



### Program Summary Information

Date of Document Preparation: July 17, 2025

<b>Program Name</b>	Maharashtra Climate Resilient Distributed Renewable Energy Access Program
<b>Program Number</b>	P000880
<b>AIIB member</b>	India
<b>Sector/Subsector</b>	Energy / Others
<b>Alignment with AIIB's thematic priorities</b>	Green Infrastructure, Technology-enabled Infrastructure
<b>Status of Financing</b>	Under Preparation
<b>Objective</b>	To promote distributed renewable energy in Maharashtra by providing farmers with reliable daytime power through off-grid solar pumps and to enhance the climate resilience of the existing electricity distribution network through investments that will support preparation for grid solarization.
<b>Program Description</b>	<p>Maharashtra is the largest contributor to India's gross domestic product. As a major agricultural state, it relies extensively on subsidized grid-electricity for groundwater irrigation. Grid-connected electricity for agriculture is typically supplied on a rotational basis, often late at night, as daytime power is prioritized for higher-paying commercial and industrial users. Night-time power is supplied almost exclusively by base load thermal plants, increasing the dependence on fossil fuels. The inability to recover costs from agricultural consumers leads to significant financial losses for MSEDCL, limiting its ability to maintain and upgrade the electricity grid for all users. These challenges are further intensified by climate change, with increased rainfall variability and extreme temperatures, making rain-fed agriculture less reliable and increasing the demand for dependable irrigation solutions.</p> <p>To address these issues, the state plans to (i) promote the adoption of off-grid solar-powered water pumps among farmers; and (ii) upgrade the grid to accommodate future solarization of agricultural feeders. The objectives are targeted by two current government programs, the "Magel Tyala Saur Krushi Pump Yojana" (MTSKPY) and the "Mukhyamantri Saur Krushi Vahini Yojana" (MSKVY 2.0). These programs seek to reduce dependence on fossil fuels by increasing the share of renewables in the electricity supply mix, alleviate financial pressure on MSEDCL, reduce cross-subsidy burdens on commercial and industrial users, and support broader objectives of clean energy use.</p> <p>By expanding solar adoption and preparing the grid for solarization, the program will make Maharashtra's electricity mix cleaner and more sustainable. The proposed Results Based Program (RBP) is designed to address financial challenges and boost solar</p>

	<p>energy integration by financing slices of MTSKPY and MSKVY 2.0. It consists of three key components: (i) financing 500,000 off-grid solar water pumps over the next five years; (ii) strengthening the distribution system by upgrading equipment such as transformers, breakers, and feeders to optimize power distribution and accommodate the increasing influx of solar energy; and (iii) providing technical assistance and capacity building to enhance the capacity of the implementing agency and beneficiaries to deliver consistent benefits.</p> <p>Solar water pumps under the RBP are only permitted in ‘safe’ zones where groundwater extraction remains below 70 percent, and new connections are halted if an area’s status deteriorates. Technical safeguards include a cap on pump capacity at 7.5 HP and a maximum borewell depth of 60 meters. The Groundwater Surveys and Development Agency (GSDA) conducts continuous digital monitoring to ensure compliance and inform zone classification. These measures are complemented by state and national water conservation programs, such as Jalyukt Shivar Scheme, Atal Bhujal Yojana, PMKSY, and PM-KUSUM, which promote efficient irrigation, artificial recharge, and sustainable groundwater management.</p> <p>The RBP will follow a Multi-Phase Program (MPP) approach and will be implemented in two Sub-programs – Sub-program 1 over three years and Sub-program 2 over two years. Approval of Sub-program 2 is contingent upon (i) installation of the solar water pumps and completion of the substations under Sub-program 1; and (ii) continued demand from MSEDCL for program support.</p>
<b>Expected Result Areas</b>	The RBP will focus on four main results areas: (i) expanding access to solar-powered irrigation and daytime power supply; (ii) strengthening the program management unit; (iii) creating community benefits; and (iv) promoting public expenditure effectiveness.
<b>Environmental and Social Category</b>	B
<b>Environmental and Social (ES) Information</b>	<b>Applicable Policy and Categorization.</b> The Bank’s Environmental and Social Policy (ESP, 2024), including the Environmental and Social Exclusion List (ESEL), the applicable Environmental and Social (ES) systems of the Government and the RBP specific exclusion list will be applicable to this Program. As per the Bank’s ESP, the Project has been categorized as Category B since the potential ES risks and impacts will be low and limited. A screening exercise was held as part of Environmental and Social Systems Assessment to review and confirm that the RBP does not include any High ES risk activities <sup>1</sup> and any activities under the ESEL.

