFA limited to Rs. 1 lakh per MPC, covering the entire cost of system as per specification, transportation, installation, onsite comprehensive maintenance services for 5 years, applicable taxes, and service charges, to the implementing agencies. The implementing agencies may source the balance funding requirement, if any, from their own resources, the State Government, PSU-CSR funds, etc.

2.3 Solarisation of Public Institutes (PIs)

- 2.3.1 For the identified Public Institutes where electricity connection through main grid is not feasible, electrification will be carried out by installation of off-grid solar power pack with battery bank. The maximum capacity of the solar power plant will be determined based on load conditions. The plant should have provision for RMS and connection to main grid in the future. Specifications and technical requirements of the off-grid solar power pack for the Public Institutions are provided at Annexure -IV.
- 2.3.2 Under this component, the Ministry will provide CFA limited to Rs 1 lakh per kW with maximum SPV capacity of 20 kW at an institution, covering the entire cost of system as per specification, transportation, installation, onsite comprehensive maintenance services for 5 years, applicable taxes, and service charges, to the implementing agencies. The implementing agencies may source the balance

funding requirement, if any, from their own resources, the State Government, PSU-CSR funds, etc. CFA support will only cover the installation of the solar power plant with battery backup, excluding the costs for internal wiring and appliances.

3. Implementation Agency

- 3.1 To ease the implementation, the respective DISCOM in the scheme area will be the implementing agency for the scheme. However, the State/UT may take a decision to implement the scheme by any other State agency, including the State nodal agency for renewable energy.

4. Sanction

- 4.1 Based on the ground level survey, implementing agencies will aggregate the demand, prepare and submit the project proposals for off-grid SHLS, Solar Mini Grids, Solarisation of MPCs & Public Institutions to the MNRE for sanction.
- 4.2 The project proposal shall cover important details but not limited to, (a) brief about PVTG/Tribal location/habitation, (b) number of verified PVTG/Tribal households, (c) basis for the selection of particular electrification solution, (d) tentative project cost per household electrification through Solar Mini Grid/off-grid SHLS, (e) demand and specification of off- grid SHLS, (f) capacity of solar mini grids and solar power plants, (g) proposed battery bank capacities, (h) Monitoring mechanism (i) repair and maintenance mechanism, etc.

5. Tender

- 5.1 The implementing agencies are empowered to issue open tenders for all components as mentioned under Para 2 of these Guidelines and select the eligible bidders. The implementing agencies shall follow the tender norms of the CVC Guidelines and Central/States Governments from time to time.
- 5.2 The bidder or any of its directors, should not have been blacklisted from any government agency, especially for renewable energy projects. The bidder shall have past experience in successful project completion of design, supply, installation, commissioning and R&M services of 3 years (exempted for MSME/Start-Ups) with a minimum of 20% of similar works for the tender quantity/capacity.
- 5.3 Implementing agencies may start the preparatory activities of the tender before the sanction. Implementing agencies are suggested to complete the tendering process within shortest possible time. However, a letter of the award shall be issued only after the sanction.
- 5.4 The option of awarding contracts under this Scheme to existing contractors, appointed under any other scheme for similar works, through extension of scope as per prevailing rules of the State Government, is also permitted.

6. Release of Funds

- 6.1 After the issuance of a Letter of Award (LoA) to the vendor, the implementing agencies will be eligible to get an advance CFA of 70% of project cost and balance CFA of 30% of project cost will be released after installation and commissioning of systems along with the submission of Utilisation Certificate (UC) as per GFR, Audited Statement of Expenditure (ASoE), terms & conditions of the sanction, and other requisite documents/submission of information in the MIS portals specified by the MNRE and MoTA. The implementation agency shall disburse the released CFA to the vendors as per the tender conditions and milestones. However, tender conditions and milestones shall be in consonance with the provisions of the scheme guidelines.

7. Project Timeline

- 7.1 Implementing Agencies shall complete the installation and commissioning of off-grid SHLS within 3 months from the date of issuance of LoA and installation of off-grid solar power pack and solar Mini-Grid to be completed within 9 months from the date of issuance of LoA. Extension, if required, will be provided by MNRE based on detailed justification.

8. Inspection

- 8.1 The implementing agencies will inspect the installations and submit inspection report along with completion/commissioning reports. After completion of two years, the third-party inspection will also be carried out by the implementing agencies without any additional fund from MNRE. Random inspection may also be conducted by MNRE.

