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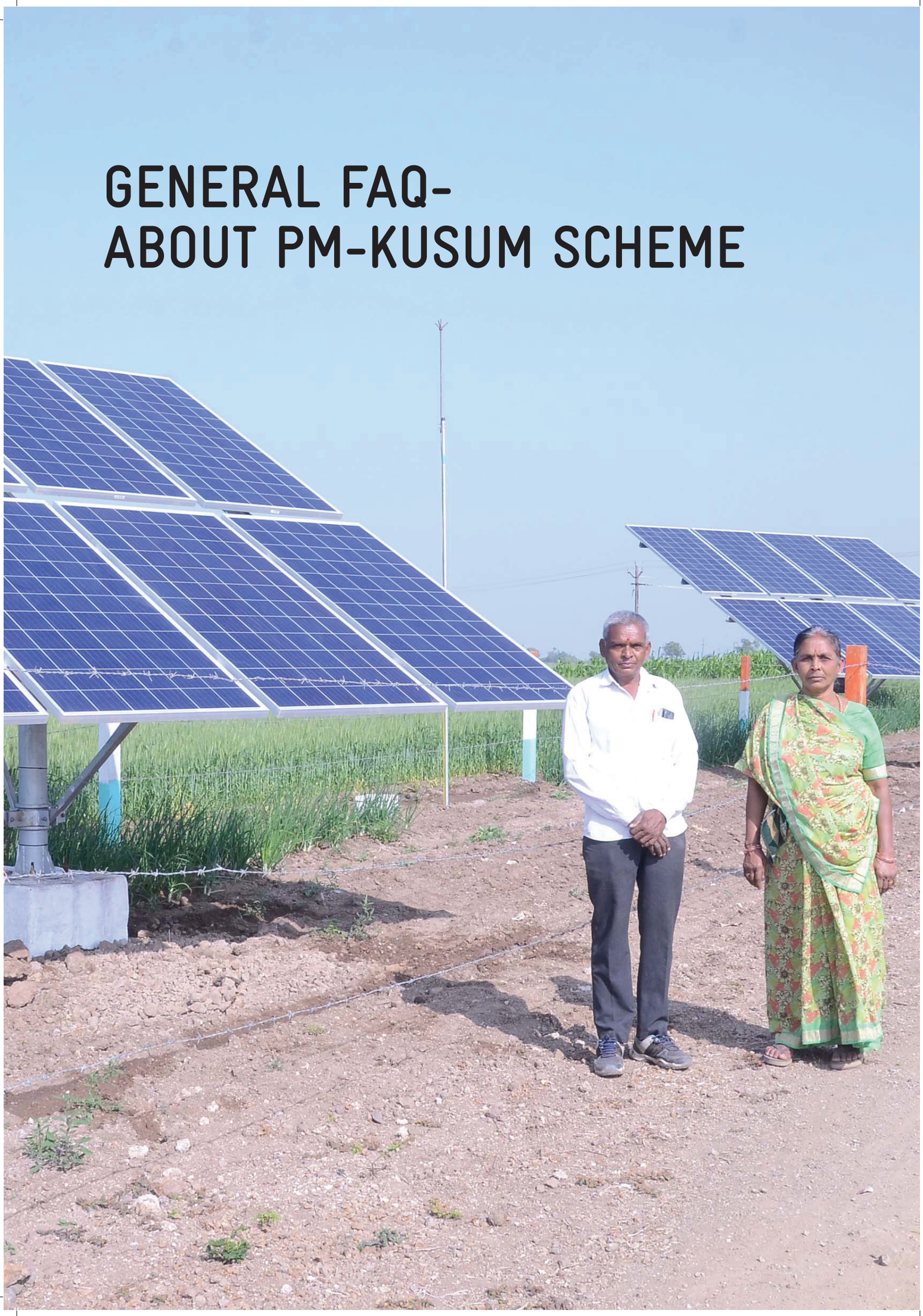
GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY

# General Frequently Asked Questions (FAQs)

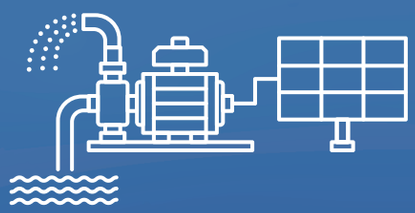
## Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan Scheme