<sup>1</sup> High Environmental and Social (ES) risk activities, as defined for this Program, refer to those deemed ineligible for financing under the Results-Based Financing (RBF) approach. These include: (i) all Category A activities; (ii) Category B activities with significant, sensitive, or unprecedented impacts on project-affected people; (iii) activities in or near ecologically sensitive areas such as forests or critical

**Environmental and Social Instruments.** An ESSA has been conducted for the proposed RBP to (i) assess the potential ES risks and impacts of the proposed RBP; (ii) assess the adequacy of the systems proposed to be applied to the RBP for managing potential ES risks and impacts; (iii) assess the institutional capacity of MSEDCL and involved agencies in managing of ES risks and impacts of the RBP; and (iv) recommend actions to strengthen specific aspects of the capacity of involved agencies and these systems for mitigating ES risks and impacts during the preparation and implementation of the RBP. The assessment results show that ES risks and impacts of the RBP financing are minor and can be managed through mitigation strategies built into the RBP design and the RBP Action Plan. This ESSA has been prepared for Sub-Program 1. An evaluation will be conducted in Sub-program 2. The evaluation will review the progress and effectiveness of the RBP Action Plans and agreed ES actions in this ESSA, address any outstanding ES issues from Sub-program 1, and update the RBP AP and ES actions where necessary.

**Environmental Aspects.** The program will be beneficial for the economically weak farmers of Maharashtra. Based on the ESSA, it was understood that concerns related to over exploitation of groundwater are mitigated through the checks and balance embedded in the program design by excluding regions that are under notified groundwater zones i.e. overexploited, critical or semi-critical and limiting the length of pipe and capacity of the pump. Active monitoring by state agencies and on-ground implementation of several water conservation, protection and monitoring measures will be effective in potentially maintaining the water balance of the region. The program mandates the disposal of E-waste (non-functional or damaged solar panels) through vendors for a five-year operational period. Thereafter, based on circular economy related market driven initiatives, E-waste will be disposed to authorized agencies by the beneficiaries as per E-waste Management Rules 2016, its later amendment, and guidelines released by the Government of India. Other potential risks related to unlined/unguarded open wells, electrocution, slip and trip hazards, falling from height due to construction and maintenance work at substations and distribution lines, were identified that will be managed through execution of procedures and management plans by contractors and supervision from MSEDCL PMU.

**Social and Gender Aspects.** The social impacts and risks are expected to be low and private land acquisition is not envisaged. The solar water pumps under the RBP financing will be installed on land owned by beneficiary farmers. Upgradation of power substations will be within the boundary of the existing substations and construction of new substations will be on government land or the land areas that have been transferred to MSEDCL by the Government. Upgradation/construction of a few power substations will be carried out in tribal areas such as Jalgaon, Nandurbar, and Dhule districts. However, the activities would not have any adverse impacts on land and natural resources, nor will it cause relocation of tribal population or limit access to natural resources and have any impact on scheduled tribe's cultural resources. In addition, women farmers will also be encouraged to

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*habitats without appropriate clearances; (iv) activities impacting sites of cultural or historical significance; (v) groundwater extraction in dark zones or GSDA-notified areas, or from boreholes in hard rock formations; (vi) activities causing relocation or significant adverse impacts on tribal populations; (vii) any physical displacement or private land acquisition; and (viii) activities involving forced eviction.*

