

**INTEGRATED SAFEGUARDS DATA SHEET
APPRAISAL STAGE**

Report No.: ISDSA16561

Date ISDS Prepared/Updated: 15-Feb-2016

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I. BASIC INFORMATION

1. Basic Project Data

Country:	India	Project ID:	P154283
Project Name:	Shared Infrastructure for Solar Parks (P154283)		
Task Team Leader(s):	Mohua Mukherjee		
Estimated Appraisal Date:	18-Apr-2016	Estimated Board Date:	25-Jul-2016
Managing Unit:	GEE06	Lending Instrument:	Investment Project Financing
Sector(s):	Transmission and Distribution of Electricity (70%), Other Renewable Energy (30%)		
Theme(s):	Infrastructure services for private sector development (80%), Other public sector governance (20%)		
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No
Financing (In USD Million)			
Total Project Cost:	400.00	Total Bank Financing:	150.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			200.00
International Bank for Reconstruction and Development			150.00
Clean Technology Fund			50.00
Total			400.00
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

2. Project Development Objective(s)

The proposed development objective is “to increase solar generation capacity through the establishment of utility-scale solar parks in the country.” This will contribute to the achievement of

GoI's target of installing 100GW solar power by 2022.

3. Project Description

GoI is specifically targeting 20GW of solar power from such solar parks and has allocated solar parks in different states to ADB and the World Bank, respectively. During the identification phase, consultations about the Bank financing going to solar parks were carried out with various stakeholders like MNRE, SECI and relevant state agencies. It was requested that the World Bank should fund internal infrastructure in the selected solar parks along with building capacity of the involved stakeholders (SECI and JVs).

Principally, the proposed project will have the following two components:

(a) Solar Park Infrastructure (Estimated Cost - US\$ 195 million). This will cover financing for shared infrastructure such as security, access roads, water supply and drainage, telecommunications, and pooling stations (with 220/66/33 kV or as may be suitable switchyard and respective transformers) inside the solar parks and transmission lines connecting these internal pooling stations to 400/220 kV sub-station (to be located by POWERGRID or STU at the periphery of the solar park for evacuation of power to either National Grid or the state grid). Solar project developers will be responsible for the interconnection of each plot in the solar park with pooling stations through suitable voltage underground or overhead cable.

The first set of Solar Parks, to be financed under this proposed project, has been identified at Pavagada (Tumkur District) in Karnataka (the land is adequate to support total solar generation capacity of 2000 MW) and Rewa Solar Park in Madhya Pradesh (the land to support total solar generation of 750MW has been identified). Additional parks may also be identified in these states during the course of project preparation. Further, the solar parks are also being identified in other states, especially Andhra Pradesh (AP) and Telangana, under MNRE solar park scheme that will be supported appropriately for park development.

(b) Technical Assistance (Estimated Cost - US\$ 5 million). The technical assistance will be towards the following activities:

(i) Institutional Strengthening of SECI and JVs: SECI was formed in 2011 as the main agent for the management and implementation of the JNNISM Phase II. As part of this mandate, SECI is to invest in JV Companies for solar power plants and solar site developments. But given the challenge of the massive solar deployment in India by 2022, SECI's organization and institutional practices need to be strengthened. Similarly, SNAs and JVs, which have just been formed, are also not fully equipped to take on the challenges of meeting their mandate in solar energy. The Technical Assistance component will aim to enhance core competencies of these organizations across functions such as human resource, project management and monitoring, procurement and contract management, operations and maintenance, financial management and implementation of enterprise wide IT based on the comprehensive business plan/capacity building and institutional strengthening plans to be carried out during the preparation of the project.

(ii) Project implementation support to SECI and JVs: This component will provide project management support in implementation of the investment components indicated above. This will entail setting up of project management unit (PMU) within MNRE or SECI to facilitate coordination between different agencies and to supplement project implementation wherever necessary. For instance, in Karnataka where a JV between Karnataka Renewable Energy Development Limited

(KREDL) and SECI has been formed to oversee the development of solar parks in the state, is keen on getting exposure to the latest tools and technologies in the area of solar power development and using the association with the Bank to improve its technical and organizational capacity as well as adopting the highest standards of safeguards and fiduciary compliance and management. The specific interventions will be designed and agreed with respective implementing agencies during project preparation.

