

Environmental Assessment and Review Framework

Document Stage: Final Draft
Project Number: 52196-001
August 2019

India: Scaling Up Demand-Side Energy Efficiency (Sector) Project

CURRENCY EQUIVALENTS

(as of 30 June 2019)

Currency Unit	=	Indian Rupee/s (INR)
INR1.00	=	US\$ 0.01450
US\$1.00	=	INR 68.9494

LIST OF ABBREVIATIONS

ADB	-	Asian Development Bank
AMC	-	annual maintenance contract
CFL	-	compact fluorescent lamp
CPCB	-	central pollution control board
DDR	-	due diligence report
DISCOMs	-	distribution companies
EA	-	executing agency
EARF	-	environmental assessment and review framework
EESL	-	energy efficiency services limited
EHSS	-	environmental, health, safety and social
EIA	-	environmental impact assessment
EMP	-	environmental management plan
ESCO	-	energy service company
ESMU	-	environmental and social management unit
FI	-	financial intermediary
GEF	-	global environment facility
GoI	-	Government of India
GRC	-	grievance redress committee
GRM	-	Grievance Redress Mechanism
IEE	-	initial environmental examination
LED	-	light-emitting diode
MoEFCC	-	Ministry of Environment, Forest and Climate Change
MW	-	mega watt
NMEEE	-	national mission on enhanced energy efficiency
OEM	-	original equipment manufacturer
PMU	-	project management unit
QPR	-	quarterly progress report
REA	-	rapid environmental assessment
SDU	-	sustainable development unit
SPCB	-	state pollution control boards
SPS	-	safeguard policy statement
TSDF	-	treatment, storage and disposal facility
ULB's	-	urban local bodies

NOTES

The fiscal year (FY) of the Government of India ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2018-2019 ends on 31 March 2019.

In this document, "\$" refers to US dollars

This environmental assessment review framework is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the "terms of use" section of this website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

CONTENTS

	Page
1. INTRODUCTION.....	1
1.1 Background.....	1
1.2 Overview of the Sector Loan.....	2
1.3 Implementation Arrangements.....	2
1.4 Purpose of the Environmental Assessment and Review Framework.....	3
2. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY.....	3
2.1 National Environmental Requirements.....	3
2.2 National Occupational Health and Safety Requirements.....	7
2.3 ADB’s Environmental Requirements.....	7
2.4 Institutional Capacity to comply with Environmental Requirements.....	8
3. ANTICIPATED ENVIRONMENTAL IMPACTS.....	11
4. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS.....	18
4.1 Environmental Guidelines and Criteria for Subproject Selection.....	18
4.2 Environmental Assessment Procedures.....	19
4.3 EESL’s General Process of Selecting the Subprojects.....	20
4.4 Roles and Responsibilities.....	22
5. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM.....	22
5.1 Public Consultation and Participation.....	22
5.2 Arrangements for Information Disclosure.....	23
5.3 Grievance Redress Mechanism.....	23
6. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES.....	25
6.1 Implementation Arrangements.....	25
6.2 Responsibilities During Implementation.....	25
6.3 Capacity-building Needs.....	26
7. MONITORING AND REPORTING.....	27
APPENDIX 1: ADB Prohibited Investment Activities List.....	28
APPENDIX 2: Rapid Environmental Assessment (REA) Checklist.....	29
APPENDIX 3: Solar PV Sub-Project Safeguards Screening Checklist.....	32
APPENDIX 4: Outline of Safeguard information in the QPR.....	34

LIST OF TABLES

Table 1.1: Tentative Financing Plan.....	2
Table 2.1: Summary of Relevant Environmental Regulations and other Specific requirements.....	4
Table 2.2: Summary of waste management facility.....	5
Table 2.3: India Relevant International Environmental Agreements.....	6
Table 2.4: Environmental Classification According to SPS 2009.....	7
Table 3.1: Potential Environmental Impacts and mitigations of Component 1.....	12
Table 3.2: Potential Environmental Impacts and mitigations of Component 2.....	14
Table 3.3: Potential Environmental Impacts and mitigations of Component 3.....	16
Table 4.1: Process plan of Each Component.....	20
Table 6.1: Summary of Responsibilities During Implementation.....	25

LIST OF FIGURES

Figure 2.1: Existing organizational structure for ESSL EHSS management	10
Figure 2.2: Structure of ESSL Sustainable Development Unit (SDU)	10
Figure 3.1: Project Structure of the Smart Meter	13
Figure 3.2: Stakeholders for the E-mobility	15
Figure 3.3: Process of site assessment for distributed Solar PV Program.....	17

1. INTRODUCTION

1.1 Background

1. The Asian Development Bank (ADB) will provide a loan¹ to Energy Efficiency Services Limited (EESL), to be guaranteed by the Government of India (GoI), to support scale-up of investments in a growing energy efficiency market in India. Since its incorporation in 2009, EESL has created a “new normal” for more efficient lighting, pumping, buildings etc., and will continue to service these traditional end-use market segments that present potential savings of terawatt-hours per year. EESL is expanding its market scope to include “upstream” efficiency opportunities that have not been targeted by traditional energy service company (ESCO) investments. New business models are being tested and improved to address more expansive opportunities, including on-grid distributed renewable energy in the “last mile” of on-grid supply to rural agricultural areas and electric mobility.² Continued efficiency gains across energy supply chain spectra will reduce the need for new centralized electricity generation plants, facilitating the future decommissioning of obsolete fossil-fuel power plants.

2. The project will finance high-priority areas under EESL’s ESCO business: (i) smart metering; (ii) electric vehicles and charging systems; (iii) distributed solar power at distribution sub-stations; and (iv) increased awareness of energy efficiency. ADB is now administering a grant from the Global Environment Facility (GEF) to support expansion of EESL’s ESCO business to new energy efficient technologies, and the proposed loan will help scale up and accelerate deployment of those technologies and replicate success achieved by the ongoing ADB project. This will be the second ADB investment to EESL to support replication, scale up, and expansion of energy savings investments. This Environmental Assessment and Review Framework (EARF) has been drafted for the proposed project.

3. The project is aligned with the following impact(s): market for energy-efficient technologies expanded and emissions intensity of economy reduced. The project will have the following two outputs.

- (i) **Output 1:** Energy-efficient technologies promoted and deployed in eligible states. Since its incorporation in 2009, EESL has created a “new normal” for more efficient lighting, pumping, and buildings, and will continue to service these traditional end-use market segments that present potential savings of terawatt-hours per year. EESL is expanding its market scope to include “upstream” efficiency opportunities that have not been targeted by traditional energy service company (ESCO) investments including smart meters and other intelligent energy management elements, distributed solar, and electric vehicles. Output 1 includes deployment of 5 million smart meters, 160 MW of distributed solar power capacity, and 10,000 electric vehicles (EVs). New business models are being tested and improved to address more expansive opportunities, e.g., on-grid distributed renewable energy in the “last mile” of on-grid supply to rural agricultural areas and electric mobility. Continued efficiency gains across electricity networks and installation of distributed solar power plants will reduce the need for new centralized electricity generation plants, facilitating the future decommissioning of obsolete fossil-fuel power plants. Deployment of electric vehicles will increase overall energy efficiency in transport services while reducing consumption of imported petroleum fuels thereby improving energy security.

¹ ADB received formal request from the Department of Economic Affairs, Ministry of Finance on 24 May 2018 for this project

² For example, electric mobility comprising a shared and connected vehicle fleet by 2030 will cut energy demand by 64% and carbon emissions by 37%; the benefits in public health and energy security cannot be understated. Installation of renewable energy at distribution substations will alleviate overloading and technical losses in the low-voltage network and reduce the need for more centralized generation plants.

- (ii) **Output 2:** End-user energy efficiency awareness increased. EESL's business is concentrated in the retail end of the energy supply chain, and as such is inherently dependent on consumer acceptance of efficiency interventions. Identification of new business opportunities and piloting of new technologies includes awareness raising through formal measures such as seminars and workshops as well as informal interaction with energy consumers. Other stakeholders, especially DISCOMs and electricity regulatory agencies, have extensive interaction with electricity consumers which in general facilitates awareness raising by EESL. Some awareness-raising activities are effectively built-in to investments, e.g., smart metering.

4. The second output does not have any physical component, while the first output includes the following physical components:

- a) Smart meters and other intelligent energy management elements installed in eligible states ;
- b) Solar photovoltaic installed in eligible states; and
- c) E-vehicles deployed in eligible states;

1.2 Overview of the Sector Loan

5. A sector loan financing modality is proposed for this project because there is a sector road map and capacity, and it allows for the early implementation of subprojects with high readiness and the expansion of coverage to include newer subprojects as they are developed, irrespective of physical location. In order to respond to requests from, and agreements with, the various states, local urban bodies and distribution companies, EESL has requested flexibility in selection of subprojects and their locations as per the sector loan modality and subprojects selection criteria agreed between EESL and ADB. A sector loan financing modality is considered for this project to allow for early implementation of subprojects with high readiness, expanding to cover newer projects as they are developed.

Table 1.1: Tentative Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (Regular loan)	250.0	42.2
ADB Clean Technology Fund ^a	46.0	7.8
Energy Efficiency Services Limited	296.0	50.0
TOTAL	592.0	100.0

^a Administered by the Asian Development Bank.

Sources: Asian Development Bank staff estimates based on discussions with EESL

1.3 Implementation Arrangements

6. The project will be implemented by EESL starting from April 2020 until end of March 2025. EESL also operates as a government-owned ESCO in order to facilitate energy efficiency investments including work designing, implementing, monitoring and investing in energy-efficiency projects. EESL has completed several projects on solar PV, street lighting programme, DSM Based Efficient Lighting Programme (DELP), and Agricultural Demand Side Management (AgDSM) Programme.