# GENERAL FAQ-
# ABOUT PM-KUSUM SCHEME



# ACRONYMS

| | |
|---|---|
| AC | Alternating Current |
| AIF | Agriculture Infrastructure Fund |
| AMC | Annual Maintenance Contract |
| BIS | Bureau of Indian Standards |
| CFA | Central Financial Assistance |
| CGWB | Central Ground Water Board |
| DC | Direct Current |
| DISCOM | Distribution Company |
| EMD | Earnest Money Deposit |
| EOI | Expression of Interest |
| EPC | Engineering, Procurement & Construction |
| FAQs | Frequently Asked Questions |
| FiT | Feed-in-Tariff |
| FPO | Farmer Producer Organizations |
| GENCO | Generation Company |
| HP | Horse Power |
| kV | Kilovolt |
| kW | Kilowatt |
| LoA | Letter of Award |
| MNRE | Ministry of New and Renewable Energy |
| MoAFW | Ministry of Agriculture & Farmers' Welfare |
| MW | Megawatt |
| PBG | Performance Bank Guarantee |
| PBI | Procurement Based Incentive |
| PM- KUSUM | Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan |
| PPA | Power Purchase Agreement |
| PSL | Priority Sector Lending |
| PV | Photovoltaic |
| RBI | Reserve Bank of India |
| REPP | Renewable Energy Power Plant |
| RESCO | Renewable Energy Service Compay |
| RPG | Renewable Power Generator |
| SERC | State Electricity Regulatory Commission |
| SIA | State Implementing Agency |
| SNA | State Nodal Agency |
| USPC | Universal Solar Pump Controller |
| UT | Union Territory |



## 1 What is the PM-KUSUM scheme?

PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan) is the scheme of Ministry of New and Renewable Energy (MNRE), Government of India aimed at supporting the agriculture sector through setting up of decentralized solar power plants, replacement of agriculture diesel pumps with solar agriculture water pumps and solarisation of existing grid connected agriculture pumps.

## 2 What are the targets of the PM-KUSUM scheme?

PM-KUSUM aims to support the beneficiaries through three components under the scheme. The targets under each of the components are:

- Component-A: Setting up of 10,000 MW of Decentralized Ground/ Stilt Mounted Grid Connected Solar up to 2MW
- Component-B: Installation of 20 Lakh Stand-alone Solar Agriculture Pumps
- Component-C: Solarisation of 15 Lakh Grid Connected Agriculture Pumps through individual pump as well as through Feeder-level Solarisation

## 3 Who are the key stakeholders under the scheme?

- Beneficiaries: Individual Farmers, Group of Farmers, Water User Associations, Cooperatives, panchayats, Farmer Producer Organisations (FPO), Primary Agriculture Credit Societies (PACS), Community/cluster-based irrigation system as beneficiaries.
- Implementing Agencies: State Nodal Agencies, State Agriculture Department, DISCOMs, Minor Irrigation Department, GENCO, any other Department designated by State Government
- Financial Institutions
- Vendors

## 4 What are the different renewable technologies covered in the scheme?

Only solar power technology is covered under the scheme for all the components.

## 5 What is a solar power system under Component A?

A solar power system utilizes photovoltaic (PV) modules to convert solar energy received from the sun into electricity.

## 6 What are Solar Water Pumps/Solar Agriculture Pumps under Component B and C?

A solar agriculture pump is a type of pump which runs on solar energy and does not require any fuel (diesel, kerosene, etc.) or external source of electricity to provide water for irrigation.

## 7 What is the difference between individual pump solarisation and feeder level solarisation under Component C?

In case of individual pump solarisation, a single grid connected pump is solarised through installation of solar panels; and by connecting it to pump to provide power.

In case of feeder level solarisation, all grid connected pumps connected across a particular feeder can be solarised through a single aggregate solar power plant of larger capacity, which is to be installed near respective substation. This feeder level solar plant will be responsible for supply of electricity to the agriculture pumps through the feeder.

## 8 Who are responsible for installation of Solar Power Plants under Component A?

Individual Farmers/Group of farmers/Water User Associations/Framer Producer Groups/Primary Agriculture Credit Societies/Community-Cluster based Irrigation Systems known as Renewable Power Generators (RPGs) can set up Solar Power Plants.

## 9 Who is responsible for installation of Solar Water Pumps under Component B?

The State Implementing Agencies and MNRE empanelled Vendors are responsible for installations of Solar Water Pumps.

## 10 Who is responsible for installation of Solar Water Pumps under Component C?

Under the Individual level Solarisation, the State Implementing Agencies and MNRE empanelled Vendors are responsible for installations of Solar Water Pumps; and for feeder level solarisation, the Power Distribution Companies (DISCOMs) are responsible for installations.

## 11 Where can I find the information of the Implementing Agencies under this scheme?

For the year 2019-20, the list of implementing agencies can be found using the link: https://mnre.gov.in/img/documents/uploads/file_s-1591004979688.pdf

## 12 Who are eligible to apply for vendor empanelment under Component B and C?

The following vendors are eligible to apply for empanelment:

- Manufacturer of solar PV modules or manufacturer of solar agriculture pumps or manufacturer of solar agriculture pumps controllers using indigenous technology.
- Joint venture of any of manufacturers mentioned at (a) above with system integrators.

