

ORGANIZER



**DISTRIBUTION  
UTILITY MEET  
DUM 2024**

# **Session : RE, EV AND GRID STABILITY AND CHALLENGES OF 10 MILLION ROOFTOP SOLAR PV SYSTEMS**

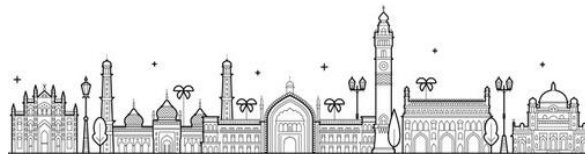
## **Rooftop PV Program in UP**

*Presented By*

**Shri Anupam Shukla, Director, UPNEDA**

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Distribution Utility Meet | 14 - 15 November 2024 | [www.dumindia.in](http://www.dumindia.in)



- Program Launch Date : **13 Feb 2024**
- Target by Govt. of India : Solarization of **1 crore** households
- Target by Govt. of UP : Solarization of **25 Lakh** households
- Empanelled Vendors (Nos.) : **1530**

Particulars/Details	New Simplified Scheme	Under PMSG:MBY	Total
Registrations (Nos.)	32,228	21,83,500	22,15,728
Applications (Nos.)	30,804	4,98,404	5,29,208
Installed Plants (Nos.)	13,796	46,265	60,061
Projects Commissioned (Nos.)	13,626	42,516	56,142
CFA disbursed (Nos.)	12,880	34,211	47,091
* (Data as on 13.11.2024)			

# Top Five States Comparison and Subsidy Structure

*Uttar Pradesh has the 3<sup>rd</sup> Highest Installation & Project Commissioned within the Country*

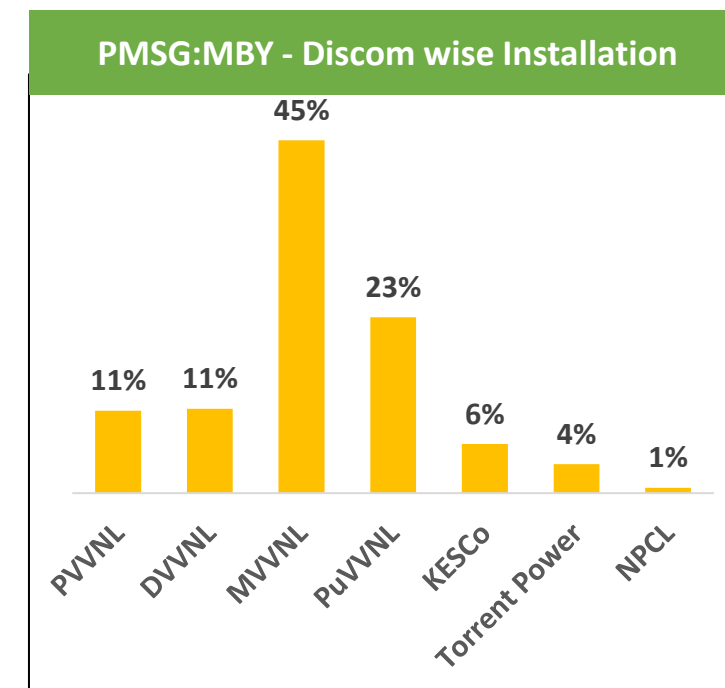
Rank	State	Registration (Nos.)	Application (Nos.)	Installation (Nos.)	Project Commissioned (Nos.)	Subsidy Released (Nos.)
1	Gujarat	11,77,274	3,08,537	2,16,770	1,94,745	1,63,673
2	Maharashtra	15,97,119	4,29,351	78,845	70,624	55,888
<b>3</b>	<b>Uttar Pradesh</b>	<b>21,83,500</b>	<b>4,98,404</b>	<b>46,265</b>	<b>42,516</b>	<b>34,211</b>
4	Kerala	2,44,457	83,362	45,547	40,403	34,261
5	Madhya Pradesh	5,22,438	42,830	16,704	15,823	12,792
* (Data as on 13.11.2024)						

## Central and State Subsidy applicable under PM Surya Ghar Yojana

Plant Capacity	Central Subsidy	State Subsidy	Total Subsidy
For 1 kW Capacity RTS	30,000	15,000	45,000
For 2 kW Capacity RTS	60,000	30,000	90,000
For 3 kW Capacity RTS	78,000	30,000	1,08,000
For 4kW and above Capacity	78,000 (fixed)	30,000 (fixed)	1,08,000 (fixed)

# PMSG:MBY- Analysis based on current Installations

- Uttar Pradesh with highest domestic consumer base in India: LMV-1 Consumers: ~ 3.2 Crores
- Average Power Purchase Cost: **Rs. 5.47/Unit\***
- Average Cost of Supply: **Rs. 7.84/Unit**
- Average Billing Rate for LMV-1: **Rs. 6.60/Units**
- Yearly Settlement Rate: **Rs. 2.00/Unit**
- As on Sep-2024, approx. **39,500 installations**, total **Generation 62.67 MU**, total **exported units ~18 MU**
- If **25 Lakh lifeline consumers** (up to 100 units/month) is solarized, ~ **2400 MU/year** would get injected into the grid, at 16% CUF.



