

PRESENTATION

on

Pradhan Mantri

Kisan Urja Suraksha evam Utthan

Mahabhiyaan

(PM KUSUM)

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7 August 2019

Introduction

- PM KUSUM Scheme issued by MNRE on 08.03.2019
- The Scheme consists of three components:
 - **Component A:** 10,000 MW of Grid Connected Solar or any other RE Plants
(500 KW to 2 MW capacity)
 - **Component B:** 17.50 lakh standalone Solar Agriculture Pumps
(up to 7.5 HP)
 - **Component C:** Solarisation of 10 Lakh grid-connected Agriculture Pumps
(up to 7.5 HP)
- Total 25,750 MW capacity to be created by the year 2022
- Central Financial Support of Rs. 34,422 Cr

Objectives

- Water security to farmers through reliable Solar power.
- Utilization of degraded land of farmers.
- Additional income to farmers by selling surplus power to DISCOM
- Water conservation.
- Promotion of decentralized Solar power generation.
- Reduction of burden of subsidy to agriculture sector

Implementation & Targets

- Component-A and Component-C to be implemented initially on pilot mode
- Target for 2019-20
 - Component A: 1000 MW
 - Component B: 1,75,000 solar pumps
 - Component C: 1,00,000 pumps (solarisation)
- Evaluation of Component A and C
- Beyond 2019-20:
 - Component A and C to be scaled up after modifications, if any
 - Component B to be implemented on a continuous basis

Component A

- Capacity per Plant : 0.5 to 2 MW.
- Distance from sub-station : 05 Km
- Substation capacity : 33/11 kV or 66/11 kV or 110/11 kV
- Setup by farmers/cooperatives/panchayats/project developer/Farmer Producer Organisation (FPO)/ Water User associations (WUA)
- Scheme to be implemented primarily on barren / uncultivable land
- On agricultural land solar power plant to be installed in stilt fashion
- DISCOM eligible for PBI @ Rs. 0.40 per unit or Rs. 6.6 lakh per MW
- DISCOMs to purchase power :
 - At pre-fixed tariff **or**
 - Tariff based bidding if applications are more than capacity feasible.

Component A

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- DISCOM will:
 - notify sub-station wise capacity feasible for injection
 - invite applications from interested beneficiaries for setting up the renewable energy plants
 - Ensure “must-run” status to solar plants and keep feeders ‘ON’ during day.
- Any RE technology can be proposed by applicant
- Power generated will be purchased by DISCOMs at pre-fixed tariff or tariff arrived through bidding with pre-fixed tariff as ceiling tariff
- Duration of PPA will be 25 years from Commercial Operation Date (COD)
- In case of project set up by a developer :
 - Lease rent to farmers by developers on basis of per acre per year **or** per unit energy generated per acre per year
 - Lease rent payment directly to the farmers by DISCOM

Component A

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- DISCOM obliged to buy the entire power from RPG within the contract capacity
- Extension of the PPA period beyond 25 years through mutual agreements between the RPG and DISCOM
- DISCOM to maintain LC and Escrow Arrangement
- RPG to commission plant within nine months from issued of LoA
 - Two months extension permitted with penalties
 - No penalties if delay beyond control of RPG
- DISCOM to get PBI on submission of documentary evidence:
 - Timely payment of monthly lease rent to the land owner, if applicable
 - Payment made to RPG for power supplied to DISCOM

Component B

- Standalone Solar Agriculture Pumps : 17.50 lakh
- Aggregate capacity : 8250 MW
- Pump capacity : up to 7.5 HP
- Solar PV capacity permitted : as per MNRE Spec
- Higher capacity pumps allowed with limit of CFA upto 7.5 HP pumps.
- Individual farmers, Water User Associations and community/cluster based irrigation system eligible under Scheme
- CFA @ 30% of benchmark cost or the Tender cost, whichever is lower.
(50% for NE States including Sikkim, Hilly States and Island UTs)
- 30% subsidy by the State Governments
- Balance 40% by farmer (20% in case of NE/ hilly States & Island UTs)
 - Bank finance may be available to farmers for 30% / 10% of the Cost

Component B *(Benefits)*

- Reliable source of irrigation to farmers
- Saving on diesel costs to the farmers
- Increasing farmer's income and living conditions
- Option to connect to Grid in future whenever Grid supply is available and feed surplus power to Grid to get additional income
- No additional Electric load on the Grid for Agriculture Pumps.
- De-dieselisation & thereby equivalent foreign exchange savings

Component B

(Contd.)

