

# NABARD SCHEME HANDOUTS

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TOPIC – PM-KUSUM

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## 1 Background

As a part of Intended Nationally Determined Contributions (INDCs), India has committed to increase the share of installed capacity of electric power **from non-fossil-fuel** sources to 40% by 2030. The Cabinet had approved scaling-up of solar power target from 20,000 MW of Grid Connected Solar power Projects to 1,00,000 MW by 2022. While Large Scale Solar power generation projects are being installed to achieve the ambitious target of 100 GW of Solar Power generation by 2022, it has been planned to simultaneously develop decentralized Solar energy and other renewable energy generation Plants of capacity up to 2 MW. Government of India has set a target for installing 175 GW of Renewable Energy capacity (excluding large hydro) by the end of 2021-22 which includes 100 GW from solar, 60 GW from wind, 10 GW from Biomass and 5 GW from Small Hydro.

Once fully implemented, PM-KUSUM will reduce diesel consumption of 1.38 billion litres per annum, reducing the import bill on account of petroleum products

## 2 About PMKUSUM

- Ministry of New and Renewable Energy (**MNRE**) is implementing the **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM-KUSUM)** Scheme, under which subsidy is provided for setting up of standalone solar pumps and for the solarization of agricultural pumps. Farmers can also install grid-connected solar power plants up to **2 MW**
- PM-KUSUM Scheme is an ambitious scheme consisting of three components for providing **water and energy security** to farmers and enhancing their income by making **Annadata also a Urjadata**.
- Approval of Pradhan Mantri Urja Suraksha evam Utthaan Mahabhiyaan (PM KUSUM) Scheme was issued on **08 March 2019**.
- Under Component – C of the Scheme 10 Lakh Grid- connected Agriculture Pumps of individual pump capacity up to 7.5 HP are targeted to be solarised by 2022.
- In November, 2020, MNRE amended/clarified implementation Guidelines of Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM-KUSUM) Scheme based on the learnings from the implementation of the Scheme during the first year. Scope of scheme has been increased **by including pasturelands and marshy lands owned farmers**. Size of solar plant has been **reduced** so that small farmers can participate and completion period increased from **nine to twelve months**.
- Further, penalty for shortfall in generation removed for ease of implementation by farmers. As per the same MNRE order, Central Financial Allowance (CFA) will be allowed for solar pumps to be set up and used by Water User Associations

(WUAs)/Farmer Producer Organisations (FPOs)/Primary Agriculture Credit Societies (PACs) or for cluster based irrigation system along with individual farmers.

- PM-KUSUM scheme is one of the **largest initiatives in the world** to provide clean energy to more than 3.5 million farmers by solarising their agriculture pumps. PM-KUSUM scheme aims to support installation of additional solar capacity of **30.80 GW**.

### 3 Components

The Scheme consists of three components:

<b>Component A</b>	Addition of 10,000 MW of solar capacity through installation of <b>small solar power plants</b> of capacity up to 2 MW
<b>Component B</b>	Installation of 20 lakh <b>standalone solar powered agricultural pumps</b>
<b>Component C</b>	Solarisation of 35 lakh existing <b>Grid-connected Agriculture Pumps</b>