9. Monitoring

- 9.1 For the identified Key Performance Indicators (KPIs) (i.e. Percentage number of HHs/Habitations electrified in off-grid mode, etc.), MNRE and MoTA will regularly monitor the implementation of the Scheme. The implementing agency would also be responsible for monitoring parameters such as end-use verification and compilation of statistical information. Implementing agencies will submit monthly progress report for the sanctions.

10. Repair and Maintenance

- 10.1 Vendor shall mandatorily provide repair and comprehensive maintenance services for 5 years from the date of commissioning of the systems. The implementing agency shall ensure quarterly inspection of the installations for proper functioning, a record of certificates from beneficiary/local authority during inspections & repairs, and availability of spares, etc. The implementation agency shall submit quarterly inspection reports of the installations to the Ministry.
- 10.2 The implementing agency shall obtain a performance bank guarantee (BG) of 10% of the award amount from the Vendor with a validity during the R&M period of 5

years. In case R&M services are not provided by the Vendor or the systems are not working properly, the BG may be encashed to repair or replace the systems as may be required and the implementing agency will have the right to blacklist the Vendor for all future renewable energy project tenders.

11. Service Centres, Training and Availability of Spares

11.1 The Vendor shall mandatorily open a service centre for every district of installation of systems. Vendor shall provide necessary training & employment for the local people to work in the service centres. Vendor shall maintain sufficient tools & spares in service centres and near the installation centres for the quick repair and maintenance.

12. Complaint Redressal Mechanism

12.1 Vendor shall operationalise a helpline number in the local language/language of the PVTG/Tribal area or integrate with the already existing helpline/toll-free number of the implementing agency. The Vendor shall attend to the complaint within 3 days from the date of receipt of the complaint.

12.2 The implementing agency shall provide necessary guidance to PVTG/Tribal households/beneficiaries for the filing of complaints telephonically or physically at the nearest local bodies office or implementing agency office and ensure a regular flow of information to Vendors for the rectification of complaints.

13. Technical Specifications and Testing

13.1 Systems installed under this Scheme must adhere to the technical specifications, testing procedures, and construction standards specified by BIS and MNRE. The Vendor shall submit the valid test reports of the systems or various components to the implementing agency as per requirement. Non-compliance will be taken seriously to the extent of blacklisting of the Vendor and its Directors.

14. Interpretation of the Guidelines

14.1 In case of ambiguity in the interpretation of any of the provisions of these guidelines, the decision of the Ministry shall be final.

15. Power to Amend Implementation Guidelines

15.1 MNRE may make the necessary amendments in the Implementation Guidelines, as and when required, with the approval of the Minister of New and Renewable Energy

Illustration of eligible CFA for electrification of HHs through Off-grid Solar PV system

| Off-grid Solar PV System for electrification of HHs | Specification | Eligible CFA |
|---|---|---|
| Off-grid Solar Home Lighting System (SHLS) | Off-grid SHLS with minimum Solar PV capacity of 300Wp and other specifications as per the Annexure II | CFA support will be as per the actual cost discovered in the tender. |
| | Off-grid SHLS with specifications higher than prescribed at Annexure II | CFA support will be limited to Rs. 50,000/- per off-grid SHLS or cost discovered in the tender, whichever is lower. Implementing agency (IA) shall obtain additional funding, if required, from other sources. |
| Solar Mini-Grids | As per the indicative technical requirements at Annexure-III | The Mini-Grids may be installed through CAPEX or RESCO mode, however, the CFA support will be limited to Rs. 50,000/- per HH in both the cases. Implementing Agency shall obtain additional funding, if required, from other sources. |

Specifications for the Off-grid Solar Home Lighting System (SHLS)

| | |
|--|--|
| SPV Module (with module mounting structure, if required) | SPV Module – Minimum 300Wp under Standard Test Conditions (STC) Only indigenous module with minimum efficiency of 19 percent |
| Battery | Lithium Ferro Phosphate (LFP) – 1250Wh (Minimum) Maximum Depth of Discharge 90% with more than 2000 cycles |
| Solar DC Charge Controller | MPPT |
| Appliances | <ul style="list-style-type: none"> a. 7W DC LED bulbs (5 Numbers) b. 20W DC Table/Pedestal Fan based on the user's requirement c. One 30W socket for DC appliances like TV d. One USB Port for Mobile Charging |
| Average Load Cycle and Battery Autonomy | 6-7 Hours/day and two days respectively |
| Remote Monitoring System | RMS for getting operational data on portal |
| Balance of Plant | Internal wiring with conduit, Switches, Sockets, etc. shall be as per applicable BIS standards. |

The implementing agency has the flexibility to select different or higher specifications, alternate ratings of appliances, and various configurations of off-grid SHLS, based on the ground level requirements and past experiences with electrification programs. However, the CFA support will be limited to Rs. 50,000 per household.