7. EESL has an existing project management unit (PMU) setup under ADB loan IND L3436. This PMU will also be responsible to administer, coordinate, monitor, and report on the

progress of project implementation to ADB and the Gol. Oversight functions has done by the EESL Board of Directors. The PMU consist of technical, financial, and procurement staff. Safeguards compliance is being administered and monitored by Sustainable Development Unit (SDU) of EESL. The environmental, health, safety and social (EHSS) team started in December 2018 with three dedicated staff. The SDU will be supported by their consultants to ensure compliance to the relevant national and state environmental regulations including the requirements of ADB's SPS 2009. Additional support staff has been designated to ensure compliance to the requirements of ADB's SPS 2009. ADB will conduct regular project review and facilitate the project implementation.

1.4 Purpose of the Environmental Assessment and Review Framework

8. For sector lending, an environmental assessment and review framework (EARF) is prepared. The EARF aims to ensure that the subprojects or project components implemented under the sector loan comply with ADB safeguards policy objectives, principles and requirements (Section C, Appendix 4, SPS 2009, p66). The EARF provides guidance on environmental screening and categorization, sub-project selection criteria, assessment, planning, institutional arrangements, and procedures to be followed during the implementation of the sector loan, e.g. monitoring and recording. This EARF is prepared consistent with SPS 2009 and the applicable laws, policies, and regulations of Gol.

9. The EARF ensures that all subprojects/project components, in the entirety of their project cycle, will not deteriorate or interfere with the environmental sensitivity of a subproject area, but rather improve environmental quality. Subprojects are expected to have only small-scale, localized impacts on the environment, which can be readily mitigated. Potential adverse impacts of the proposed interventions are expected minimal and site specific, mainly related to occupational, health and safety during installation phase and waste management during operation phase. These impacts can be minimized by applying mitigating measures and use of environmentally sound engineering practices. Therefore, the project is primarily classified as environment Category 'C'. The EA will try to exclude ADB Category 'A' and 'B' projects based on the subproject selection criterial to the extent possible from financing by the Project.

2. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

2.1 National Environmental Requirements

10. The interventions proposed under ADB loan are not expected to cause any significant adverse environmental impacts and thus, not falling within the purview of the Environmental Impact Assessment (EIA) Notification 2006 of Gol. However, wastes that may be generated by project components will be subject to environmental regulations of Gol and States.

2.2.1 Environmental Agency

11. The Ministry of Environment, Forest and Climate Change (MoEFCC) is mandated by the Central Government to plan, promote, coordinate and oversee the implementation of India's environmental and forestry policies and programmes while its Climate Change Division is specifically tasked to coordinate the implementation of the National Action Plan on Climate Change (NAPCC).

12. The Central Pollution Control Board (CPCB) is a statutory organization under the MoEFCC created through the Water (Prevention and Control of Pollution) Act 1974 with functions and powers set forth by the Air (Prevention and Control of Pollution) Act 1981. CPCB advises the Central Government on issues about prevention and control of water and air

pollution, and in the improvement of air quality. CPCB plans and executes nationwide programs to prevent, control or abate air and water pollution. State Pollution Control Boards (SPCBs) are statutory authorities entrusted to implement environmental laws and regulations within the states and ensure compliance to the environmental requirements. CPCB coordinates the activities of SPCBs, resolve disputes among them, and provides technical assistance and guidance on air and water pollution abatement and control.

2.2.2 Environmental Regulations

13. **Table 2.1** presents the relevant environmental regulations that may be referred to during the project implementation.

Table 2.1: Summary of Relevant Environmental Regulations and other Specific requirements

Regulation	Brief Description	Implementing Agency
Environment (Protection) Act 1986 and Rules 1986	Provides for the regulations to protect and improve the environment.	MoEFCC
E-Waste (Management and Handling) Rules 2010	Provides for the collection, dismantling, recycling, transport, disposal, and overall handling of e-waste. E-waste means waste electrical and electronic equipment, whole or in part, or rejects from manufacturing and repair process which are intended to be discarded.	MoEFCC, CPCB, SPCBs
Environmental Impact Assessment (EIA) Notification, 2006 and latest amendments	Provides guidance on environmental clearance requirements and clarification on related specific technical issues.	MoEFCC
Water (Prevention and Control of Pollution) Act 1974 and amendments thereof	Sets the requirements to prevent, control and abate water pollution, and for the establishment of Boards to carry out these purposes.	CPCB, SPCBs
Air (Prevention and Control of Pollution) Act 1981 and amendments thereof	Provides for the prevention, control and abatement of air pollution, and for the establishment of Boards to carry out these purposes.	CPCB, SPCBs
Solid Waste Management Rules 2016	Applies to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes.	CPCB, SPCBs
Hazardous Waste (Management and Handling) Rules, 2008 and amendments thereof	To protect health of general public and the environment against the adverse impacts of improper handling, storage and disposal of hazardous wastes. Aims to (i) reduction of hazardous waste generation, promotion of environmentally-sound management; (ii) restriction of transboundary movements; and (iii) a regulatory system for transboundary movements.	CPCB, SPCBs
The Batteries (Management & Handling) Rules, 2001	Provides for the proper management and handling of lead acid batteries to avoid, mitigate, minimize adverse impacts on environment and human health	CPCB, SPCBs
Contract Labour (Regulation and Abolition) Act, 1970	Employer Certificate of Registration from the Department of Labor	State Labour Department

Regulation	Brief Description	Implementing Agency
The Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979	Contractor to obtain license from designated labor officer Contractor shall register with Labor Department if interstate migrant workmen are engaged Adequate and appropriate amenities and facilities shall be provided to workers including housing, medical aid, traveling expenses from home and back, etc.	
The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996	Cess should be paid at rate no exceeding 2% of the cost of construction as may be notified The employer is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodation for workers near the workplace, etc. The employer has to obtain a registration certificate from the Registering Officer	State Labour Department
The Child Labour (Prohibition and Regulation) Act, 1986	No child labor shall be employed	State Labour Department
Minimum Wages Act, 1948	All construction workers should be paid not less than the prescribed minimum wage	State Labour Department

Source: Government of India, Various web portals

14. The MoEFCC, GoI through the CPCB, issued the guidelines on the Implementation of E-Waste (Management) Rules 2011 and 2016³, which among others, put the main responsibility of e-waste management on the producers of the electrical and electronic equipment by introducing the concept of “extended producer responsibility”.

15. Aside from the relevant environmental regulations, most of the states, where project components will be implemented, have existing facility to manage solid wastes including hazardous wastes that may be generated. **Table 2.2** presents a summary of the existing waste treatment, storage and disposal facility (TSDF). Those States without TSDF, like Goa can use facilities available within neighboring State of Maharashtra to manage the waste generated from the project facilities.

Table 2.2: Summary of waste management facility

Name of State	Type of Waste Management Facility		
	No. of Integrated TSDF (with both secured landfill and incinerator)	No. of TSDFs with only common incinerators	No. of TSDFs with only common secured landfill
Rajasthan	---	1	2
Maharashtra	3	---	1
Goa	---	---	---
Telangana	1	---	---
Karnataka	---	5	1
Andhra Pradesh	1	---	---
Uttar Pradesh	2	1	1

Source: MoEFCC, GoI.

2.2.3 Relevant International Environmental Agreements

³ Compact Fluorescent Lamp (CFL) and other mercury-containing lamp brought under the purview of rules.

16. **Table 2.3** presents the international environmental agreements where India is a party. These international environmental agreements will be considered by EESL to provide guidance, as appropriate, in the screening and final selection of project components, and in the selection of contractors, suppliers and/or handlers who will be responsible to manage the solid wastes that may be generated by the project components. EESL will ensure that their contractors, suppliers/vendors, and/or wastes handlers understand the requirements and commitment to compliance to these international environmental agreements.

Table 2.3: India Relevant International Environmental Agreements

International Environmental Agreement	Description	Date Ratified
Vienna Convention for the Protection of the Ozone Layer	Signed on 22 March 1985 by 28 signatories, this convention sets the framework for efforts to protect the globe's ozone layer by means of systematic observations, research and information exchange on the effects of human activities on the ozone layer and to adopt legislative or administrative measures against activities likely to have adverse effects on the ozone layer.	18 March 1991
Montreal Protocol on Substances that Deplete the Ozone Layer (a protocol to the Vienna Convention for the Protection of the Ozone Layer)	This international treaty was entered into force on 1 January 1989 and is designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion. This treaty also requires controlling emissions of substances that deplete ozone.	19 June 1992
UNFCCC (1992)	This framework came into force on 21 March 1994 and aims to achieve stabilization of greenhouse gas (GHG) concentrations in the atmosphere at a level low enough to prevent dangerous anthropogenic interference with the climate system.	1 November 1993
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)	This convention came into force on 22 September 1992 which aims to reduce the amount of waste produced by signatories and regulates the international traffic in hazardous wastes.	24 June 1992
Stockholm Convention on Persistent Organic Pollutants (POPs)	Treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.	13 January 2006
Rotterdam Convention on Prior Informed Consent (PIC) for certain Hazardous Chemicals and Pesticides in International Trade	To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm; covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons.	24 May 2006 (accession)

International Environmental Agreement	Description	Date Ratified
UNEP Minamata Convention on Mercury	Adopted on 10 October 2013, this global treaty aims to protect human health and the environment from the adverse effects of mercury.	30 September 2014 (signed)
SAICM (Strategic Approach to International Chemicals Management)	Voluntary initiative to help countries manage chemicals within their borders to reduce the harmful impact of chemicals on human health and the environment.	February 2006

Source: MoEFCC, Gol.