- Implementation through DISCOM/ Agriculture Department/ Minor Irrigation Department or any Department designated by State Govt.
 - Service charges @ 2% of the eligible CFA to Implementing Agency
 - MNRE to retain some part of service charge for centralised IEC activities
- Priority to small and marginal farmers and preference to the farmers using Micro irrigation systems
- Sizing of pump based of water table in the area, land covered and quantity of water required for irrigation
- Convergence with present schemes on promotion of micro irrigation system and replacement of agriculture pumps with energy efficient pumps
- Indigenous components to be used
- In Dark/Black zones only diesel pumps to be replaced provided they use micro irrigation techniques

Component B

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- Whenever the grid reaches, the stand alone solar pumps can be connected to the grid to feed surplus power depending on grid capacity
- Web-based remote monitoring system for performance monitoring
- MNRE specifications and testing procedures to be followed
- CFA to be released on benchmark cost or cost discovered through tenders, whichever is low
- Option of Universal Solar Pump Controller (USPC) to enable use of solar power for other activities
 - Bidder to indicate additional cost for Solar PV pumping system with USPC
 - The entire additional cost Solar PV pumping system with USPC would be borne by the farmer

Component B

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- State-wise allocation of solar Pumps to be issued by MNRE once in a year
- Online portal for submission of proposal and progress
- Sanction will be issued to States on acceptance of allocation and availability of State/UT share
- Centralized tendering of solar PV pumping system through PSUs
- Selection of beneficiaries and implementation by State Implementation Agency.
- Cluster based approach for allocation of districts to the selected bidders
- AMC for 5 years maintenance to be part of supply
 - Provision for blacklisting in case of non-performance
- Vendor shall have one authorized service center in each operational district and a helpline in local language
- Remote monitoring system shall be provided with each system and all data to be monitored through web-portal

Component C

- Solarisation of Agriculture Pumps : 10 lakh
- Aggregate capacity : 7500 MW
- Pump capacity : up to 7.5 HP
- Solarisation capacity permitted in kWp : Twice pump capacity
- Solarisation of higher capacity allowed with limit of CFA up to 7.5 HP
- Individual farmers, Water User Associations and community/cluster based irrigation system eligible under Scheme
- Surplus power to be sold to DISCOM (Tariff by the State/SERC)
- CFA @ 30% of benchmark cost or the tender cost, whichever is lower.
(50% for NE States including Sikkim, Hilly States and Island UTs)
- 30% subsidy by the State Governments
- Balance 40% by farmer (20% in case of NE/hilly States & Island UTs)
 - Bank finance may be available to Farmers for meeting (30% /10%) of the cost.

Component C *(Benefits)*

- DISCOM will save on recurring deficit by low agriculture tariff.
- Farmers will receive reliable day time power.
- Farmers can sell excess power to Grid and increase their income
- Farmers will be incentivised to conserve energy as well as ground water.
- No additional Electric load on the grid for Agriculture Pumps.

Component C

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- Priority to small and marginal farmers and preference to farmers using micro irrigation systems
- In Dark/Black zones solarisation of pumps only if they use micro irrigation techniques
- Feeder-wise implementation to be carried out: all agriculture pumps in a feeder will be solarised
- Indigenous components to be used
- DISCOMs will ensure “must-run” status to the solarised feeders
- AMC for 5 years maintenance to be part of supply
 - Provision for blacklisting in case of non-performance
- Vendor shall have one authorized service center in each operational district and a helpline in local language
- Remote monitoring system shall be provided with each system and all data to be monitored through web-portal

Component C

(Contd.)

- Implementation through DISCOM/ GENCO or any Department designated by State Govt.
 - Service charges @ 2% of the eligible CFA to Implementing Agency
 - MNRE to retain some part of service charge for centralised IEC activities
- Implementing Agencies to select vendors through transparent bidding
- Web-based remote monitoring system for performance monitoring
- States may formulate state specific policy for grid connected solar pumps, customised to needs of the respective State
- Online portal for submission of proposals and progress
- Sanction will be issued to States on acceptance of allocation and confirmation for State/UT share.

Status of Implementation

- Administrative Approval issued on 8.3.2019
- Guidelines issued along with Model PPA and Model Lease Agreement issued on 22.7.2019.
- Specifications, standards and testing procedure issued
- Benchmark cost issued
- Demand under three components of the Scheme received from States
- Allocation of first year targets under process
- EESL selected for centralized tendering under Component-B
 - NIT issued by EESL on 19.7.2019

THANK YOU