## 13 What standards & specifications should be followed while installing Solar Plants & Solar Water Pumps?

Systems installed under this Programme should meet technical specification and construction standards as specified by BIS and MNRE from time to time. The details of standards & specifications can be found using the link: https://mnre.gov.in/solar/standard-specs-cost

## 14 What if the installations under PM-KUSUM scheme are not as per standards?

In case the installed systems are not as per standards or the asset becomes non-functional on account of poor quality of installation or there is non-compliance of Annual Maintenance Contract (AMC), MNRE reserves the right to blacklist the vendor. Blacklisting may include:

- The Vendor/Firm will not be eligible to participate in tenders for Government supported projects.
- In case, the concerned Director(s) of the firm/company joins another existing or starts/joins a new firm/company, the company will automatically be blacklisted.

## 15 Is there any subsidy provided?

Yes. Subsidy is provided by Central and State Government under Components B and C of the scheme for installing standalone solar agriculture pump and solarisation of grid-connected agriculture pumps and no subsidy is available under Component A

## 16 How will the farmer's share under Component B and C be determined?

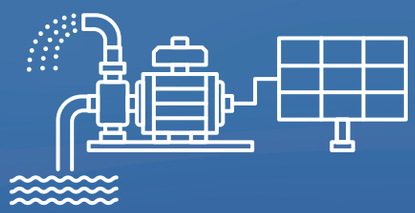
After State's and Central Government's subsidy share, the beneficiary is required to pay only the balance amount.

## 17 What if the farmer/beneficiary does not have enough capital to pay his share?

The beneficiaries can easily avail loans as RBI has included PM-KUSUM under priority sector lending.

## 18 Is there any provision for security of Solar Water Pumps?

Yes. There is provision of insurance coverage by the vendor for the installed systems against natural calamities and theft.



## 19 How will progress under the scheme be monitored?

The progress will be continuously monitored by the concerned State Implementing Agency and MNRE.

## 20 How can I apply for PM-KUSUM scheme?

One can apply for PM-KUSUM scheme through the State implementing agency office for the relevant component. You may refer to the document - https://mnre.gov.in/img/documents/uploads/file_s-1591004979688.pdf

## 21 What procedure is generally followed under the scheme?

| Component A | Component B | Component C |
|---|---|---|
| Step-1: Distribution companies (DISCOMs) notify sub-station wise surplus capacity which can be fed from such REPP to the Grid and invite Expression of Interest from RPGs for setting up the renewable energy plants.<br><br>Step-2: The beneficiaries have an option to either set up REPP by self or through developer(s)/ DISCOM by giving their land on lease.<br><br>Step-3: The DISCOM or any agency authorized by the DISCOM request to submit non-refundable processing fee from the interested RPGs and issues LoA<br><br>Step-4: The RPGs after submitting bank guarantees signs PPA with DISCOMs | Step-1: One can contact the State Implementing Agency (SIA) or apply online at the SIA portal and submit required documentation (such as identity proof, land documents etc.) as part of their application.<br><br>Step-2: Upon Aadhar Authentication, the application is accepted, and initial farmer contribution is submitted.<br><br>Step-3: The farmer can select his/her choice of MNRE empanelled vendors. The vendor can also fill the application on his behalf.<br><br>Step-4: Post verification of documents by the State Implementing Agency, pump capacity is sanctioned, after which vendor will install the pump at the identified farmer's site | |

## 22 How will I benefit under the scheme?

One can benefit in several ways under respective components of the scheme:

- Day time power availability to farmer
- Steady Source of Income by selling power to DISCOM at a pre-determined tariff in case of Component C – Individual Pump Solarisation and incentives against energy conservation savings in case of Component C – Feeder level solarisation & lease revenue in case farmer decides to lease land and develop solar power plant through a developer or DISCOM under Component – A
- No recurring costs of electricity or fuel as solar water pumps do not require any fuel (diesel/kerosene) or electricity to operate
- Solar water pumps are easier to operate and maintain than diesel pumps (Comp B & Comp C – Individual Pump Solarisation)
- Due to reliable access to irrigation, a farmer can choose to harvest additional crops thus resulting in extra incomes

## 23 Want to get more information on the scheme?

Yes. For more information, please visit https://mnre.gov.in/solar/schemes/ or www.pmkusum.mnre.gov.in or call at toll free number 1800-180-3333.

