

Rooftop Solar Workshop

**Unlocking the economic potential of
rooftop solar in India**

12th October 2020

Central Government policies- Rooftop Phase-II Programme

- **Cumulative Target - 40 GW by December 2022**
- **RTS capacity installed so far:**
 - **As reported by the States/Uts : 3.3 GW**
 - **As reported by Mercom : 4.4 GW**
 - **As reported by Bridge to India (June' 20) : 5.95 GW**

Subsidy and Incentive under Phase-II

- **Residential sector with subsidy - 4 GW**
 - 40% subsidy for capacity up to 3 kWp
 - 20% subsidy for capacity beyond 3 kWp and up to 10 kWp
 - 20% subsidy for GHS/RWA capacity up to 500 kWp
 - Project implementation through DISCOMs
 - Solar module and cell should be indigenous
- **Incentive to Discoms for achievements above baseline:**
 - No incentives for capacity addition up to 10%
 - 5% incentives for addition beyond 10% and up to 15%
 - 10% incentives for addition beyond 15%
- **Incentive limited to 18 GW capacity**

Progress

- Allocation of **515.96 MW** made to 57 Discoms in 27 States/UTs in 2019-20 & **317 MW** to 16 Discoms in 10 States/UTs in 2020-21
- **Empanelment of Vendors/Rate** finalization completed in **17 States/UTs**, other 14 states/UTs are finalizing
- **Installation** has started in **8 States/UTs** and around **364 MW** of Rooftop Solar has been reported installed in the residential sector under Phase-II
- **Portal** developed by **19 States/UTs**

Model Solar City and rooftop

- **“One Solar City”** in each State where all household will have rooftop solar energy plant and 100% power demand of the city will be met from Solar Energy
- This will be achieved by converging the following existing schemes of MNRE
 - **Rooftop Phase-II** - Discoms may promote rooftops in residential & other sector
 - **Waste to Energy** – Urban Local bodies can get clean energy using city garbage
 - **Off Grid scheme** for installation of solar lights
 - **Solar Park scheme** for setting up ground mounted small solar plants on RESCO/CAPEX for residual energy needs of the city
- So far, 9 states have identified city which will be developed as Solar City

Untapped sectors : High Growth Potential

- MSME Clusters
- Government Buildings > 6 GW
- Buildings constructed under AWAS Yojana - rooftop space availability
- Discom led initiatives for RTS particularly when:
 - Future network upgrades may be deferred if BESS cost is reduced
 - Low/moderate income house
 - Low interconnection cost/spare transformer capacity

Regulation

- **RPO** (Renewable energy Purchase obligation) trajectory up to 2021-22 for solar & Non-solar deployment has been issued. State Electricity Regulatory Commissions (SERCs) are also issuing direction for RPO.
- **Net Metering** is mostly available for **Residential sector**.
- **Gross metering** tariff is not attractive enough
- DISCOMs don't want to loose **high tariff paying customers**.
- DISCOM are reluctant to allow **Behind-the-meter** connections and **Open Access**.

Change in Regulation and implementation challenges

- **Separate target for Rooftop may be fixed by SERCs**
- **Net Metering (MERC regulation)**
 - Recognition of RTS target
 - No banking/Grid support charge up to 10 KW.
 - Banking charge to be levied upto the RTS target. After that Grid Support charge.
 - RE integration to be allowed up to 100 percent of the feeder/distribution transformer capacity
 - RTS capacity up to the contract demand/sanctioned load
- **Gross metering – Generous FIT @ (APPC + T&D losses) or Capital Cost + Good return for a payback of 5-6 years**
- **Behind-the-meter** installations for C&I consumers beyond 1 MW capacity should be allowed
- **Open Access** – to be allowed on payment of Transmission charges to be fixed by CERC/SERCs as per proposed amendment in the Electricity Act, reduction in surcharges & cross-subsidies by SERCs in the manner as may be provided in the Tariff Policy

Business Models: Regulator may allow

- **Consumer-owned model** DISCOM only aggregates
- **DISCOM owned** Discom aggregates and acts as RESCO
- **DISCOM** aggregates and acts **as a trader** b/w RESCO & Consumer
- **On-Bill Financing** - Utility raises cheaper debt for consumers
- **Payment Assurance Model** - DISCOM collects electricity charges for a fee
- **Virtual Net Metering** - Energy is exported to the grid and adjusted in more than one electricity service connection(s) of participating consumers
- **Group Net Metering** - Surplus energy is exported to the grid through a net meter and adjusted in more than one connections of the same consumer
- **Community Virtual Power Plant** - RESCO player signs agreement with DISCOM to supply power if needed for grid balancing/demand response/frequency. Consumers get electricity at low prices. RESCO player gets access to BESS in lieu

Impact of Covid pandemic

- Muted demand from other than Government sector
- Difficulty in access to residential customer premises
- Commercial & Industrial customers are not taking decision
- **Covid pandemic** has resulted in **only 85 MW** RTS installation in **Q2 of 2020**.
- 56% less when compared with installations in **Q1 of 2020**.
- 71% less when compared with **Q2 2019**.
- By and large, finance is not a major issue. However, Rooftop vendors faced difficulty in continuing their business.
- Slow progress also impacted **job creation**. It has potential of 24-25 jobs/MW



THANK YOU