2.2 National Occupational Health and Safety Requirements

17. The Indian Constitution imposes the duty on the State to provide and implement policies promoting safety and health of workers in the workplaces. Regulating workers occupational safety and health (OSH) exist in four different sectors: manufacturing, mining, ports, and construction. The Ministry of Labour and Employment, and the State Labour Departments are responsible for workers OSH. Most relevant to the project are the Municipal Solid Waste (Management and Handling) Rules 2000 notified under the Environment (Protection) Act 1986, and The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989. In February 2009, the National Policy on Safety, Health and Environment at Work Place was declared by the Ministry of Labour and Employment. EESL will ensure that their implementing partners under this project will comply with these statutes.

2.3 ADB's Environmental Requirements

18. SPS 2009 provides for the environmental requirements and review procedures of ADB and applies to all projects and grants ADB finances. SPS 2009 comprises three key safeguard areas: environment, involuntary resettlement, and indigenous peoples; and aims to avoid adverse project impacts to both the environment and the affected people; minimize, mitigate and/or compensate for adverse project impacts; and help Borrowers to strengthen their safeguard systems and to develop their capacity in managing the environmental and social risks.

19. At the project identification phase, ADB uses a categorization system to indicate the significance of potential environmental impacts and is determined by the category of its most environmentally-sensitive component, including direct, indirect, cumulative, and induced impacts within the project's area of influence. The project categorization system is described in **Table 2.4**.

Table 2.4: Environmental Classification According to SPS 2009

Category	Definition	Assessment Requirement
A	Likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works.	Environmental Impact Assessment (EIA)
B	Likely to have adverse environmental impacts that are less adverse than those of Category A. Impacts are site-specific, few if any of them irreversible, and in most cases mitigation measures can be designed more readily than Category A.	Initial Environmental Examination (IEE)
C	Likely to have minimal or no adverse environmental impacts.	No environmental assessment is required but the

Category	Definition	Assessment Requirement
FI	Project involves investment of ADB funds to or through a financial intermediary (FI).	environmental implications of the project will be reviewed. FIs will be required to establish an environmental and social management commensurate with the nature and risks of the FI's likely future portfolio to be maintained as part of the FI's overall management system.

Source: ADB. Safeguard Policy Statement 2009, p 19

<http://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf>.

20. Disclosure Requirements of Public Communications Policy 2011: Aside from SPS 2009, the Public Communications Policy (PCP) 2011 of ADB provides the requirements for project information disclosure funded by ADB. Consistent with SPS 2009, PCP 2011 requires the disclosure of documents submitted by the borrower and/or client:

- (i) a draft EIA report for category A project, at least 120 days before Board consideration;
- (ii) a draft EARF, where applicable, before appraisal;⁴
- (iii) the final EIA or IEE, upon receipt by ADB;
- (iv) a new or updated EIA or IEE, and a corrective action plan, if any, prepared during project implementation, upon receipt by ADB; and,
- (v) the environmental monitoring reports, upon receipt by ADB.

2.4 Institutional Capacity to comply with Environmental Requirements

2.4.1 Existing Organizational Structure

21. The EESL, as the Executing Agency (EA) of project, has the responsibility to undertake due diligence for these subprojects, ensure that all components of this EARF are complied with during the entire process of the project, monitor EMP implementation for subprojects. The implementing agencies and the line departments implementing the subprojects will provide support to the EA and will be directly responsible for implementing the detailed requirements of the EARF, environmental assessment and EMP at the project office and site level.

22. EESL capacity to implement various provisions under EARF was reviewed. This sector loan will be the second loan to EESL that will involve financing from ADB. EESL has placed SDU and assigned staff responsible in dealing with environment, health, safety and social concerns and/or compliance to environment safeguards requirements of multilateral banks such as ADB. At present, ESSL has three dedicated environment and social safeguards officers along with support staff at corporate and thirty personnel at regional offices having experience to deal with the issues pertaining to safeguards and in implementation of impacts mitigation measures in the externally funded projects.

23. At program level, EESL has designated project implementation staff one for each project component including distributed solar PV, e-mobility (e-vehicles and charging stations); and smart meter.

24. As the EA, EESL will be responsible for appraising, processing and implementing the respective projects under the sector loan. EESL will be responsible for preparing the technical

⁴ If no further mission for appraisal is required, the document will be posted before the management review meeting or the first staff review meeting for sovereign projects, or before the final investment committee meeting for nonsovereign projects, as applicable (ADB procedures).

reports, which may include feasibility studies, preliminary design reports, detailed design reports, and special conditions on environmental compliance in the bid documents.

25. Given this responsibility, capacity building on ADB's environmental requirements and SPS 2009, will help EESL in the effective implementation of the sector loan. The capacity building can extend to other key project stakeholders.

2.4.2 Project Due Diligence

26. Recognizing the need to mainstream environmental safeguards considerations in their operations, EESL prepared an EHSS manual (July 2017) and implemented it at institutional level with their environmental, occupational health and safety, and social aspects. The EHSS manual has outlined the vision, objectives, management system and governance controls to guide the operations and projects implementation of EESL. The EHSS manual is divided into new project planning, component activities of each project, their associated risks and mitigation measures, 17 standard operating procedures (SOP), and 5 formats of documentation for records management including Grievance Redress Mechanism (GRM) to receive and address complaints/issues.

Standard Operating Procedure (SOP)	
SOP 01	EHSS Risk Management
SOP 02	Waste Management
SOP 03	Fire and emergency procedures
SOP 04	Electrical safety
SOP 05	Work at height and fall prevention
SOP 06	Portable tools and equipment
SOP 07	Traffic safety
SOP 08	Personal protective equipment
SOP 09	Work permit system
SOP 10	Safe lifting operations
SOP 11	Health and safety audit procedure
SOP 12	Criteria for selection of warehouse
SOP 13	Special Conditions of use of new generation heavy equipment and Vehicles
SOP 14	Emergency responses against disaster, accidents, breakages and collapse on site/transport/storage
SOP 15	Work close out procedures
SOP 16	Project screening and categorization
SOP 17	Air Pollution control
Documentation Formats (DF)	
DF 01	Legal checking
DF 02	Accident/Incident Reporting
DF 03	EHSS Risk mitigation plan
DF 04	Sample project report
DF 05	Checklists: a) Project Screening Checklist b) Resettlement Framework Checklist c) Environmental Sensitivity Checklist d) Rapid Environmental Assessment (REA) Checklist -ADB Format e) Waste monitoring Template

27. Currently, SOP 02 (see above) on waste management is being followed by project managers of EESL including their vendors and sub-contractors of various project components. Sustainable Development Unit (SDU) headed by General Manager in the Corporate Office is responsible for monitoring the progress on risk identification, evaluation, mitigation and impact evaluation of EHSS issues. Head of the SDU is directly reporting to the Managing Director of

EESL to ensure the successful implementation of the EHSS management system. In addition to head of SDU, two officers for each state and two officers at each project team, supported by EHSS support staff at project site have been identified for each program. EHSS support staff at project site will be responsible for implementation and coordination on safeguards compliance by supplier, vendor and contractor at project site and will report to state safeguards officer. The SPS 2009 is applicable to all ADB-financed projects. The central and regional offices of EESL will serve as implementing units. ADB will conduct regular project review and will supervise the project implementation.

28. Existing organizational structure at EESL for EHSS management is shown in Figure 2.1 and structure of EESL SDU is shown in Figure 2.2.