# COMPONENT A

## GENERAL INFORMATION

### 1 What is Component A of PM-KUSUM Scheme?

Component A of PM-KUSUM scheme aims to support the installation of 10,000 MW of decentralized ground-mounted grid connected solar power plants termed as Renewable Energy Power Plant (REPP) of size up to 2 MW.

### 2 Who are eligible to setup Solar Power Plants under Component A?

The following termed as Renewable Power Generators (RPGs) are eligible:

- Individual farmers,
- Group of farmers
- Water User Associations,
- Farmer Producer Organisations (FPO)
- Primary Agriculture Credit Societies (PACS)
- Community/cluster-based irrigation system

### 3 Where can the RPGs install the solar power plant?

The RPGs can set up solar power plant on barren, uncultivable, pastureland or marshy lands. Agricultural land is also permitted under the scheme provided that solar plants are installed in stilt fashion (i.e., raised structure for installation of solar panels) and with adequate spacing between panel rows for ensuring that farming activity is not affected.

### 4 What is the eligible capacity of ground mounted solar power plant?

The eligible capacity of ground mounted solar power plant is between 500 kW to 2 MW. Solar power plants of size less than 500 kW may also be allowed in specific cases based on techno-commercial feasibility.

### 5 Is it necessary that the substation should be in 5 km radial distance and whether sites with 11kV feeders in the proximity can be considered even though they were not within 5 km radial distance from the substation?

The Renewable Energy Power Plant (REPP) will be preferably installed within five km radius of the sub-stations in order to avoid high cost of sub-transmission lines and to reduce transmission losses.

### 6 How can I benefit from Component A of the scheme?

Power Purchase Agreement (PPA) will be signed between RPG and DISCOM for a period of 25 years wherein the RPGs can earn by selling the renewable power generated to the DISCOMs at a feed-in-tariff (FiT) as determined by the State Regulatory Commission (SERC). If farmer(s) decides to lease his (their) land(s), then he (they) can earn lease income.

### 7 Is there any penalty for shortfall in solar power generation by solar power plant?

No, there is no penalty for shortfall in solar power generation.

### 8 What checks do the SIA have to see in order to allot a pump at site?

SIAs are required to check Land Record Papers, Aadhar Card, Other information like address proof, location of land, irrigation details etc. before allotting pump to a beneficiary.

## IMPLEMENTATION METHODOLOGY

### 1 How can I apply under Component A?

DISCOMs ascertain the RE generation capacities near the substations and invite the Expression of Interest (EOI) to participate in the selection process.

### 2 Can I get more than one REPP installed?

Yes, but only if they are connected to a different substation and located at a different place.

### 3 When can the installation of REPP commission?

The selected power generator shall commission the solar power plant within twelve months from date of issuance of Letter of Award (LoA).

### 4 What is a Power Purchase Agreement (PPA)?

A PPA to be executed between the DISCOM and the RPG is a legal contract signed which binds the DISCOMs to purchase the generated power from the RPG at a pre-determined feed-in-tariff. It has to be executed within two months of the date of issue of Letter of Award (LoA) by DISCOM or any agency authorized by the DISCOM & is binding for 25 years.

### 5 Is there any kind of penalty for delay in signing PPA?

Yes. In case, the selected power generator fails to execute the PPA within the stipulated time period given in the scheme guidelines, the Bank Guarantee equivalent to EMD shall be en-cashed by DISCOM as penalty.

### 6 What kind of payments/Bank Guarantees are required from RPGs?

A non-refundable processing fee from the interested RPG needs to be submitted, which in no case shall be higher than Rs. 5000 per MW or part thereof of the capacity applied for. The RPG shall provide the following Bank Guarantees to DISCOM as follows:

- Earnest Money Deposit (EMD) of Rs. 1 Lakh/ MW in the form of Bank Guarantee along with EoI.
- Performance Bank Guarantee (PBG) of Rs. 5 Lakh/MW within 30 days from date of issue of Letter of Award. The Bank Guarantees against EMD shall be returned to the selected power generator on submission of valid PBGs.

## COSTS & FINANCES

### 1 How much does set up of REPP cost?

It costs approximately Rs. 4 crores per MW to install the solar power plant.

### 2 Is there any subsidy support available?

No subsidy support is available under Component A. The RPGs are required to arrange the capital for installing the plants on their own.

### 3 What if I am unable to arrange the required capital, am I still eligible under the scheme?

In this case, one can either take a loan from the financial institutions or can opt for developing the solar power plant through developer(s) or local DISCOM where one can lease his land to the developer or DISCOM and will get lease rent. In this case the DISCOM or the developer will be termed as the power generator.

### 4 Is there any eligibility of developer for becoming a power generator?

Yes. The eligibility for a developer to become a power generator is that the net-worth of the developer should not be less than Rs. 1.00 Crore per MW (of the capacity applied).