#### Details of PM- KUSUM Scheme

Components, Targets & Criteria	Financial Assistance available
<p>The Scheme is demand driven and open for all farmers of the country for implementation as per the scheme guidelines.</p> <p><b>Component A:</b> Setting up of 10,000 MW of Decentralized Ground/Stilt Mounted Solar Power Plants on barren/fallow/pasture/marshy/ cultivable land of farmers. Such plants can be installed by individual farmer, Solar Power Developer, Cooperatives, Panchayats and Farmers Producer Organisations.</p> <p><b>Component B:</b> Installation of 14 Lakh Stand-alone Solar Pumps in off-grid areas.</p> <p><b>Component C:</b> Solarisation of 35 Lakh Grid Connected Agriculture Pumps through (i) Individual Pump Solarisation and (ii) Feeder Level Solarisation.</p> <p>The beneficiaries under Component-B and Component-C could be individual farmer, Water User Associations, Primary Agriculture Credit Societies and Communities/Cluster Based Irrigation Systems.</p>	<p>Procurement Based Incentive (PBI) to the DISCOMs @ 40 paise/kWh or Rs.6.60 lakhs/MW/year, whichever is lower, for buying solar/ other renewable power under this scheme. The PBI is given to the DISCOMs for a period of five years from the Commercial Operation Date of the plant. Therefore, the total PBI payable to DISCOMs is Rs. 33 Lakh per MW.</p> <p><b>For Component-B and individual pump solarisation under Component-C:</b></p> <p>CFA of 30% of the benchmark cost issued by MNRE or the prices of the systems discovered in the tender, whichever is lower is provided. However, in North Eastern States including Sikkim, Jammu &amp; Kashmir, Ladakh, Himachal Pradesh and Uttarakhand, Lakshadweep and A&amp;N Islands, CFA of 50% of the benchmark cost issued by MNRE or the prices of the systems discovered in the tender, whichever is lower, is provided.</p> <p>In addition, the respective state/UT has to provide at least 30% financial support. Balance cost is to be contributed by beneficiary. Component B and Component C (IPS) of PM KUSUM scheme can also be implemented without State share of 30%. The Central Financial Assistance will continue to remain 30% and rest 70% will be borne by the farmer.</p> <p>For agriculture feeder solarization, CFA of Rs 1.05 Crore per MW is provided. There is no mandatory requirement of financial support from participating State/UT. The feeder solarisation can be implemented in CAPEX or RESCO mode.</p>

#### Component-A (Harvesting Solar Energy): Decentralized Grid Connected Solar Power Plants

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- **Small solar power plants** of capacity **500Kw to 2 MW** can be set-up by individual farmers/ cooperatives / panchayats / Farmer Producer Organisations (FPO) on barren/ fallow/marshy/ pasture or cultivable lands.



- If cultivated fields are chosen for setting up solar power plants, the solar panels are set up above a minimum height so that the farmer can continue to grow crops below solar panels.
- Power generated from solar plants will be purchased by the Distribution Companies (DISCOMs) at tariffs determined by the respective State Electricity Regulatory Commissions (SERCs).
- The plant can be installed by the farmer or he can provide his land on lease to a developer, who will install the plant.
- The scheme will open a stable and continuous source of income to the rural land owners for **25** years.
- Farmers will earn up to Rs. 25000 per acre per year if the plant is installed by a developer/ CPSU on the land leased by the farmer and up to Rs. 65000 per acre per year if they install the plant themselves by taking loan from the banks.
- The **RBI has included this Component (Component A)** under priority sector lending and therefore Banks will provide loan at competitive rates and on soft terms.

The following financing options are available to farmers:

1. They can take loan directly (**Solo loan**) from bank and pay EMI from the revenue generated from sale of power to DISCOMs. The balance revenue will be the farmer's income.
2. DISCOMs may take loans on behalf of farmers by signing a **tripartite agreement between** the farmer, the bank and the DISCOM. The DISCOM will directly pay EMI from revenue generated from sale of solar power and transfer the balance amount to the farmer's account.



3. Public or private solar power developer/EPC contractor may also take loans on behalf of farmers by signing **quadrupartite agreement between** the EPC contractor, the farmer, the bank and the DISCOM. The DISCOM will directly pay EMI from revenue generated from sale of solar power and transfer the balance amount to the farmer and the EPC contractor in the agreed ratio.

- The solar power plants will be preferably installed within a **five-km radius** of the notified sub-stations in order to avoid high cost of transmission lines and losses.
- DISCOMs will invite applications from interested beneficiaries. The selected applicants will have to **sign PPAs for 25 years with DISCOMs** and install the plant as per the provisions of the scheme guidelines and applicable rules and regulations.
- The solar power purchased under this component will also help the DISCOMs to meet their Renewable Energy Purchase Obligation (RPO) target.
- The central Government will provide an incentive of 40 paise/kWh or Rs.6.60 lakhs/MW/year, whichever is lower to the DISCOMs, for buying the power produced under this Component for a period of five years from the Commercial Operation Date of the plant

#### **Component-B (De-dieselisation of Farm Sector): Installation of Standalone Solar Powered Agriculture Pumps**

- Individual farmers can **replace their existing diesel pumps** with solar pumps. Group of farmers, such as Water User Associations and community/cluster based irrigation systems will also be covered under this component.