4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The candidate states for the Solar Parks currently eligible for Bank support are Andhra Pradesh, Karnataka, Madhya Pradesh, and Telangana. The potential sites are located in sloping areas, and are uninhabited. During the project preparation, MNRE may add more states to the given list.

The first set of Solar Parks, to be financed under this proposed project, has been identified at Pavagada (Tumkur District) in the state of Karnataka (2000 MW) and Rewa Solar Park in the state of Madhya Pradesh (750MW). Additional parks may also be identified in these states during the course of project preparation. Additional salient features of sites with key environmental and social aspects will be added as the locations are finally firmed up.

The environmental and social impacts will not only be confined to the solar parks area, but also for the transmission line that will evacuate the power to the National Grid as an associate facility. Some of these transmission line will be integral to the project and handled through separate project supported by the Bank but not all. While government plans to utilize state-owned unproductive land for solar parks to the extent possible, resettlement of communities settled on government land may be required in one or more of the four states that have been assigned to the World Bank for support to solar park development. A detailed safeguards baseline/assessment study will be carried out to assess the magnitude of such aspects and mitigation plan will be charted out accordingly. In some cases, leasing of privately owned land is expected for solar parks and the transmission infrastructure. In Karnataka, the joint venture between SECI and State Nodal Agency of Karnataka (Karnataka Renewable Energy Development Limited, KREDL) plans to lease the land required for solar parks for 25 years from private landowners in Pavagada Taluk in Tumkur District of the state of Karnataka. For the Rewa solar park, RUMS plans to acquire land once all land parcels are identified and firmed up. Appropriate assessment studies will be carried out for all states and sites that will be included in the project.

5. Environmental and Social Safeguards Specialists

Gaurav D. Joshi (GEN06)

Parthapriya Ghosh (GSU06)

Pyush Dogra (GEN06)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The installation of the shared infrastructure is expected to have some impacts on the environment. Hence, an Environmental and Social Management Framework (ESMF) has been prepared to ensure that the requirements of the policy are met.
Natural Habitats OP/BP 4.04	Yes	While none of the current candidate locations are known Natural Habitats, the ESMF will have the necessary

		guidance for subsequently identified sub-projects to comply with the policy, if and when required.
Forests OP/BP 4.36	Yes	No large scale deforestation is currently expected, but the policy requirements are built into the guidance in the ESMF in case future sites are identified involving such activities.
Pest Management OP 4.09	No	
Physical Cultural Resources OP/BP 4.11	Yes	This policy is triggered as there is a possibility that cultural properties could be affected by project activities. In addition, the construction of the park facilities could also involve chance-finds. The ESMF addresses these issues and has guidance for procedure to be adopted for such situations.
Indigenous Peoples OP/ BP 4.10	Yes	Baseline studies shows presence of indigenous community in both the candidate park areas. Hence OP 4.10 on indigenous peoples has been triggered.
Involuntary Resettlement OP/BP 4.12	Yes	According to the baseline analysis, there will be need for private land acquisition in Rewa, which will result in loss of livelihoods / sources of livelihood. There may not be any involuntary resettlement as only agricultural land is being acquired. Even in Pavagada where land will be taken on 30 years of lease on consent basis, will have impact on landless farmers working on the land parcels that will be taken on lease.
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

<p>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</p> <p>The proposed solar park in Pavagada is spread over 12,171 acres. The baseline study shows 1422 landowners will be impacted by the project of which nearly 50 percent are small and marginal farmers. Land owners in the vicinity of the proposed site have also expressed their interest in giving land on lease for solar power plant. Instead of acquiring private land, KREDL has proposed to take the entire land on a voluntary lease basis for a 30 year period. Project information has been disseminated in the project area. The farmers will receive INR 21,000 per acre per year with a 5 percent raise every alternate year. The lease amount and subsequent raise has been disseminated in public meetings as well as through local newspapers. Though land will be leased out on voluntary basis, some landless labourers dependent on these land parcels will be</p>

adversely impacted.