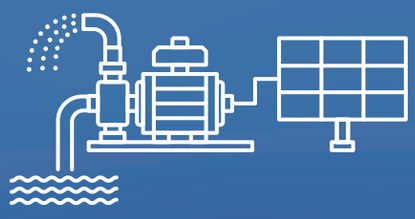
### 5 Is financing readily available for installing solar power plant?

Yes. One can take loan for installing solar power plant on his or her field. Banks provide loans for solar panels under priority sector lending guidelines of RBI. For more details please visit the link: https://m.rbi.org.in/scripts/BS_ViewMasDirections.aspx?id=11959

## ROLES & RESPONSIBILITIES

### 1 Who is the Implementing Agency under this component?

DISCOMs /GENCO/ any other Department designated by State Government will be the



implementing agencies for Component A Each state will be having a separate implementing agency. The list can be found using the link: https://mnre.gov.in/img/documents/uploads/file_s-1591004979688.pdf

## 2 What role MNRE will undertake for implementation of the Scheme?

The broad roles of MNRE under this component are:

- Allocate initial capacity for Pilot Project to DISCOMs based on their demand and readiness for implementation
- Monitoring and evaluation of the successful implementation of the scheme
- Issuance of Model PPA and Model Lease Agreement for the implementation of the scheme
- Release Procurement Based Incentive (PBI) to the DISCOMs

## 3 What role will DISCOM undertake under the scheme?

The broad roles of DISCOM under this component are:

- Determine demand for sanction under the scheme along with details on their readiness to implement the component A
- Declare solar power capacity that can be connected to a 33/11 kV sub-station and carry-out the procedure for selection of power generator.
- Issue LoA and sign PPA with power generator and provide connectivity at the sub-station to the power generator.
- In case, power generator has taken land from a farmer/group of farmers on lease, pay monthly lease rent to the lessor directly in his/her bank account before 5th day of the month following the month for which the lease rent is due.

## 4 What are the roles that State Nodal Agency (SNA) will undertake under the scheme?

SNA will coordinate with States/UTs, DISCOMs and farmers for implementation of the scheme. They will assist the farmers in project development activities including feasibility studies, PPA/EPC contracts, getting funds from financial institutions, etc.

# COMPONENT B

## GENERAL INFORMATION

### 1 What is Component B of PM-KUSUM Scheme?

Component B of PM-KUSUM scheme aims to support farmers to install 20 lakh standalone solar agriculture pumps for replacement of existing diesel agriculture pumps in off-grid areas.

### 2 Who are eligible for under Component B?

Following are eligible under Component B of the scheme: Individual farmers, Water User Associations, Farmer Producer Organisations (FPO), Primary Agriculture Credit Societies (PACS) and, Community/cluster-based irrigation system will be covered under this component

### 3 What are the types of solar agriculture pumps available for installation under the scheme?

The following types of pumps are available for installations:

1. AC Submersible Pumps
2. DC Submersible Pumps
3. AC Surface Pumps
4. DC Surface Pumps

### 4 What are Alternating Current (AC) and Direct Current (DC) pumps?

Alternating Current (AC) pumps are operated using an AC motor. They have an Inverter to convert the DC power generated from solar panels to AC power. Direct Current (DC) pumps are the pumps which use a DC motor to run the pump and directly use the DC power generated from the solar panels.

### 5 What are Submersible and Surface pumps?

Submersible pumps are the pumps which are located below the ground level and remain submerged under water. Surface pumps are the pumps installed on ground surface which remain out of water.

### 6 What are the different sizes of pumps available for installation under the scheme?

Pumps of capacities 0.25 HP, 0.5 HP, 1 HP, 2 HP, 3 HP, 5 HP, 7.5 HP, 10 HP,12.5 HP, 15, 17.5 HP, 20 HP, 22.5 HP, 25 HP can be installed under the scheme.

### 7 What is the discharge of these solar pumps with 2"/3"/4" or higher size of the delivery pipe?

The discharge of solar pumps varies in accordance with the solar insolation, so, it is not fixed that how much discharge a solar pump would provide at a given time.

### 8 Which factors decide suitable size of solar agriculture pump?

Following factors are considered for deciding suitable pump size: Size of land to be irrigated, water requirement, cropping cycle, type of irrigation adopted and availability of shade free land for installation of solar panels.

### 9 What capacity and size of solar module (solar plates) is to be provided by the firms?

Solar modules of minimum 300 W capacity each is required to be installed by the firms. The firms should use combination of these modules for solar pumps.

### 10 Does the firm who install the solar pumps also provide the borewell?

No, the firm is not responsible to provide the borewell.