- The replacement of existing diesel pumps with solar pumps will not only reduce the irrigation costs of around **Rs.50,000 per year** (for 5HP pump) but also lead to reduction in the pollution. This Component will benefit 20 lakh farmers in off-grid areas, where there is no source of electric power for irrigation. It will also help in increasing the farmer's income and living conditions.
- In order to minimize water usage for irrigation purposes, **preference will be given to farmers using micro irrigation systems** or covered under micro irrigation schemes



- For installation of feeder level solar power plant, CFA of 30 per cent (50 per cent in case of NE States, hilly states/ UTs and Island UTs) will be provided for CAPEX/ RESCO Mode by Central Government and balance will be met through loan from NABARD/PFC/REC.

#### 4 Convergence

Convergence of Scheme with PM-KSY and **Agriculture Infrastructure Fund** has also been provided for. For ease of availability of finance the Reserve Bank of India included the three components of the Scheme under Priority Sector Lending Guidelines.

Sir,

I am directed to refer to subject cited above and to say that Central Sector Scheme of Financing Facility under Agriculture Infrastructure Fund Scheme can be converged / dovetailed with PM-KUSUM Scheme for setting-up of standalone solar pumping system under Component-B and solarisation of grid connected agriculture pump under Component-C of the Scheme. The loan component can be converged where such facility is created by group of farmers organized as self help group / joint liability group/water user association (if same is registered as SHG or JLG)/cooperatives and similar other forms being eligible for availing facility of Agriculture Infrastructure Fund as it creates community farming assets.

#### 5 Key steps taken under the scheme

- The initially approved scheme aimed at adding solar capacity of 25.75 GW by 2022. The total central financial support provided under the scheme was over Rs. 34,000 Cr.
- In the Budget for 2020-21, expansion of the scheme was announced, which was later approved by Government with inclusion of feeder level solarisation as a new variant under Component-C. With the expansion, the targeted solar capacity addition under the scheme would be 30.8 GW.
- Based on the demand received from the states, sanction has been issued during 2019-20 and 2020-21 for installation of 4909 MW capacity of small solar power plants, installation of 3.59 lakh standalone solar pumps and solarisation of over 10 lakh existing grid connected pumps.
- Under Component-A, the states of Rajasthan, Haryana and Himachal Pradesh have issued LoAs for installation of small solar power plants of around 750 MW capacity to over 650 applicants. Other States are at different stages of implementation.
- Under Component-B, state implementing agencies issued LoAs to selected vendors for installation of over 51,000 pumps. Up to 31.03.2021, over 40,000 solar pumps have been reported installed in the fields

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- Under Component-C, Rajasthan successfully completed solarisation of three pilot feeders of its three DISCOMs and issued LoA for individual pump solarisation of around 10000 existing grid connected pumps.