The proposed Rewa solar park in Madhya Pradesh is spread over 1500 ha in 5 villages of Gurh Tehsil in Rewa District. Of this, 1255 ha is government owned and is already in possession of RUMSL. The remaining 245 ha of land is privately owned. The social baseline for the proposed Rewa park area has been completed in April 2015. The project is likely to have impacts on the livelihood for private owners who are losing their land. During the baseline study, discussion with stakeholders clearly established that land proposed for acquisition has very limited agriculture potential in the absence of any irrigation facility. Majority of the land parcels are not even used for cultivation as they are very small and thus economically non-viable. The marginal land parcels along the drainage network have topsoil and water retention, and are used for limited cultivation.

On the environmental issues, important issues include land use change and impact of the project activities on areas outside the site boundaries – due to removal of vegetation and trees, channelization and leveling/grading of land for installation of plant and its ancillary infrastructure, potential hindrance to movement of fauna across the site, impacts on health safety of the workers during installation of the plant infrastructure, safety of nearby community during the period of construction. During the post-commissioning or operation phase, potential impacts will arise when waste material is generated from the plants – either solar panels that cannot be used in the plant, or chemicals like transformer oil need to be handled and disposed safely. Handling of solar panels, especially those that cannot be used either due to damage or end-of-life, is a potential long term issue. Currently, regulation covering this area is evolving and final form will determine the extent of additional effort needed to comply with these.

Land-use change is a long-term issue associated with the project activities. There are few other significant impacts of the project activities.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

None.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

The Environmental and Social Management Framework (ESMF) prepared for safeguard management in the project requires analyzing various alternatives for each sub-project while carrying out respective Environmental and Social Assessments (ESA). As per the agreed policies of ESMF, these ESAs will be reviewed and cleared by the Bank prior to approving the sub-projects for implementation.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Considering the significance of project interventions, the borrower through independent consultants has prepared an Environmental and Social Profile of candidate sites which formed the basis for the preparation of Environmental and Social Management Framework (ESMF) for the project. The ESMF details out the policies, procedures and institutional responsibilities for assessing and managing the potential environmental and social risks and impacts that may come up throughout the project cycle of various sub-projects, and is intended for use and application by the agencies responsible for the execution of the investment sub-projects to be implemented under this facility.

The ESMF provides detailed guidance, and sample terms of reference and reporting structures, for compliance. Each subproject will be screened to identify further risk mitigation measures, including the preparation of a detailed Environmental Management Plans (EMP) and Social Impact Assessment and/or Rehabilitation Action Plan (RAP) as applicable. The ESMF will be applied to all investments under this facility. ESMF further includes the following: (1) a Resettlement Policy Framework (RPF); (2) an Indigenous Peoples Plan Framework (IPPF); (3) a Gender Development Framework (GDF); (4) an integrated Grievance Redress Mechanism (GRM); (5) Specific procedures on public consultation and disclosure; (6) Environmental and Social Monitoring Arrangements covering selection, appraisal and implementation of sub-projects; and (7) a plan to augment institutional capacity of the implementing agencies to manage environmental and social issues in the project. A negative list describing activities / types of locations that will not be supported has been included to avoid significant impacts on sensitive environmental receptors like recognized protected areas for wildlife.

The project will be implemented by Ministry of New and Renewable Energy (MNRE) through Joint Venture companies to be set up specifically for implementation in each of the sub project. The mandate and primary function of these agencies will be to generate and transmit solar power through a mix of regulatory, institutional and financial tools. These agencies do not employ environmental and social professionals. There is skill gap and lack of capacity for addressing environmental and social safeguard issues and will depend on the relevant state departments to fill up the gap.