*\*DBST rate including transmission charges, UPERC-Tariff Order-24-25*

# Yearly Benefit to DISCOM (Solarizing 25lakh Lifeline Consumers)

## Yearly benefit in Power Purchase Cost ~Rs800 crore

S.No.	Particular	Unit	
1	Annual Power Generation from 1kWp plant (at 16% CUF)	kWh	1321
2	Annual Power Consumption by consumer during 10am to 4pm	kWh	360
3	Average Annual Surplus Power injected	kWh	961
4	Average Power Purchase Cost	INR/kWh	5.47
5	Yearly Settlement per unit rate (UPERC RSPV Regulations)	INR/kWh	2.00
6	Average cost saving in Power Purchase cost	INR/kWh	3.47
7	<b>Yearly benefit in Power Purchase Cost of 25lakh lifeline consumers</b>		<b>~800cr</b>

# Grid Stability with infusion of Renewable Energy

Grid Stability is the ability of the power grid to maintain a steady and reliable supply of electricity despite fluctuations in demand and supply.

S.No.	Particular	Unit	
1	Total Energy Sales in LMV1 category for FY 2023-24 as per UPERC order	MU	54557.95
2	Total MUs generated if 25 Lakh solar rooftops are installed with average load of 3 kW for each system	MU	10800
This is 20% of the LMV 1 category consumption			

**Permissible Load Percentage of Renewable Energy Current Standards:** Many grids can handle up to **20-30%** of their load from renewable sources without significant issues, hence even if 25 Lakh rooftops are installed with average load of 3 kWp then also there will not be any issue on grid stability

**Thus, with continued advancements in technology and policy support, higher percentages of renewable energy can be integrated while maintaining grid stability.**

# PMSG:MBY- Key Benefits of Rooftop Solarization

- To support DISCOMs in their RPO compliance in line with MoP 2030 RE Compliance, SERC directive and India Net Zero Goals.
- Reduction of Revenue Subsidy for the State Govt.
- Reduction in AT&C, T&D Losses and Average Power Purchase Cost for DISCOMs
- Savings in Transmission Charges
- Additional Income to DISCOMs – Sale of REC Certificate & Green Tariff for CSR/ESG compliance for corporates/consumers
- Implementation of TOD framework, increase the saving to DISCOMs.
- Creation of Green Jobs in the market



- A GO order was issued by the Chief Secretary on 14.06.2024 regarding target distribution among all the **07 DISCOMs and 75 Districts**
- **Formulation of District Level Committees** under the chairmanship of District Magistrate to monitor district progress vide GO dated 03.07.2024
- **Waiver of Technical Feasibility Report (TFR) up to 10 kW Capacity** of Solar Rooftop installations by UPERC dated 28.05.2024
- **Auto Load Enhancement** up to 20kW by UPPCL dated 02.07.2024
- **State Level Bankers Committee (SLBC)** issued letter to Lead District Managers (LDM) dated 14.05.2024 for issuing Loan to Consumers under PMSGY
- **State Level Coordination Committee Meeting (SLCC)** meeting on 23.09.2024
- Hassle free **online vendor empanelment** process led to increase in vendor count from **71** (July 2022) to **1530** (13.11.2024).



- Developed online state grievance redressal portal “**Solar Samadhan**”
- Established **dedicated call center** for vendor and consumer complaint handling
- Establishment of dedicated **War-Room at UPNEDA HQ** for different stakeholders involving UPNEDA officials, REC officials, Aha Solar official & representative
- Letters sent to MP, MLA, MLC, Mayors, Municipal Commissioners and Zila Panchayat Adhyaksha with District wise Targets for **supporting in district level IEC activities**
- **Video tutorials showing contents for Training & Awareness** of DISCOM officers, Billing agencies, Vendors and Consumers
- Detailed **PMSG:MBY Booklet** developed containing key policy, GOs, and other relevant information
- Multiple **training workshops conducted for capacity building for DISCOM** officials, Metering Agencies and Meter Readers

- Handholding of low performing Vendors and conducting training workshops through National Institute for Entrepreneurship and Small Business Development (NIESBUD)
- **Surya Mitra and Surya Sakhi Program**, focus to provide training on design, construction, commissioning and O&M of solar projects.
- **IEC Activities:** Pamphlet distribution, Weekly newspaper advertisements, Lucknow Metro, Radio Channels, Cinema Halls, display of hoardings at 75 District Collectorates, 75 Vikas Bhawan, 351 Tehsils, 823 Blocks and Kacheri

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# THANK YOU

*For discussions/suggestions/queries email: [dum@indiasmartgrid.org](mailto:dum@indiasmartgrid.org)*

*[www.dumindia.in](http://www.dumindia.in)*

*[Links/References \(If any\)](#)*

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