Figure 2.1: Existing organizational structure for EESL EHSS management

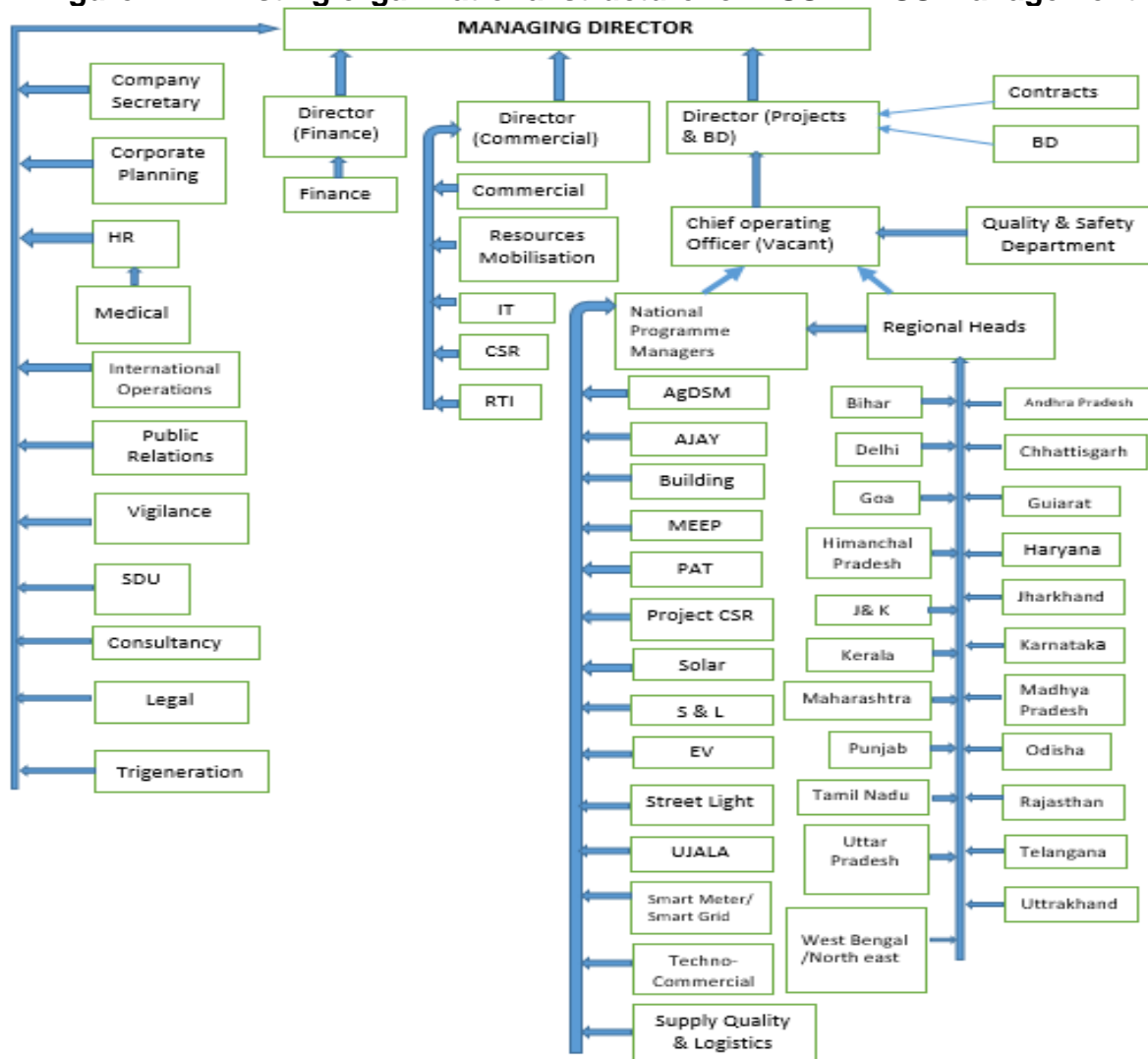
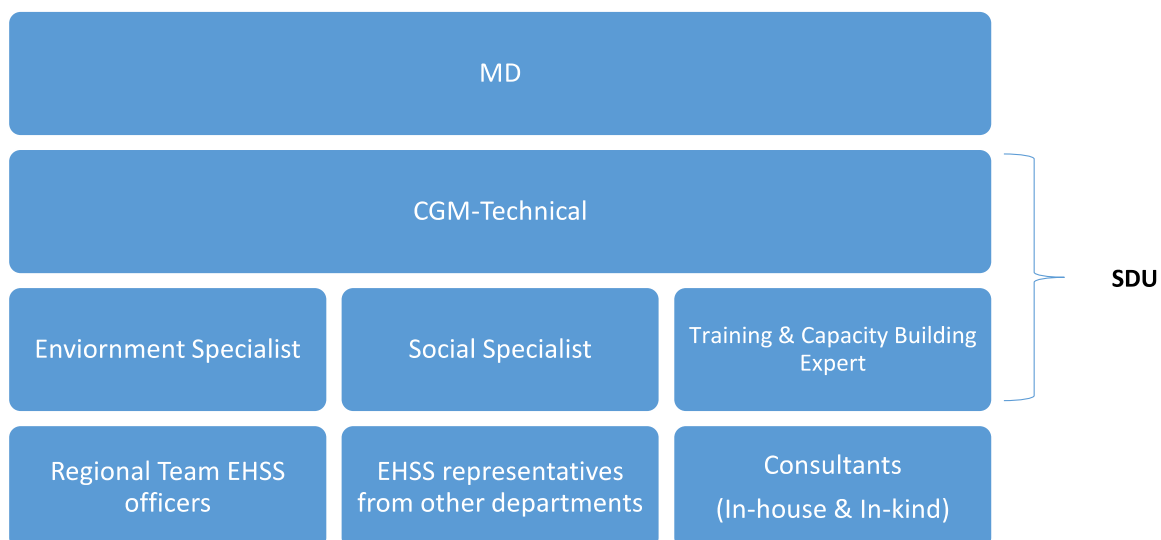


Figure 2.2: Structure of EESL Sustainable Development Unit (SDU)



29. Besides EHSS Manual and Standard Operating Procedures, EESL also prepared documents on i) Environmental and Social Systems Assessment (ESSA), ii) Environment Management Framework, iii) Indigenous People Policy Framework (IPPF), and iv) Gender & Labor Policy. ^[1]_[SEP]

3. ANTICIPATED ENVIRONMENTAL IMPACTS

30. The project is categorized as C for environment as it aims to improve the efficiency existing systems without bringing any significant adverse environmental impacts. The subprojects will involve physical works but are expected to have limited, insignificant, and manageable, direct and induced adverse environmental impacts. All subprojects are to be screened using safeguards checklist and selected according to selection criteria. Feasibility studies will be conducted to assess potential environmental impacts for subprojects that will be financed by the project.

31. For subprojects (specifically distributed solar based subprojects), the adverse impact of these facilities will be limited to minor disturbance during installation and construction, mainly associated with transport of materials and equipment to the sites, some land disturbance for new or additional site development. The impacts are generally temporary in nature and limited during construction. The subproject selection criteria in Appendix 2 will be complied by EESL. To properly manage potential impacts, the impacts and their mitigations for each component were assessed and included in Table 3.1 to 3.3, the following impacts for each stage of project development and implementation may be anticipated:

- *During pre-installation phase* or before installation of subproject, the applicable certificate, clearances, and permissions that must be secured include: Tree cutting approval from local authority/forest department if tree removal required, permission from Central Ground Water Board for water extraction, SPCBs approval for e-waste management and spoil disposal, and Panchayat Raj Institutions Authority No Objection Certificate, if applicable.
- *During installation:* The longest installation period would be about 2-4 weeks for solar PV. Potential environmental risks are related to clearing of vegetation due to new infrastructure constructions, dust from materials transport, embankment shaping,

unpaved road travel; noise, and emissions from the construction equipment and other vehicles deployed; occupation and community health (camp hygiene, lack or non-use of personal protective equipment, lack of warning signs around construction areas, lack of HIV/AIDs awareness); and shifting of electric and telephone poles. Good engineering practices, compensatory plantation, hygiene, and occupational and community safety measures can mitigate such impacts.

- *Post-installation:* Community safety and e-waste waste management, other types of solid wastes and wastewater generation are the dominant environmental impacts during this stage.

32. *Selected subprojects/project components:* At an indicative level, potential issues during all stages of selected subprojects under the project are mentioned in the section below:

Component 1: Smart meters and other intelligent energy management elements (“smart grid”)

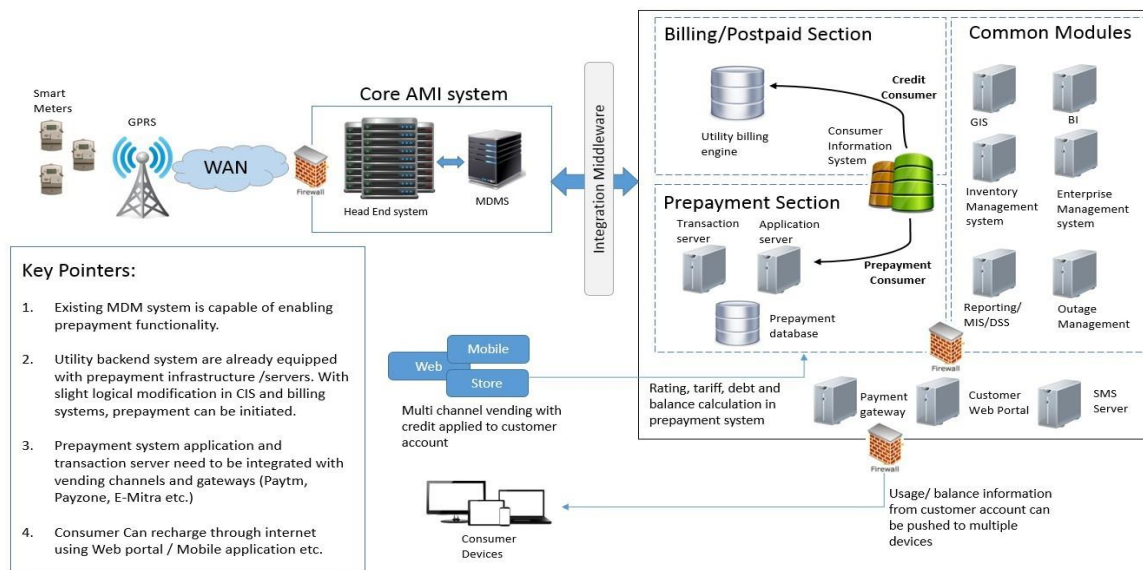
33. This will involve the replacement of 6 million electric meters in selected urban areas with smart meters. EESL will implement the program in partnership with urban local bodies (ULBs) and local electricity boards or power distribution companies (DISCOMs). EESL will appoint a vendor for end-to-end replacement of existing electric meters with smart meters. The dismantled meter will be either deposited to the ULBs for disposal following the regulations set forth by SPCBs or will be purchased back by the vendors through the buy-back agreements. Contract between EESL and the ULBs or the DISCOMs will include the requirements of compliance to SPS 2009, EHSS and relevant environmental laws. **Figure 3.1** shows the structure of the Smart Grid program while the potential impacts and mitigations are given in **Table 3.1**.

