



India: Support to Jawaharlal Nehru National Solar Mission

Project Name	Support to Jawaharlal Nehru National Solar Mission		
Project Number	45380-001		
Country / Economy	India		
Project Status	Closed		
Project Type / Modality of Assistance	Technical Assistance		
Source of Funding / Amount	TA 7922-IND: Support to Jawaharlal Nehru National Solar Mission		
	Technical Assistance Special Fund		US\$ 225,000.00
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth		
Drivers of Change	Governance and capacity development		
Sector / Subsector	Energy / Renewable energy generation - solar		
Gender	No gender elements		
Description	<p>This proposed S-CDTA is not included in the Country Operations Business Plan 2011, but was discussed by an ADB Consultation Mission (26 September to 7 October 2011) with the Government of India (Government) to support capacity development of Ministry of New and Renewable Energy to take forward the pilot projects proposed under the Jawaharlal Nehru National Solar Mission (JNNSM). Based on these discussions, the TA has been included in the 2011 work program. A fact-finding mission was not fielded as sufficient information has been gathered during the Consultation Mission.</p> <p>Certain technologies including hybrid solar projects (with coal, biomass, gas), support reduced water usage (air/hybrid cooling), advanced storage technologies feature in the list of possible potential projects that have been identified based on a public consultation process. Selected pilot projects would be developed through competitive bidding according to the JNNSM procedures. MNRE has identified several potential sites in discussions with state governments. A review of the technologies and the sites would need to be undertaken and technical support for the bid processing preparation has been requested. In addition, a team from MNRE has been setup to coordinate on the pilot projects. This team would visit operational sites for such new technology to confirm operability and assess viability under Indian conditions.</p> <p>In addition, MNRE would need to develop environmental guidelines for solar projects (including disposal issues). Support for development of such guidelines based on international best practices and national policies would be required.</p>		
Project Rationale and Linkage to Country/Regional Strategy	<p>India is bestowed with solar irradiation ranging from 4-7 kWh/square meter/day across the country and certain regions namely the western and southern have high solar incidence. With rapid growing electricity demand, availability of land and increasing reliance on imported sources of fossil fuel, India is perceived to have a large potential for solar energy development. Cognizant of it, the Government launched Jawaharlal Nehru National Solar Mission (JNNSM) in 2010. The targets of JNNSM to be developed in phases are, among others, to (i) create an enabling policy framework for deployment of 20,000 MW of solar power by 2022; (ii) ramp up capacity of grid-connected solar power generation to 1,000 MW within three years; an additional 3,000 MW by 2017 through the mandatory use of the renewable purchase obligation by utilities backed with a preferential tariff; (iii) deploy 20 million solar lighting systems for rural areas by 2022; and (iv) create favorable conditions for solar manufacturing capability, particularly solar thermal for indigenous production and market leadership.</p> <p>Achieving the ambitious target for 2022 of 20,000 MW will be dependent on the _learning_ of phase 1 (2013) and phase 2 (2017) of the JNNSM, which if successful, could lead to conditions of grid-competitive solar power. The transition could be appropriately scaled up through capacity development of stakeholders particularly government ministries, public agencies and the private sector on various aspects of solar power generation technology, finance, and policy development.</p> <p>The competitive bidding results from first phase of the JNNSM indicate developers have preferred technologies that have been proven in other countries including solar PV and parabolic trough concentrated solar power (CSP) for projects. The Ministry of New and Renewable Energy (MNRE) is of the view that certain technologies (particularly some CSP technologies that have not been covered under the first phase so far by commercial developers) have the potential to be deployed (and may be appropriate for local conditions in India) given the nature of the solar resource, availability of land and water on feasible sites, storage constraints etc. Such technologies with higher efficiencies could help achieve cost effective solar power and grid parity earlier than 2022 and if supported, could provide relevant performance data that could facilitate future development of these technologies in subsequent phases of the JNNSM.</p>		
Impact	Solar power technologies are developed to support energy security and low carbon energy development.		
Project Outcome			
Description of Outcome	Strengthened capacity of MNRE and other relevant institutions in developing new solar power technologies.		
Progress Toward Outcome	Capacities of MNRE and other relevant institutions have been enhanced in identifying & developing new solar power technologies.		
Implementation Progress			
Description of Project Outputs	<ol style="list-style-type: none">1. Pre-feasibility studies for CSP pilot projects conducted.2. Technical criteria and evaluation parameters for CSP pilot projects identified3. Familiarization and training on solar power technology support provided.4. Environmental guidelines for solar power plants developed		
Status of Implementation Progress (Outputs, Activities, and Issues)	<p>The TA supported MNRE in reviewing configurations of various technologies that could be supported under the solar power demonstration projects. In addition, it supported in the due diligence of the suitability of various project sites offered by state governments for the demonstration projects. At this stage, 4 different concentrated solar power (CSP) projects have been identified under the CSP demonstration program. The TA has supported MNRE in preparing pre-feasibility reports for these projects and sites and to get government approvals to finance these projects.</p>		
Geographical Location			
Summary of Environmental and Social Aspects			
Environmental Aspects			

Involuntary Resettlement	
Indigenous Peoples	
Stakeholder Communication, Participation, and Consultation	
During Project Design	Consultations were conducted during project preparation with relevant stakeholder groups
During Project Implementation	Regular communication via fax and/or email is conducted with the Ministry of New and Renewable Energy(the Executing Agency).

Business Opportunities	
Consulting Services	ADB will engage the 4 consultants on an individual basis in accordance with its Guidelines on the Use of Consultants by ADB and its Borrowers, 2010, as amended from time to time. Disbursements under the S-CDTA will be made in accordance with ADB's Technical Assistance Disbursement Handbook, 2010, as amended from time to time.
Procurement	No procurement of goods is envisaged in this TA project.

Responsible ADB Officer	Fukushima, Satoshi
Responsible ADB Department	South Asia Department
Responsible ADB Division	Energy Division, SARD
Executing Agencies	Ministry of New and Renewable Energy (MNRE) Block No. 14, CGO Complex Lodi Road, New Delhi 110003 Government of India

Timetable	
Concept Clearance	-
Fact Finding	-
MRM	-
Approval	18 Nov 2011
Last Review Mission	-
Last PDS Update	13 Mar 2013

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Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
18 Nov 2011	-	18 Nov 2011	31 Dec 2012	-	22 Aug 2013

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
225,000.00	0.00	25,000.00	0.00	0.00	0.00	250,000.00	17 Jun 2022	171,226.29

Project Page	https://www.adb.org/projects/45380-001/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=45380-001
Date Generated	06 June 2023

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