The ESMF has identified areas and opportunities for augmenting the capacity to manage the social and environmental issues. Staffing plan include E&S specialist for environmental management and social development at both JV level as well as with the developer. These staffing, training and continuing skill development programs, other resources that will be required for effective management of the environmental and social issues, and the required budget had been recommended and described in the ESMF. All investment specific ESIA, EMP and RAP/IPP will be reviewed and cleared by the Bank before bids are invited.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The ESMF and its specific instruments provide guidelines and procedures for further consultations during implementation, in particular in defining and designing subprojects and specific works. The consultation frameworks provide systematic guidance to address potential risks and to enhance quality, targeting, and benefits to the communities. Dialogue and disclosure actions during the assessment and execution process of a subproject are designed to ensure that those stakeholders, irrespective of whether they benefit from or are adversely affected by the project interventions, are well informed and are able to participate in the decision-making process. The ESMF procedures consider the level of environmental and social risk of each sub project in allocating time and resources to be dedicated for stakeholder consultation.

Local level consultations were carried out in both the candidate sites focusing on specific issues related to the potential subprojects and environmental and social issues associated with such subprojects. Over 150 participants from potential project cities participated in these consultations and provided inputs to the preparation of ESMF. The ESMF and a summary of ESMF will be translated in local language and disclosed on the websites of the MNRE and state governments (JV Companies). The ESMF will also be disclosed in the Bank's Info shop. Consultation being a continuous process, the ESMF's disclosure on the websites of new JVs will continue during project implementation. The EMPs, RAPs and IPPs for individual sub projects

will also be disclosed as per the principles and procedures of described in the ESMF. The draft EMPs and RAPs will be disclosed, followed by discussion with the affected community (including any individual adversely impacted by such intervention); and final EMP and RAP will be prepared and disclosed only after incorporating reasonable and relevant suggestions from the communities in the design of the investments. The copies of the EMPs and RAPs will be placed at the offices of developers, district magistrate and contractors' offices, enabling easy access of any community or individual. The executive summary of EIAs and RAPs for all particular investments will be translated in local language and will be placed in the office of local self-government body (village panchayat) of the village(s) where the sub project is located. The list of affected persons, if any, will be pasted on the conspicuous place in all the affected towns/villages, usually at the prominent roadside entry to the investment site.

Disclosure: National and state level in-country disclosure of the ESMF was completed on February 2, 2016 (<http://mnre.gov.in/file-manager/UserFiles/Draft-ESMF.pdf>). The ESMF was disclosed in Bank's InfoShop on February 10, 2016.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	05-Jan-2016
Date of submission to InfoShop	10-Feb-2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
India	02-Feb-2016
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	05-Jan-2016
Date of submission to InfoShop	11-Feb-2016
"In country" Disclosure	
India	02-Feb-2016
<i>Comments:</i>	
Indigenous Peoples Development Plan/Framework	
Date of receipt by the Bank	05-Jan-2016
Date of submission to InfoShop	11-Feb-2016
"In country" Disclosure	
India	02-Feb-2016
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
OP/BP 4.04 - Natural Habitats	
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>] NA [<input type="checkbox"/>]
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] NA [<input checked="" type="checkbox"/>]
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
OP/BP 4.10 - Indigenous Peoples	
Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] NA [<input checked="" type="checkbox"/>]
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Is physical displacement/relocation expected? Provided estimated number of people to be affected	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] TBD [<input checked="" type="checkbox"/>]
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods) Provided estimated number of people to be affected	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] TBD [<input checked="" type="checkbox"/>]
OP/BP 4.36 - Forests	
Has the sector-wide analysis of policy and institutional issues and constraints been carried out?	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] NA [<input checked="" type="checkbox"/>]

Does the project design include satisfactory measures to overcome these constraints?	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>] NA [<input checked="" type="checkbox"/>]
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?	Yes [<input type="checkbox"/>] No [<input checked="" type="checkbox"/>] NA [<input type="checkbox"/>]
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]

III. APPROVALS

Task Team Leader(s):	Name: Mohua Mukherjee	
<i>Approved By</i>		
Practice Manager/ Manager:	Name: Julia Bucknall (PMGR)	Date: 31-Mar-2016