Table 3.1: Potential Environmental Impacts and mitigations of Component 1

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
Smart meters and other intelligent energy management elements (“smart grid”) - replacement of electric meters with Smart meters	<ul style="list-style-type: none"> • accumulation of used electric meters and disposal • improper handling of replaced meters resulting to their breakage and posing health risks to workers 	<ul style="list-style-type: none"> • require submission of applicable government permits and chain-of-custody forms for supply chain of electric meters • contracts will include compliance to EHSS of EESL (SOP 02 – waste management) • verify the record and/or declaration regarding waste disposal based on applicable laws and regulations 	SDU-EESL, DISCOMs, ULBs, suppliers/ vendors	EESL, SPCBs, ADB

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
	<ul style="list-style-type: none"> improper work practices and unsafe working conditions which may cause accidents and safety issue 	<ul style="list-style-type: none"> prepare overall health and safety (H&S) plan for smart grid component to minimize risks to workers provide workers with personal protective equipment, install clear and visible warning signs, and dispose replaced meters following the requirements of SPCBs or through buy-back agreement 		
	<ul style="list-style-type: none"> traffic accidents due to inadequate warning signs during construction phase. 	<ul style="list-style-type: none"> vendor to prepare and take approval of area specific work plan and schedule of replacement 		
	<ul style="list-style-type: none"> complaints from affected people or community 	<ul style="list-style-type: none"> vendor to provide a complaint's call centre 		
	<ul style="list-style-type: none"> loss of jobs for meter readers 	<ul style="list-style-type: none"> livelihood training for previous meter readers 		

Figure 3.1: Project Structure of the Smart Meter



Component 2: E-mobility with electric vehicles and charging stations

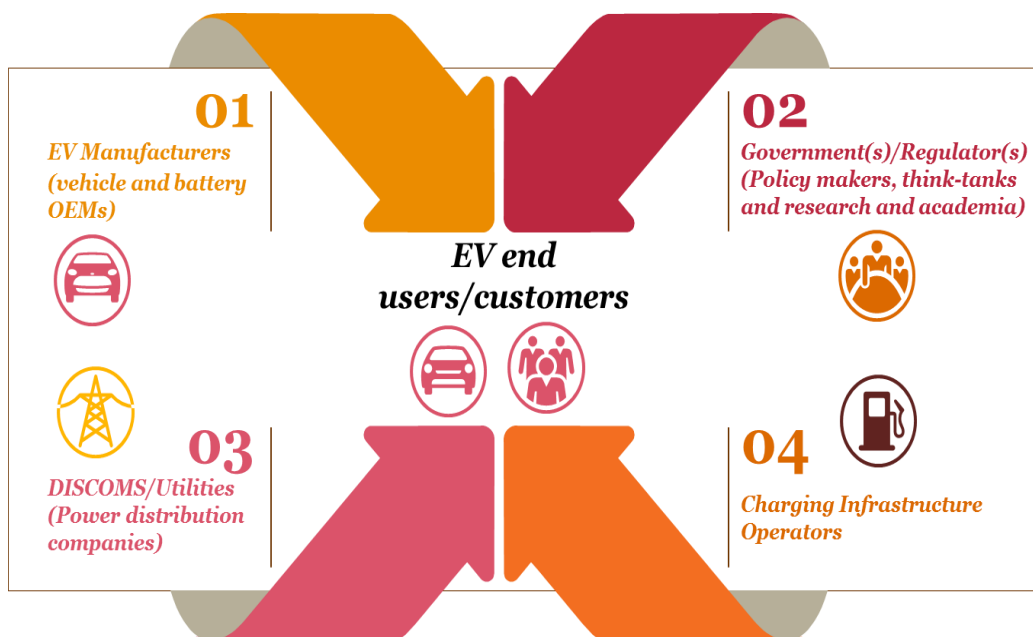
34. This will introduce 10,000 electric vehicles and charging stations in various cities in selected states. EESL will implement the program in partnership with Government agencies and ULBs. EESL will appoint an Original equipment manufacturer (OEM) for manufacturing and end-to-end services for supply and maintenance of e-vehicles. Infrastructure for charger kiosk will be developed by DISCOMs. Charging stations will be installed on public land and it will require only small-scale civil work (max 0.5mx0.5m size and 1 m deep pit with installation time of 1 day) therefore environmental impacts associated with charging stations are negligible. E-vehicles will be given on lease to end user on agreed conditions of operations. Annual maintenance contract (AMC) for 5 years will be with OEM including purchased back or proper dispose of e-vehicle or parts through agreements. Contract between EESL and the ULBs or the DISCOMs and OEM will include the requirement of compliance to SPS 2009, EHSS and relevant environmental laws. **Figure 3.2** shows the stakeholders for e-mobility program while the potential impacts and mitigations are given in **Table 3.2**.

Table 3.2: Potential Environmental Impacts and mitigations of Component 2

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
E-mobility with electric vehicles and charging stations	<ul style="list-style-type: none"> disposal of battery and others from e-vehicle disposal of used e-vehicles 	<ul style="list-style-type: none"> require submission of applicable government permits and registration of e-vehicles contracts will include compliance to EHSS of EESL (SOP 02 – waste management) verify the record and/or declaration regarding waste disposal based on applicable laws and regulations 	SDU-EESL, DISCOMs, ULBs, OEM suppliers/vendors	EESL, SPCBs, ADB
	<ul style="list-style-type: none"> public safety during Installation of charging points environmental, health and safety issues during installation (civil works) of charging stations. 	<ul style="list-style-type: none"> select and install charging points following site good practices and due considerations to public safety. environmental, health and safety issues associated with installation of EV chargers will be controlled through inclusion of strict conditions in the civil works contracts and monitoring of the same by EESL. The project will ensure that Indian Labor Code regulations and the World Bank/IFC OHS standards are followed, including provision of safe working conditions and 		

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
	<ul style="list-style-type: none"> improper handling or work practices and unsafe working conditions at charging point which may cause accidents and safety issues 	<ul style="list-style-type: none"> all appropriate personal protection equipment (PPEs). prepare overall health and safety (H&S) plan for e-vehicle component to minimize risks to workers provide workers with proper training on associated risks and safe practices for uses, dispose of used e-vehicles following the requirements of SPCBs or through buy-back agreement 		
	<ul style="list-style-type: none"> traffic accidents due to inadequate measures and training to end user 	<ul style="list-style-type: none"> vendor to prepare and take approval of area specific work plan and schedule of replacement provide workers with proper training on associated risks and safe practices for uses 		
	<ul style="list-style-type: none"> complaints from affected people or community 	<ul style="list-style-type: none"> OEM and user agency to provide a complaint's call centre 		

Figure 3.2: Stakeholders for the E-mobility



Component 3: Distributed Solar PV

35. This will involve installation of 250 MW distributed solar PV (within existing substation land) to reduce losses in agricultural feeders in eligible states. The number of panels in each site will be decided based on the capacity of each plant. EESL will implement the program in partnership with DISCOMs on available land at existing substations. EESL will procure solar PV from approved manufacturing agencies and installed through sub-contractor. An agreement with approved manufacturer will be made for AMC and replacement of damaged or decreased efficiency units. Contract between EESL and manufacturer, subcontractor or DISCOMs will include the requirement of compliance to SPS 2009, EHSS and relevant environmental laws. **Figure 3.3** shows the site assessment process for distributed Solar PV program while the potential impacts and mitigations are given in **Table 3.3**.

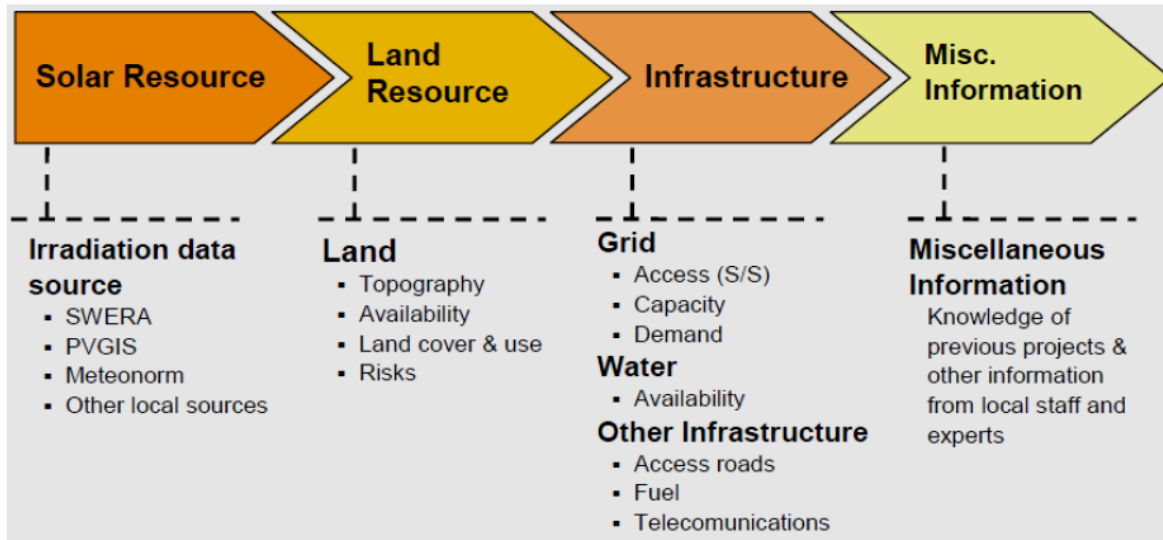
Table 3.3: Potential Environmental Impacts and mitigations of Component 3