### 11 What is the bore size required for the solar pump?

Size of the bore will depend upon the capacity of the pump used at the site.

### 12 Can I install a new pump if I don't have an existing diesel pump?

Yes. Installation of new pumps is also allowed except in dark zone areas notified by Central Ground Water Board (CGWB).

### 13 Can I install more than one pump on my land?

No, only one pump can be sanctioned against a land.

### 14 Can the site of solar pump be shifted by the beneficiary?

No. The site of solar pumps cannot be shifted by the beneficiary at his own level.

### 15 Can a beneficiary opt for the make of material of his own choice?

No. The make of material will be as per the make mentioned in the test report of the solar water pumping system of the supplier firm.

### 16 Do we get the solar pumps installed from open market and claim subsidy from the Department?

No, pumps can be installed only from MNRE empanelled vendors.

### 17 What is the site and space requirement for installation of solar pumps?

The solar pump modules are installed on south facing shadow free site. And the space requirement will depend upon the capacity of the pump to be installed at the site.

### 18 Will the vendor provide any after-sale support?

Yes. The vendor will provide support like Annual Maintenance Contract (AMC) for five years from the date of installation, real time monitoring, district level service centres, and appropriate complaints/redressal mechanism. The farmer can also call the toll-free number of the vendor written on the system or nearest branch of vendor for any kind of assistance.

### 19 What if I have excess power generated from solar panels? Are there any other uses for which solar agriculture pump can be used for?

One can use the excess power from solar panel for other activities like operating chaff cutter, floor mill, cold storage, drier, battery charges, etc. to increase his income. This can be done by using a Universal Solar Pump Controller (USPC).

### 20 How can I opt for USPC?

Option would be given to the farmer to opt for USPC and separate bid price for solar water pumping system with USPC will be invited.

### 21 How can beneficiary benefit under this component of the scheme?

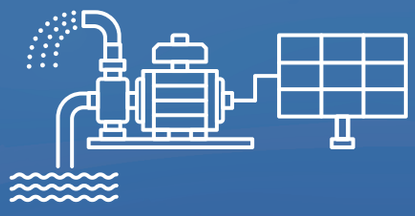
There will not be any recurring costs of electricity or fuel as solar water pumps do not require any fuel (diesel/kerosene) or electricity to operate and the farmers can use the excess power generated from solar panels for other agricultural activities.

## IMPLEMENTATION METHODOLOGY

### 1 How can I apply for solar agriculture pumps?

One can apply for solar agriculture pumps according to the following stepwise procedure:

- Step-1: One can contact the State Implementing Agency or apply online at the portal of the State Implementing Agency. The farmer needs to submit required documentation (such as identity proof, land documents etc.) as part of their application to the State Implementing Agency office for Component B
- Step-2: Upon application acceptance, initial farmer contribution is submitted
- Step-3: The farmer can select his/her choice of MNRE empanelled vendors. The vendor can also fill the application on his behalf.



- Step-4: Post verification of documents by the State Implementing Agency, site survey is done and pump capacity is sanctioned, after which vendor will install the pump at the identified farmer's site

### 2 How can I select the vendor for installation of pumps?

One can select his/her choice of solar agriculture pump by selecting any vendor from MNRE's list of empanelled vendors. Details of empanelled vendor for a particular state can be found at the State Implementing Agency office.

### 3 Will the vendor provide any support after the installation of the pumps?

Yes. The vendor will provide support like Annual Maintenance Contract (AMC) for five years from the date of installation, real time monitoring, district level service centres and appropriate complaints/redressal mechanism. The farmer can also call the toll-free number of the vendor written on the pump motor or visit nearest branch of vendor for any kind of assistance.

### 4 Is there any provision for security of the asset?

Yes. There is 5 years insurance coverage by the vendor for the installed systems against natural calamities and theft, burglary. Beneficiary needs to inform the vender within 48 hr to claim the insurance.

## COST & FINANCES

### 1 What is the cost of solar agriculture pump?

The cost of solar agriculture pumps would depend on the price discovered in the bidding process by MNRE for selection of vendors under this component and can be assessed at link: https://mnre.gov.in/solar/schemes.

### 2 Is there any subsidy support available for this component?

Yes. Subsidy is available for installing solar agriculture pump under the scheme as summarized in table below:

| Details | | Category A | Category B |
|---|---|---|---|
| Eligibility | | Applicable for all over India except Category B regions | Only applicable for North-eastern States, Himachal Pradesh, Uttarakhand, Jammu and Kashmir/Ladakh, Lakshadweep and A&N Islands |
| Contribution | Centre | Central Finance Assistance (CFA)@30% | Central Finance Assistance (CFA)@50% |
| | State | At least 30% assistance | At least 30% assistance |
| | Farmer | At most 40% for which bank finance is available with upfront 10% payment | At most 20% for which bank finance available with 10% upfront payment |

### 3 Can farmer take loan for installing solar water pump?

Yes, Farmer can take loan for his balance contribution of which 30% amount can be financed and 10% amount to be paid by farmer as upfront contribution.