## 6 Subsidy

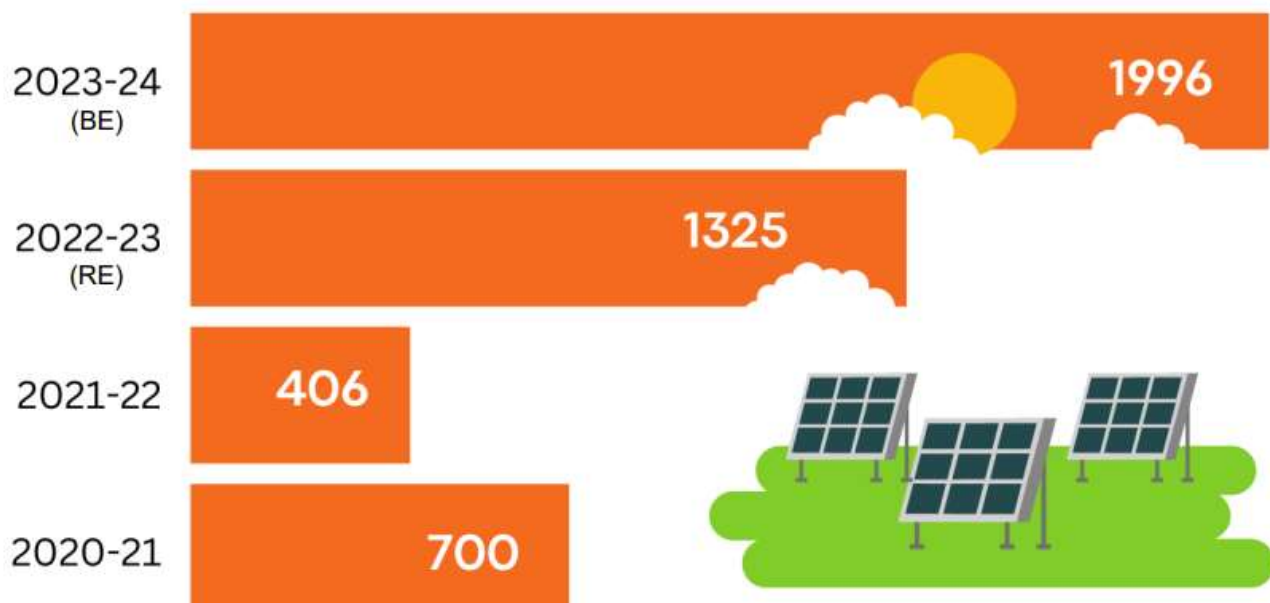
- Under the scheme, Central Financial Assistance (CFA) upto 30% of the Benchmark cost (fixed by MNRE every year) of the standalone solar pump will be provided. **The State Government will give a subsidy of 30%; and the remaining 40% will be provided by the farmer. Bank finance up to 30% out of 40% share can be availed by the farmer, so that farmer has to initially pay only 10% of the total cost of the pump.** However, in North Eastern States, Sikkim, Himachal Pradesh, Uttarakhand, Jammu & Kashmir, Ladakh, Lakshadweep and A&N Islands, higher CFA upto 50% of the benchmark cost of the standalone solar pump will be provided.
- Solar pumps of capacity higher than 7.5 HP can also be installed under the scheme, however, the CFA will be limited to that of 7.5 HP capacity solar pumps. Since pumps are generally used for limited period, say 150 days in a year, the installed solar capacity can be utilized for remaining days by using **Universal Solar Pump Controller (USPC)**.

## 7 Potential Income

The scheme will open a stable and continuous source of income to the rural land owners for 25 years. It has been estimated that farmers will earn up to Rs. 25000 per acre per year if the plant is installed by a developer/ CPSU on the land leased by the farmer, and up to Rs. 65000 per acre per year if they install the plant themselves by taking loan from the banks.

## 8 Budget 2023-24

One of the largest initiatives in the world to provide clean energy to more than 35 lakhs farmers



- For on-grid, off-grid, and PM KUSUM solar projects, the union ministry has earmarked a sum of 7,327 crores, a 48% increase from the previous allocation of ₹4,979 crores. The Breakdown is as follows:
  - On-Grid solar projects: 4,970 cr.
  - PM KUSUM Scheme: 1,996 cr.
  - Off-Grid solar projects: 361 cr.
- The expenditure document also states that under the Phase III of the off-grid PV programme, 3 lakhs of solar street lights, 25 lakhs of solar study lamps, and solar power packs with a total capacity of 100 MWp will be installed.
- **Under the Atal Jyoti Yojana (AJAY) Phase II**, 3 lakhs of solar street lights and 20 MW of concentrated solar thermal power projects will get developed.
- Additionally, a sum of ₹54 crores has been allocated to the National Institute of Solar Energy (NISE), an R&D organization for solar energy.

### **ALSO**

To encourage sustainable practices, the finance minister launched the '**Green Credit Programme**' under the Environmental Protection Act 1986. The programme will incentivize companies, individuals, and local bodies for their environmentally sustainable and responsible actions. By rewarding climate-conscious behavior, the Indian government aims to collectively reduce the carbon emissions of the nation.