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
Distributed solar PV	<ul style="list-style-type: none"> site clearing including trees and other obstacles to avoid shade 	<ul style="list-style-type: none"> site clearance following legal permission from concerned authorities/ departments and compensatory afforestation as applicable The site clearance will be done by the distribution companies as per national regulations, in consultation with the Ministry of Forestry. In addition, EESL will encourage the applicants to replant the trees if there is available space within the boundary of the substations. 	SDU-EESL, DISCOMs, Solar PV panel suppliers/ vendors	EESL, SPCBs, ADB
	<ul style="list-style-type: none"> storm water drainage and management 	<ul style="list-style-type: none"> drainage system development and storm water managed for ground water recharge 		
	<ul style="list-style-type: none"> improper handling or work practices and unsafe working conditions at installation which may cause 	<ul style="list-style-type: none"> prepare overall health and safety (H&S) plan for solar PV component to minimize risks to workers 		

Component	Potential Environmental Impacts	Mitigation Measures	Responsible Implementing Unit	Supervising Unit
	accidents and safety issue	<ul style="list-style-type: none"> provide workers with proper training on associated risks and safe practices for uses, 		
	<ul style="list-style-type: none"> disposal of damaged and replaced solar PV panels 	<ul style="list-style-type: none"> dispose of used solar PV panels following the requirements of SPCB or through buy-back agreement contracts will include compliance to EHSS of EESL (SOP 02 – waste management) verify the record and/or declaration regarding waste disposal based on applicable laws and regulations 		
	<ul style="list-style-type: none"> disposal of waste from temporary labour camps and installation site debris and waste 	<ul style="list-style-type: none"> contracts will include compliance to EHSS of EESL (SOP 02 – waste management) 		
	<ul style="list-style-type: none"> wastewater from cleaning of panels during operation phase 	<ul style="list-style-type: none"> contracts will include compliance to EHSS of EESL (SOP 02 – waste management) 		
	<ul style="list-style-type: none"> complaints from affected people or community 	<ul style="list-style-type: none"> user agency to provide a complaint's call centre 		

36. The adverse environmental impacts of distributed Solar PV sub-projects are expected to be minor due to their small size and location within existing substation areas. Typical solar PV subprojects are likely to be consisting of solar PV panel installation, construction of control building and connection with existing substation for power evacuation. The adverse impact of these facilities will be limited to minor disturbance during construction in close proximity. Each Solar PV subprojects will be screened using the selection criteria (to ensure only category C projects are eligible) and project-specific environmental assessment checklist (as provided in **Appendix 3**) and it will be categorized using ADB REA Checklist (**Appendix 2**) to avoid any of sub-projects triggering category B and category A. If not avoidable EESL will provide environmental assessment required for re-categorize these sub-projects to meet ADB SPS requirements.

Figure 3.3: Process of site assessment for distributed Solar PV Program



4. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS

4.1 Environmental Guidelines and Criteria for Subproject Selection

37. The project may include eligible states subject to due diligence and acceptance by ADB in accordance with its eligibility requirements. EESL will ensure that all components and subprojects are appraised, selected and approved in compliance with the requirements of ADB.

38. To be considered in the investment project, each selected subproject and components will need to have the following:

- (i) have a detailed project report completed in a format and to a level of detail that are acceptable to ADB;
- (ii) have all necessary counterparty arrangements agreed, including the implementation schedule and repayment terms;
- (iii) be scheduled for completion no later than March 2025;
- (iv) yield a financial internal rate of return exceeding its weighted average cost of capital, and an economic internal rate of return of at least 9%;
- (v) meet category C of ADB's Safeguard Policy Statement 2009 for environment, indigenous people, and involuntary resettlement; and
- (vi) use no funds from other bilateral and multilateral sources, unless complementary arrangements are clearly agreed beforehand, to avoid duplication and double counting.

39. Environment-related criteria will be as follows:

- (i) design and selection of subprojects will consider the input from public consultations (if any);
- (ii) subprojects will have minimal or no adverse environmental impacts (i.e. Category 'C' based on SPS 2009);
- (iii) no subproject will be located in an environmentally-sensitive area such as wildlife sanctuary, national park, or statutory protected area for biodiversity or ecological functions, or the buffer zone of such environmentally-sensitive area, or in critical

- or sensitive areas identified as cultural, archaeological or heritage sites and monuments by relevant authorities or the buffer zone of such a site or monument;
- (iv) no subproject will be taken involving significant amount of land acquisition and resultant compensation;
 - (v) environmental screening of the subprojects will be done using the applicable rapid environmental assessment (REA) checklist (see Appendix 2); and environmental assessment checklist developed for solar PV component (see Appendix 3);
 - (vi) only state with existing treatment, storage, and disposal facility for solid waste (which may include hazardous waste) will be considered for funding unless an alternative waste management arrangement is identified; and,
 - (vii) all necessary national and local government approvals and/or clearance (if required) will have been obtained for the subproject prior to implementation.

40. No subproject that may potentially incur adverse environmental impacts prior to the adoption of mitigation measures (i.e., Category B or Category A based on SPS 2009) will be considered in the investment project. Along with these criteria, the subproject must not be listed in ADB's prohibited investment activities list given in Appendix 5 of SPS 2009 (see **Appendix 1**).

4.2 Environmental Assessment Procedures

4.2.1 Screening and Categorization

41. SDU-EESL (or their consultant) will screen the individual sub-projects against the sub-project section criteria (Section 4.1), and potential environmental and social impacts. The subproject ADB environment categories are expected to be Category C.

42. SDU-EESL (or their consultant) will screen each solarized agriculture feeder subproject using REA checklist (**Appendix 2**) and environmental assessment checklist (**Appendix 3**) to determine the environment category (refer to Table 2.4) and identify the main adverse impacts. Only category 'C' subprojects will be considered for project funding. The REA checklist is an integral part of the environment categorization process.

43. For a subproject that is Category C, no environmental assessment is required but environmental implications need to be reviewed.

4.2.2 Review of Environmental Implications

44. Aside from category, REA checklist and environmental assessment checklist will be used also to review the environmental implications of a subproject. Given that no subproject will be considered if it will cause adverse environmental impacts prior to the adoption of mitigation measures (i.e., Category B and Category A), the environment category of all subprojects will be 'C'. A brief due diligence report (DDR) will be prepared outlining the rationale for category C subproject. The EESL EHSS manual will be referred to aside from the SPS 2009 in preparing the DDR. PMU-EESL will engage a consultant with relevant work experience, if needed to ensure that EHSS manual and ADB SPS 2009 is followed.

4.2.3 Monitoring of Waste Management

45. The amount of waste generated and/or disposed of will be monitored and included in the project's quarterly progress reports (QPR) submitted to ADB. Designated staff on environmental issues (or a Consultant) at PMU-EESL guided by the SDU will prepare the monitoring summary on waste management. **Appendix 4** presents the proposed format of the overall monitoring details including summary of waste management from each component. The methods of final waste disposal will be included in the summary.

4.3 EESL's General Process of Selecting the Subprojects

46. EESL follows a standard process for each subproject that will be considered under the sector loan. The process includes detailed energy audits, assessment of technology requirements, and a demonstration in the project area to assess performance and to calculate energy savings.

47. Subprojects will be selected based on implementation readiness, which includes initial assessments of energy efficiency savings potential, stakeholder consultations, availability of land (site) for solar PV plants, and advanced discussions on contract parameters with the relevant municipalities and distribution utilities. Table 4.1 describe the process for each component.

Table 4.1: Process plan of Each Component

Item	Description	Responsible Agency
1. Smart meters and other intelligent energy management elements ("smart grid") in eligible states promoted		
Memorandum of Undertaking (MoU)	EESL signs MOUs with distribution companies	
DPR developed and validated	Develops and validates DPRs for smart meters and other energy management elements	EESL, EE consulting support and local government
Technology selection and demonstration	Conducts pilot tests to demonstrate technology and savings	EESL, EE consultant support
Contractual agreements	EESL enters into contractual agreements with distribution companies and ensures a secure payment mechanism	EESL and local government
Payment Security	Payment security mechanism finalized such as bank guarantee, state government guarantee etc.	EESL and local government
Implementation	EESL procures smart meters and implements the subprojects	EESL and equipment provider
	Warranty and O&M coverage	
Monitoring and verification	Undertakes monitoring and verification activities	EESL, EE consultant support
2. E-mobility with electric vehicles and charging stations in eligible states promoted		
Memorandum of Undertaking (MoU)	EESL signs MOUs with States/ULBs	
DPR developed and validated	Develops and validates DPRs for electric vehicles and charging stations to promote e-mobility	EESL, EE consulting support and local government
Technology selection and demonstration	Conducts pilot tests to demonstrate technology and savings by use of electric vehicles	EESL, EE consultant support
Contractual agreements	EESL enters into contractual agreements with distribution companies and ensures a secure payment mechanism	EESL and local government
Payment Security	Payment security mechanism finalized such as bank guarantee, state government guarantee etc.	EESL and local government
Implementation	EESL procures e-vehicles and implements the subprojects	EESL and equipment provider
	Warranty and O&M coverage	
Monitoring and verification	Undertakes monitoring and verification activities	EESL, EE consultant support
3. Loss reduction through solarizing agricultural feeders in eligible states achieved		
Memorandum of Undertaking (MoU)	EESL signs MOUs with distribution companies	
DPR developed and validated	Develops and validates DPRs for Solar PV installation	EESL, EE consulting support and local government
Technology selection and demonstration	Conducts pilot tests to demonstrate technology and savings	EESL, EE consultant support
Contractual agreements	EESL enters into contractual agreements with distribution companies and ensures a secure payment mechanism	EESL and local government
Payment Security	Payment security mechanism finalized such as bank guarantee, state government guarantee etc.	EESL and local government

Implementation	EESL procures solar PV for the subprojects	EESL and equipment provider
	Warranty and O&M coverage	
Monitoring and verification	Undertakes monitoring and verification activities	EESL, EE consultant support

4.4 Roles and Responsibilities

4.4.1 EESL

48. SDU-EESL and its EHS representative will be responsible for implementing and coordinating the daily project activities. SDU-EESL will also ensure that management of wastes generated by the subprojects is done according to the requirements of CPCB and SPCB. Selection and implementation of subprojects will comply with the procedures outlined in the EARF. This includes screening and environment categorization of identified components, reviewing the environmental implications, and drafting of brief Due Diligence Report (in an agreed format) for Category 'C' subprojects. Consultations with stakeholders will be conducted consistent with SPS 2009 PCP 2011, and Right to Information Act 2005 of the government (as appropriate).