Specifications and Technical Requirements for the Solar Mini Grids

| | |
|---|--|
| SPV Module (with module mounting structure) | <p>a) Indigenous Mono crystalline SPV modules shall be used with a minimum efficiency of 19% and a fill factor of more than 75%.</p> <p>b) The SPV Modules must be warranted for output wattage, which should not be less than 90% of the rated wattage at the end of 10 years and 80% of the rated wattage at the end of 25 years.</p> |
| Battery | <p>a) Tubular Valve Regulated Lead Acid (VRLA) Gel type battery bank with a maximum of depth of discharge (DoD) of 80%</p> <p>b) The minimum battery bank capacity recommended for the system is 6 VAh per Wp (Solar Module wattage)</p> <p>c) This capacity has been estimated considering minimum 600 Wh electricity consumption per day per household, battery bank autonomy of two days and other factors (DoD, losses, etc.)</p> |
| Appliances per HH | <ul style="list-style-type: none"> • 7W LED bulbs (5 Numbers) • 25W-30W AC Table/Pedestal Fan based on the user's requirement • Two socket points for appliances like TV and mobile charging <p>The implementing agency may propose different combinations and ratings of appliances based on the field requirement and experience of earlier electrification programs. However, it is suggested to limit the maximum appliances connected load of household to 100Wp.</p> |
| Remote Monitoring System | <p>a) All the important remote monitoring parameters (as specified by the implementing agency tenders) are available over the internet using GPRS (2G/3G/4G enabled) based solutions. The RMS shall be able to push the information to the web server for every 15 minutes even under the 2G networks.</p> <p>b) Vendor shall host the RMS information in the new or already running web portals of MNRE or implementing agencies.</p> |
| Street Light | 7W LED Street light as per MNRE specifications. |
| Balance of Plant | <p>PCU/Solar Inverter with charge controller (MPPT), distribution lines, street lights, internal wiring with conduit, Switches, Sockets, etc., for the households, load limiting switch, smart meters, construction of control room (if required), fencing, earthing arrangement, lighting protection, cables, other control equipment, etc., shall be as per quality control order and applicable BIS standards. Mini-grids shall have provision for the connection/input power from the main grid in the future.</p> |

Specifications and Technical Requirements of the Off-grid Solar Power Pack for the Multi-Purpose Centres (MPCs) and other Public Institutions

| | |
|---|--|
| Off-grid Solar Power Plant - The capacity of SPV modules and battery bank of Off-grid solar power plants to be proposed after a detailed survey of the load requirement at MPCs/PIs. | |
| SPV Module | <p>a) Indigenous mono crystalline SPV modules shall be used with a minimum efficiency of 19% and a fill factor of more than 75%.</p> <p>b) The SPV Modules must be warranted for output wattage, which should not be less than 90% of the rated wattage at the end of 10 years and 80% of the rated wattage at the end of 25 years.</p> |
| Battery | <p>a) Tubular Valve Regulated Lead Acid (VRLA) Gel type battery bank with a maximum of depth of discharge (DoD) of 80%.</p> <p>b) The battery bank shall be designed for two-day autonomy of the average daily load cycle.</p> <p>c) The minimum battery bank capacity recommended for the system is 6 VAh per Wp (Solar Module wattage)</p> |
| Street Light | 7W LED street light as per MNRE specifications (only for MPCs) |
| Remote Monitoring System | All the important remote monitoring parameters (as specified by the implementing agency tenders) are available over the internet using GPRS (2G/3G/4G enabled) based solutions. The RMS shall be able to push the information to the web server for every 15 minutes even under the 2G networks. Vendor shall host the RMS information in the new or already running web portals of MNRE or implementing agencies. |
| Balance of Plant | PV Module mounting structures, PCU/Solar Inverter with charge controller (MPPT), AC/DC distribution/junction boxes, cables, earthing arrangement, Lightning protection, metering, other control equipment, etc., shall be as per quality control order and applicable BIS standards. |

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