For 2023-24, the Budget allocates a sum of ₹10,222 crores to the Ministry of New and Renewable Energy. This is a 45% hike from the previous allocation of ₹7,033 crores.
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## 9 Amendments in scheme

Amendment in the PM-KUSUM Scheme to ease implementation inter-alia include:

- PM-KUSUM Scheme has been extended **till 31.03.2026**.
- Feeder level solarization has been introduced under Component-C of the Scheme.
- Besides barren, fallow and agricultural land, solar power plants can also be installed on pasturelands and marshlands of farmers.
- To support small farmers, the solar power projects smaller than 500 kW may be allowed by States based on techno-commercial feasibility.
- Penalty on solar power generator for shortfall in solar power generation under Component-A removed.
- **Central Financial Assistance (CFA)** available for pump capacity up to 15 HP (increased from 7.5 HP) to the individual farmers in the North-eastern States, UTs of Jammu & Kashmir and Ladakh, States of Uttarakhand and Himachal Pradesh and Island UTs of Andaman & Nicobar and Lakshadweep, and for each farmer in the cluster/ community irrigation projects in high water table areas in all the States/ UTs.
- For solar pumps to be set up and used by Water User Associations (WUA), Farmer Producer Organisations (FPO), Primary Agriculture Credit Societies (PACS) and cluster-based irrigation systems, **CFA is allowed for solar pump capacity higher than 7.5 HP, considering up to 5 HP capacity for each individual farmer in the group/ association.**
- State level tender allowed for procurement of standalone solar pumps.
- Time period extended for implementation to 24 months from the date of initial sanction.
- The condition of domestic content requirement for solar cells has been waived off for the feeder solarization projects under Component-C for which work is awarded to the implementing company (EPC contractor in case of CAPEX or the RESCO Company) by 20.06.2023.
- **Requirement of performance bank guarantees under Component-A and Component-C (Feeder Level Solarization) relaxed.**
- Installation of meters with the agricultural electricity connections of farmers has been made optional under Feeder Level Solarization.
- Tender conditions have been revised to increase the installer base in order to expedite extending benefit under the Scheme.
- Specifications & testing procedure of the solar pumps is revised from time to time to promote quality of installations

- The central Government will provide an incentive of **40 paise/kWh or Rs.6.60 lakhs/MW/year**, whichever is lower to the DISCOMs, for buying the power produced under this Component for a period of five years from the Commercial Operation Date of the plant. Since these power plants will be located closer to the consumers in a decentralized manner, it will ensure availability of reliable day-time power. The solar power purchased under this component will also help the DISCOMs to meet their **Renewable Energy Purchase Obligation (RPO) target**.

## **10 No. of Farmers Benefitted**

Rajasthan> Maharashtra>Haryana

## **11 Steps taken by Ministry for proper implementation of the PM-KUSUM Scheme inter-alia include:**

- PM-KUSUM Scheme has been extended till **31.03.2026**.
- Central Financial Assistance (CFA) is available for pump capacity up to 15 HP (increased from 7.5 HP) to the individual farmers in the North-eastern States, Hilly States/UTs and Islands UTs, and for each farmer in the cluster/ community irrigation projects in high water table areas in all the States/ UTs.
- Meetings held with Banks/FIs for availability of **low-cost** financing to farmers.
- State level tender allowed for procurement of standalone solar pumps
- Time period extended for implementation to **24 months** from the date of initial sanction.
- Requirement of performance bank guarantees under Component-A and Component-C (Feeder Level Solarization) relaxed.
- Solarization of pumps under the Component B & C of the Scheme included under Agriculture Infrastructure Fund (AIF) to provide subsidized loans to farmers.
- Scheme included under **Priority Sector Lending (PSL)** Guidelines of the Reserve Bank of India (RBI) to enable ease of accessing finance. The RBI has included this Component under priority sector lending and therefore Banks will provide loan at competitive rates and on soft terms
- Toll free number provided for ease of getting information on the Scheme.
- Regular monitoring of the progress and issuance of clarifications and amendments to the scheme guidelines based on lessons learnt during implementation
- Extension granted for projects sanctioned under the Scheme based on the progress and milestones achieved.
- The Guidelines of the scheme have been revised on 12.07.2023 to simplify the land aggregation process in Component 'C'.
- The Ministry has issued Benchmark Cost under Component 'B' during September, 2023.

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Q1. What does PM-KUSUM second U stands in the scheme?

- a. Urja
- b. U