4.4.2 Implementing Partners

49. DISCOMs, ULBs, vendors/suppliers and contractors as implementing partners of EESL will ensure that their operations comply with applicable national and state regulations and have the required and valid permits/licenses.

4.4.3 ADB

50. ADB will conduct regular project review to facilitate and monitor project implementation.

5. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

5.1 Public Consultation and Participation

51. ADB's SPS (2009) requires projects to carry out meaningful public consultation on an ongoing basis. All sub-projects will be community involving, and as such consultation is built into and central to the sub-project design process from initiation onwards. Public consultation will: (i) begin early and carry on throughout the project cycle; (ii) provide timely disclosure of relevant information, understandable and accessible to people; (iii) ensure a free and un-intimidated atmosphere without coercion; (iv) ensure gender inclusiveness tailored to the needs of disadvantaged and vulnerable groups; and (v) enable the incorporation of all relevant views of affected people, and stakeholders into project decision making, mitigation measures, the sharing of development benefits and opportunities and implementation issues.

52. The project components require intensive consultations to engage stakeholders to buy-into energy efficiency projects. A media consultant will be recruited to manage communications strategies to promote projects. PMU-EESL will ensure that the communications strategies and consultations plan will refer to the requirements of SPS 2009 and PCP 2011 as follows:

- Disclosure of relevant information that is understandable and accessible to affected people;
- Consultation undertaken in an atmosphere free of intimidation or coercion; and,
- Process of consultation that is gender inclusive and responsive, fit to the needs of disadvantaged and vulnerability groups.

53. Aside from SPS 2009 and PCP 2011, PMU-EESL will also ensure that the relevant national requirements in the Right to Information Act 2005 will be complied with. PMU-EESL will ensure that the media consultant will make a list of the participants of the consultation process including the summary of the concerns/issues they raised and suggestions on project design, mitigation measures and monitoring, employment opportunities, and other relevant issues on implementation. Participation of women, if any, will be highlighted as well as the date and location of the consultations.

5.2 Arrangements for Information Disclosure

54. Project briefs will be posted in the EESL website. These project briefs will be translated in Hindi and other predominant dialects in India or in the State, and will be made available at the office of PMU-EESL and the regional offices of EESL. This EARF will be publicly disclosed in the ADB website as required by SPS 2009 and PCP 2011.

55. Success stories achieved by the EESL ongoing project in reducing the contribution to the greenhouse gas emissions will be prepared by the media consultant and compiled by PMU-EESL for publication and knowledge sharing. These success stories can be also disclosed on EESL website.

5.3 Grievance Redress Mechanism

56. EESL has an existing procedure to receive inquiries and complaints about project-related activities (developed for other donor-funded projects), and to respond to such inquiries and complaints. EESL ensures that the public, particularly those directly affected by the project components have the chance to express their legitimate grievance or to file a complaint about the project by setting up a mechanism to address the issues raised. PMU-EESL needs to ensure the establishment of GRM once the loan is effective. Vendors/suppliers and DISCOMs will be required to set-up a GRM. Bidders will be required to describe the GRM that will be implemented for the subproject.

57. *Grievance redress process.* In case of grievances that are immediate and urgent in the perception of the complainant, the contractor or subproject owner's staff on-site will provide the most easily accessible or first level of contact for quick resolution of grievances. Contact phone numbers and names of the concerned Officer, contractors, will be posted at all construction sites at visible locations.

- (i) *1st level grievance.* The contractors, or subproject owner's staff, can immediately resolve issues on-site in consultation with each other, and will be required to do so within 3 days of receipt of a complaint/grievance.
- (ii) *2nd level grievance.* All grievances that cannot be redressed within 3 days will be brought to the notice of SDU of ESSL. SDU will resolve the grievance within 7 days of receipt of compliance/grievance.

58. The grievance redress mechanism functions are managed in following manner.



59. Receive and Register: A grievance redress system is already in place (support.eeslindia.org/) to ensure that complaints are resolved in an efficient and timely manner. EESL also receives complaints via EESL app, e-mail, SMS, phone calls, toll free numbers etc. Complainants can also directly reach the regional offices for reporting the complaints. Vendor, Contractor, and the labour contractor have a representative to look at the problems and issues faced by the workers and the local community members. There is one representative at each level to receive and address the complaints raised by the workers and local community. It ensured that all the issues raised, registered and resolved in a timely manner.

60. Review and Investigate: Issues registered, reviewed and investigated in detail within the limited period of time. Management investigate the issue within seven working days. Conduct root cause analysis of the issues and an assessment of the number of people getting impacted by that problem. It also provides an opportunity to conduct assessment of the risk it poses on the project.

61. Resolve the Issue: The issue get resolved within the limited time period and the recommended solutions is SMART (Specific, Measurable, Attainable, Relevant and Time-bound). The solutions addresses all the issues raised by complainant and ensure preventive measure to avoid the same issue. Table 5.1 present the roles and responsibilities of GRM implementation.

Table 5.1: Roles and Responsibilities in GRM

Sl. No	Roles	Responsibilities
1	Labour Contractor	Ensure all the grievances raised by the workers or local community must be registered at site. Work along with contractor and vendors to resolve the issues raised by the complainant.
2	EHS Coordinator	Ensure that concerns raised by the workers and community must be registered and evaluated as per the required procedure.
3	Contractor	Must ensure that all the issues raised must be investigated in details and timely solution provided to the complainant. Must ensure continuous monitoring of the issues raised and evaluate the effectiveness of the solutions.
4	Vendor	Ensure that all the issues raised must be evaluated in details and timely solution must be provided in all the cases. Must ensure that issue once raised should be monitored continuously to prevent its reoccurrence. All grievances must be reported to EESL, along with the corrective action and timeline
5	EHSS/CMU (Complaint Management Unit)	Keep track of grievances and monitor their progress carefully. Ideate on newer methods of obtaining grievances from various sources(e.g. setting up SMS/internet messaging based groups, consolidating list of mobile numbers and sending alerts to stakeholders).

62. **Monitor the issues registered on a regular basis.** The issues raised in the grievance mechanism shall be assessed monthly for the actions being taken and its closure. These analyses help in the trend analysis of the issues taking place at the workplace and to assess the effectiveness of the solutions provided by the system.

6. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

6.1 Implementation Arrangements

63. The project will be implemented by starting from April 2020 until end of March 2025. EESL also operates as a government-owned ESCO in order to facilitate energy efficiency investments including work designing, implementing, monitoring and investing in energy-efficiency projects. EESL has completed several projects on solar PV, e-vehicles, street lighting programme, DELP, and AgDSM.

64. EESL has an existing PMU. This PMU will also be responsible to administer, coordinate, monitor, and report on the progress of project implementation to ADB and the GoI. Oversight functions has done by the EESL Board of Directors. The PMU consist of technical, financial, and procurement staff. Safeguards compliance is being administered and monitored by SDU/EHSS of EESL. Additional support staff has been designated to ensure compliance to the requirements of ADB's SPS 2009. ADB will conduct regular project review and facilitate the project implementation.

65. The SDU-ESSL will be supported by the EHSS team and their consultants to ensure compliance to the relevant national and state environmental requirements including that of ADB. If needed, additional safeguard consultant will be recruited.

6.2 Responsibilities During Implementation

66. During implementation, SDU-EESL will be responsible for ensuring that the Implementing Partners specifically those dealing with waste management comply with applicable regulations of the MoEFCC, CPCB, and the SPCBs.

67. The EHSS team and their consultants will provide the technical support to the PMU-EESL on environmental, occupational health & safety and social issues. They will ensure that the waste management-monitoring summary is prepared and incorporated in the project's Progress Report submitted to ADB. SDU will also be responsible for preparation of environmental monitoring reports for submission to ADB as part of project quarterly progress report.

68. ADB will review the REA checklist, waste management monitoring summary and environmental monitoring reports submitted by PMU-EESL. **Table 6.1** presents a summary of responsibilities during implementation.