	<p>apply for installation of solar pumps under the program. Installation of the solar pumps does not only help increase household's income and yield positive effects on food security but also alleviate drudgery for women farmers, improve their health, enables them to allocate time on more economically favorable activities. Further, day-time power through solar pumps have resulted in increased safety of women farmers, who otherwise had to access the water pumps at night for irrigating the fields.</p> <p><b>Stakeholder Engagement, Consultant, and Information Disclosure.</b> Public consultations have been conducted during preparation of the ESSA. The AIIB's ES specialists, MSEDCL staff and consultants carried out site visits to the RBP locations and held meetings with representatives from various government departments, vendors, contractors, field staff, and beneficiaries. The site visits and stakeholder consultation meetings informed key ESSA findings, contributed to formulating the ES actions and measures, and influenced the design of the RBP. Opinions, suggestions – including concerns of stakeholders have been incorporated in the RBP design and in the ES action plan. During implementation and operation phase of the RBP, meaningful consultations will be carried out with all relevant stakeholders and beneficiaries including representatives of local governance bodies (particularly in tribal areas), tribal-focused NGOs, and the tribal development department. The ESSA and its summary in local language (the <i>Marathi</i>) has been disclosed on the websites of AIIB and MSEDCL and posted in the easily accessible public places of the RBP areas.</p> <p><b>Project Grievance Redress Mechanism (GRM).</b> MSEDCL has a robust system that comprises of multiple modes for registration of grievances, such as the Mahavitran Toll Free number 1800 102 3435/1800 233 3435, SMS to 9930399303, WhatsApp to 7875767123, online using the MSEDCL consumer portal or mobile app, by email/post to the Consumer Grievance Redressal Forum (at zonal level), and walk-in (MSEDCL field office, consumer facilitation centre). The complainants can also lodge a complaint through the CM Helpline number 1800 120 8040 or the registered vendors Helpline number shared at the time of solar water pump installation. This existing MSEDCL's GRM will be strengthened to include option for receiving, responding and settling grievances related to planning, construction and operation of RBP activities. Further, MSEDCL officials and contractors on site will also be trained to ensure that the grievances are addressed in a culturally appropriate and gender inclusive manner, including maintaining confidentiality and respecting the complainant's right to remain anonymous if desired.</p> <p><b>Monitoring and Reporting Arrangement.</b> MSEDCL is responsible for implementing the RBP and monitoring implementation progress as per the legal documents, including the RBP Action Plan (RBP AP). During the RBP implementation, MSEDCL will implement the agreed ES actions as per the RBP AP and the proposed ES action plan in the ESSA. Further, MSEDCL will maintain the ES management systems and implementation capacity as recommended by the ESSA. MSEDCL will prepare and submit semi-annual progress reports to AIIB, based on agreed format, on the RBP AP implementation to prove continuous compliance with the applicable ES requirements.</p>
<b>Cost and Financing Plan</b>	<p>Total Program Cost: USD 1,835 million AIIB Loan (Proposed): USD 1,100 million,</p>

	State of Maharashtra and others: USD 735 million		
<b>Borrower</b>	Republic of India		
<b>Implementing Entity</b>	Maharashtra State Electricity Distribution Company Limited (MSEDCL)		
<b>Estimated date of loan closing</b>	December 2030		
<b>Contact Points:</b>	<b>AIIB</b>	<b>Borrower</b>	<b>Implementing Entity</b>
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<b>Date of Concept Decision</b>	October 16, 2024		
<b>Date of Appraisal Decision</b>	July 16, 2025		
<b>Estimated Date of Financing Approval</b>	Q4-2025		
<b>Independent Accountability Mechanism</b>	<p>The Project-affected People's Mechanism (PPM) will be used for the RBP. The PPM has been established by AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its ESP in situations where their concerns cannot be addressed satisfactorily through the program-level GRM or the processes of AIIB's management. For information on AIIB's PPM, please visit: <a href="#">AIIB's Project-affected People's Mechanism Policy Review - Public Consultations - AIIB</a></p>		