Solar agriculture pump has been included under Priority Sector Lending (PSL). Farmers will be eligible to get priority sector loans for installation of standalone solar agriculture pumps. More details can be found on this link – https://www.rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=11959

Availability of Agriculture Infrastructure Fund (AIF) which will provide 3% interest subvention for Agriculture Infrastructure projects for all loans up to a limit of INR 2 crores. This

subvention will be available for a maximum period of 7 years. More details can be found on this link- https://pib.gov.in/PressReleasePage.aspx?PRID=1637221; https://agriinfra.dac.gov.in/Home/MainFeatures

### 4 Will I have the ownership of solar agriculture pump?

Yes. Beneficiaries will have the ownership of solar agriculture pump.

### 5 Is there any subsidy support for USPC?

Yes, however it will be limited to the benchmark cost of solar pumps without USPC. For example,

| | |
|---|---|
| Benchmark cost of the 3 HP AC submersible without USPC | RS 1,68,000/- |
| Tender cost of the 3 HP AC submersible without USPC | RS 1,50,000/- |
| The tender cost of the 3 HP AC submersible with USPC | RS 1,80,000/- |

Here the cost which will be considered for the calculation of the CFA is RS 1,68,000/- in case of the 3 HP AC submersible with USPC with respect to the 3 HP AC submersible without USPC in which RS 1,50,000/- will be considered for the calculation of the CFA.

Therefore, an additional subsidy of RS 5,400/- (RS 18,000/- *30%) will be available for the beneficiary in case of the pump with USPC with respect to the calculation done as per above example.

## ROLES & RESPONSIBILITIES

### 1 What are the roles and responsibilities of the implementing agency?

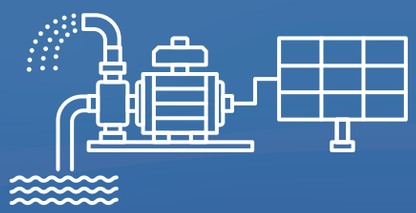
The broad roles and responsibilities of the implementing agency under Component B are:

- Demand aggregation for solar agriculture pumps through online portal.
- Performing the site survey before the installation of the Pump
- Prepare proposal and submit to MNRE for sanction and online submission of completion reports to MNRE
- Submission of utilization certificates and audited statement of expenditure.
- Ensure compliance of MNRE Guidelines and Standards
- Real time monitoring through dedicated web-portal and ensure compliance of AMC and training of locals by the vendors
- Carrying out publicity of the scheme so as to increase awareness

### 2 What are the roles and responsibilities of vendors under the Component B?

The broad roles and responsibilities of the vendors under Component B are:

- Ensure that the solar agriculture pumps adhere to MNRE guidelines and specifications
- Get empanelled by MNRE. Selection of vendors is done by Central PSUs or Implementing Agency through tendering process
- Design, supply, installation and commissioning of solar agriculture pumps
- Provide Asset Maintenance Cover or a period of 5 years from the date of commissioning of the systems
- Carry out quarterly inspection of the pump and Submission of quarterly inspection report
- Have one authorized service centre in each operational district and a helpline in local language in each operational state
- Provide remote monitoring system with the pumps
- Submit performance data to MNRE



# COMPONENT C

## GENERAL INFORMATION

### 1 What is Component C of PM-KUSUM Scheme?

Component C of PM-KUSUM scheme aims to solarise 15 Lakhs agricultural electricity consumption through individual solar pump (up to 7.5 HP) as well as through Feeder-level Solarisation for water conservation & extra income generation.

### 2 What is the target capacity proposed to be covered under the feeder level solarisation?

Under Component-C of PM-KUSUM Scheme solarisation of total 4 lakh grid connected pumps are targeted for sanction by 2020-21 and 50% of these are targeted to be solarised through feeder level solarisation and balance 50% through individual pump solarisation.

### 3 Who all are eligible for under Component C?

The following are eligible for individual pump solarisation:

- Individual farmers,
- Water User Associations,
- Farmer Producer Organisations (FPO),
- Primary Agriculture Credit Societies (PACS)
- Community/cluster-based irrigation system

The following are eligible for feeder level solarisation:

- RESCO developer
- DISCOMs

### 4 What is the difference between individual pump solarisation and feeder level solarisation?

In case of individual pump solarisation, a single grid connected pump is solarised through installation of solar panels and connecting it to pump to provide power.

In case of feeder level solarisation, all grid connected pumps connected across a particular feeder can be solarised through a single aggregate solar power plant of larger capacity, which is to be installed near respective substation. This feeder level solar plant will be responsible for supply of electricity to the agriculture pumps through the feeder.

### 5 Whether feeder level solarisation can be done in the feeders which are not separated and have mixed loads (domestic, agriculture, industrial etc.) connecting the equivalent capacity of solar plant to cater to the annual power requirement of the agriculture loads in that feeder by availing CFA?

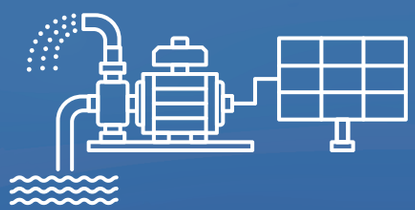
Where agriculture feeders have already been separated the feeders may be solarised under the scheme. Feeders having major load for agriculture may also be considered for solarisation under the Scheme.

### 6 How can I benefit under this component?

Farmer will not have to depend on electricity supply for irrigation during daytime. Under Feeder level solarisation farmers will be incentivised for consuming less units than the set benchmark which will enable them to save water. For example, Suppose the average electricity usage of a farmer is 5000 units per annum. If that farmer will save 1000 units by spending only 4000 units, then the government will give the money of these 1000 units as incentive to the farmer. The more the savings, the higher the incentive amount.

### 7 Do I need to have metered connections for availing incentives under feeder level solarisation?

Yes, metered connections will enable in calculating the number of units below the benchmark consumed by the farmers and based on the saved units, incentives will be calculated.



## IMPLEMENTATION MODELS

### 1 What are the various options for solarisation of pumps for individual farmers?

There are two options of solarisation that could be adopted by individual farmers:

- Option-1 (Net-metering): In this case, the agriculture pump will take power from solar panels required for irrigation. Balance power may be imported from grid if there is a requirement. In case solar power generation is higher than required by the pump, the additional solar power will be fed to the grid. Farmer would be able to import and export power to the grid at the rate specified by the concerned State Government/SERC

- Option-2 (Pump to run on solar power only): In this case the pump will only run on the solar power as in case of stand-alone solar agriculture pump and no power will be drawn from the grid for the operation of pump. When the pump is not running the solar power can be fed in to the grid through suitable grid-tied inverter.

  Possibilities will be explored for replacement of agriculture pumps with energy efficient pumps under any modalities in coordination with respective Ministries/Departments.

### 2 What are the models for feeder level solarisation?

There are two models that can be implemented under feeder level solarisation: CAPEX Model and RESCO Model.

### 3 What is the CAPEX model of implementation for solarisation?

The CAPEX model of implementation for feeder level solarisation is the model where DISCOM takes up the responsibility of setting up the solar plant for solarisation of feeder. The DISCOM will be responsible for identification of land, getting ownership, providing connectivity etc.

### 4 Is there any concessional loan available for DISCOM under CAPEX model?

Yes. Concessional financing will be available for solarisation of agriculture pumps as RBI has already included this component under priority sector lending and Ministry of Agriculture & Farmers' Welfare (MoAFW) has included community level solarisation under Agriculture Infrastructure Fund.

### 5 What is the RESCO model of implementation for feeder level solarisation?

The RESCO model of implementation for feeder level plants is the model where a Renewable Energy Service Company (RESCO) or a developer will setup the solar plant for feeder level solarisation and sign a PPA with the DISCOM for supplying the solar power to DISCOM.

### 6 How will a developer be selected under RESCO model?

The developers will be selected on the basis of lowest tariff offered for supply of solar power for a period of 25 years.

## COSTS & FINANCES

### 1 What are the costs of solarisation of grid connected agriculture pumps under Individual Pump Solarisation?

The cost would depend on the cost discovered in the bidding process by respective State Implementing Agency for selection of vendors under this component.

### 2 Can farmer take loan for installing solar panels for solarisation of grid connected agriculture pumps?

Yes, a farmer can take loan for balance amount after subsidy contribution from State and Central Government. Getting a loan from a bank or financing institution would require some documents like identity documents, land

documents, PM-KUSUM application etc. The financing institution may also require collateral securities such as primary charge on asset (solarisation system), crop hypothecation based on the lender's terms and guidelines. Following verification, banks can issue loans to farmers which he can repay as per the lending terms and conditions.

## 3 Is there any subsidy available for solarising individual grid connected agriculture pumps?

Yes, subsidy is available for solarisation of individual grid connected agriculture pumps, which is similar to that of Component B of the scheme.

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