Table 6.1: Summary of Responsibilities During Implementation

Project Stage	SDU-EESL	ADB
Site selection for the project components	<ul style="list-style-type: none"> Screen and review subprojects based on this EARF and EHSS-EESL Ensure that subprojects also refer to relevant national requirements/regulations 	---

Project Stage	SDU-EESL	ADB
	<ul style="list-style-type: none"> • Complete the REA checklist and environmental assessment checklist to ensure that only Category 'C' will be included • Review the environmental implications of subproject • Prepare the short DDR (not exceeding 3 pages) on rationale for the subproject as Category C. 	<ul style="list-style-type: none"> • Review the REA checklist and environmental assessment checklist submitted by PMU-EESL • Inform the PMU-EESL on the no objection for funding of the subproject • Provide guidance to PMU-EESL in selecting target states, if needed.
Identification/finalization of target state or location	<ul style="list-style-type: none"> • Ensure that Solar PV sites are within existing substation land and no land acquisition is involved. • Supervise consultation process by the media consultant and the EHSS team (if needed) • Include the provision in the bid documents (or RfP) that collection, transport, storage and disposal of waste generated be done following the requirements of CPCB/SPCBs • Require the submission of relevant government permits and valid license of implementing partners such as vendors/suppliers, etc. as appropriate • Include outcome of consultations in the QPR submitted to ADB 	<ul style="list-style-type: none"> • Review Feasibility Reports • Review bid documents/evaluation
Implementation of subprojects	<ul style="list-style-type: none"> • Ensure that complaints call centres or other GRM approaches work properly • Verify/monitor implementing partners on their valid government permits/licenses • Undertake public consultations (if needed) together with EHSS team and their consultants • Prepare the waste management monitoring summary as part of project's QPR submitted to ADB • Prepare semi-annual environmental monitoring report. 	<ul style="list-style-type: none"> • Monitor progress of implementation during Review Missions • Verify that implementing partners have valid government permits/license

6.3 Capacity-building Needs

69. The following areas for capacity building will be included to ensure that EHSS team, PMU-EESL, ULBs, DISCOMs, and vendors/suppliers are aware of and understand the requirements of ADB:

- (i) Familiarization of and compliance to the requirements of SPS 2009 and on how to incorporate environmental and social safeguards consideration in project

- development and implementation (EHSS team, PMU-EESL, ULBs, DISCOMs, and vendors/suppliers);
- (ii) Development of public information material on energy efficiency and environmental benefits (PMU-EESL);
 - (iii) Monitoring and reporting during implementation in compliance with SPS 2009 (PMU-EESL, SDU); and
 - (iv) Training on the implementation of the corporate EHSS management system (PMU-EESL, SDU).

7. MONITORING AND REPORTING

70. At the project level, SDU-EESL will be responsible for monitoring the compliance of the Implementing Partners particularly those responsible for the supply, collection, transport, storage and disposal of replaced smart meters, PV panels, e-vehicles and batteries. SDU-EESL will regularly check that their government permits/licenses to manage wastes are valid. A summary report (in the format included in Appendix 4) on the waste collected and temporarily stored, transported and disposed by state, and by subproject, and method of disposal will be included in the report. These waste summary reports will be part of the QPR submitted to ADB. Any other environmental impacts arising will also be recorded in the QPR.

71. QPRs will also include safeguards information and progress on implementation of mitigation measures, focusing on compliance and any needed corrective actions. Public consultation will be conducted as necessary during implementation and operation phases. ADB will conduct periodic review missions, which will include a review of safeguard implementation issues. A proposed template for safeguards information and monitoring report is provided in Appendix 4.

APPENDIX 1: ADB Prohibited Investment Activities List

The following activities do not qualify for the Asian Development Bank financing:

- (i) Production or activities involving harmful or exploitative forms of forced labor⁵ or child labor;⁶
- (ii) Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase-outs or bans, such as (a) pharmaceuticals,⁷ pesticides, and herbicides,⁸ (b) ozone-depleting substances,⁹ (c) polychlorinated biphenyls¹⁰ and other hazardous chemicals,¹¹ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,¹² and (e) transboundary trade in waste or waste products;¹³
- (iii) Production of or trade in weapons and munitions, including paramilitary materials;
- (iv) Production of or trade in alcoholic beverages, excluding beer and wine;¹⁴
- (v) Production of or trade in tobacco;
- (vi) Gambling, casinos, and equivalent enterprises;
- (vii) Production of or trade in radioactive materials,¹⁵ including nuclear reactors and components thereof;
- (viii) Production of, trade in, or use of un-bonded asbestos fibers;¹⁶
- (ix) Commercial logging operations or the purchase of logging equipment for use in ^{[[SEP]]}primary tropical moist forests or old-growth forests; and
- (x) Marine and coastal fishing practices, such as large-scale pelagic drift net fishing ^{[[SEP]]}and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

⁵ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

⁶ Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

⁷ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

⁸ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

⁹ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ^{[[SEP]]}ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is ^{[[SEP]]}available at <http://www.unep.org/ozone/montreal.shtml>.

¹⁰ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical ^{[[SEP]]}transformers, capacitors, and switchgear dating from 1950 to 1985.

¹¹ A list of hazardous chemicals is available at <http://www.pic.int>.

¹² A list is available at <http://www.cites.org>.

¹³ As defined by the Basel Convention; see <http://www.basel.int>.

¹⁴ This does not apply to subproject sponsors who are not substantially involved in these activities. Not substantially ^{[[SEP]]}involved means that the activity concerned is ancillary to a subproject sponsor's primary operations.

¹⁵ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

¹⁶ This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

APPENDIX 2: Rapid Environmental Assessment (REA) Checklist

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (SDES), for endorsement by Director, SDES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways crossed by alignment, resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to project construction and operation ?			

Screening Questions	Yes	No	Remarks
▪ noise and vibration due to blasting and other civil works?			
▪ involuntary resettlement of people? (physical displacement and/or economic displacement)?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.			
▪ Generation of solid waste and/or hazardous waste?			
▪ Use of chemicals?			
▪ Generation of wastewater during construction or operation?			

A Checklist for Preliminary Climate Risk Screening

Country/Project Title:

Sector:

Subsector:

Division/Department:

Screening Questions		Score	Remarks ¹⁷
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s) ?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): ____.

Other Comments: _____

Prepared by: _____

¹⁷ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

APPENDIX 3: Solar PV Sub-Project Safeguards Screening Checklist

Sub-Project Name:

Location: village

Ward No., VDC, District

1. Project Description

Total capacity: MW

Solar panels:

- number

- capacity/panel Wp

Control Building area: m²

2. Project Site

Total structure footprint: m²

Land type: cultivation forest shrubland
 grassland yard degraded land

Ownership: private government community

Protected Area (PA)
or PA buffer zone: yes no

If yes, name & describe
(distance & location
relative to site, etc):

.....

Other unique values on
site or nearby:

primary forest unique / aesthetically valuable landform
 cultural heritage site other

If yes, name & describe
(value, distance & location
relative to site, etc):

.....

3. Benefits

Power supply:

- households

- institutions School/s -----

Health post/s -----

- businesses -----

- community facilities -----
 (e.g. agriculture) -----

4. Adverse Impacts

Forest clearance/approval: ----- m² for main structures; if required.

----- no. of trees to be cut/felled

Any conservation
significant species to be cleared: yes no

If yes, name species &
describe significance: -----

5. Selection / Eligibility Criteria

1. Subproject is located within existing substation premises:
2. No land acquisition involved
3. Categorized as Environment Category C for ADB
4. No adverse environmental and social impacts anticipated.

APPENDIX 4: Outline of Safeguard information in the QPR

1. Proposed format of Environmental Management Plan (EMP)

Project Stage	Project Activity	Potential Environmental Impacts	Mitigation Measures	Location	Institutional Responsibility	Cost Estimate
Pre-construction and Design						
Construction						
Operation						
Decommissioning						

2. Proposed format of Monitoring the environmental elements

Project Stage	noise	air	Location
Pre-construction			
Construction			
Operation			
Decommissioning			

3. Proposed format of land records

Land Records	Attached YES/NO
Land Ownership Deed: duly registered under applicable law in India for lands for the farmer.	
OR Land lease agreement: registered with local land office, more than 10 years remaining. Lease agreement more than 10 years	
OR Direct purchase of new land by individual farmer on —willing buyer-seller basis: prices, names and addresses of peoples witnessed the act of price negotiations and payment, and evidence of actual payment.	

4. Summary of Waste Management

Table 1: Proposed Format of Waste Management Monitoring Summary (Smart meters)

Contract No.	Implementing Partner	Date	Type of Subproject	Location of Subproject	Amount of Smart Meters			
					D	C	T	Disp

Note: D – distributed; C – collected; T – transported; Disp. – Disposed; Implementing partner could be DISCOMs, ULBs or vendors/suppliers

Table 2: Proposed Format of Waste Management Monitoring Summary (PV Panels)

Contract No.	Implementing Partner	Date	Type of Subproject	Location of Subproject	Amount of PV Panels			
					D	C	T	Disp

Note: D – distributed; C – collected; T – transported; Disp. – Disposed; Implementing partner could be DISCOMs, ULBs or vendors/suppliers

Table 3: Proposed Format of Waste Management Monitoring Summary (e-Vehicles)

Contract No.	Implementing Partner	Date	Type of Subproject	Location of Subproject	Amount of e-Vehicles / Batteries			
					ES	BC	BT	Disp

Note: ES – e-vehicles supplied; BC – batteries collected; BT – batteries transported; Disp – Disposed; Implementing partner could be DISCOMs, ULBs or vendors/suppliers

5. Public Consultation

(Instruction: Please attach the notes of the consultation held with the APs and their willingness to adopt the new replacement. The consultation notes must be supported by signature/thumb print of the participants. Photographs of such meetings are encouraged.)

Safeguards Screening Checklist Prepared by (Name of the proponent official/consultant):

Designation:

Date:

Safeguards Screening Checklist Reviewed & Cleared by (Name of the EESL official/consultant):

Designation:

Date: