

SREP Extended Biogas Program  
**ENVIRONMENTAL AND SOCIAL SAFEGUARDS SUPERVISION FRAMEWORK**

## **1.0 Background**

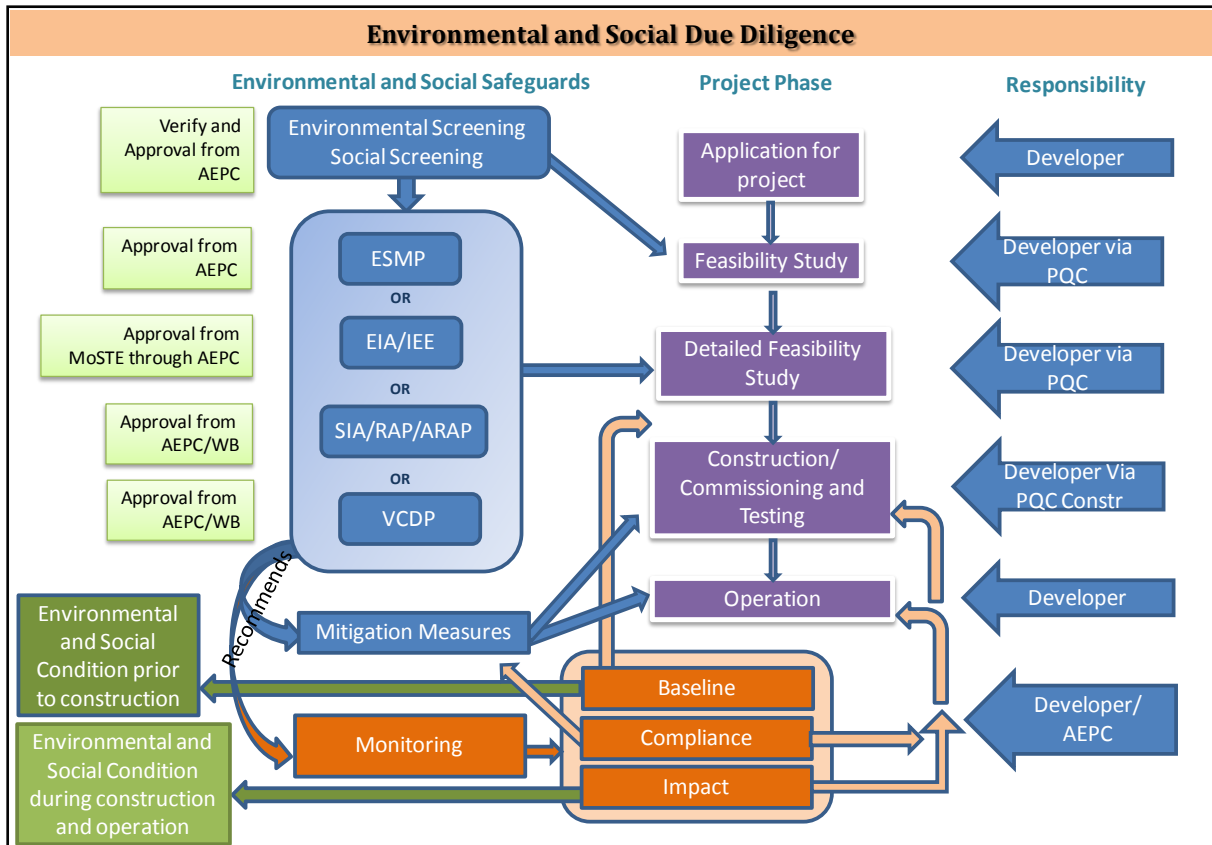
The Scaling up Renewable Energy Programme (SREP) Extended Biogas Programme envisioned promotion of large biogas projects in commercial entities and municipalities by using their commercial biodegradable wastes and municipal solid waste (MSW). These projects will produce renewable energy (biogas) and compost manure. Thus produced biogas can be used in thermal applications like heating and cooking requirements and electricity generation. Waste to energy projects are environmentally beneficial in nature, since these projects intend to recover energy from the waste and minimize the quantity of waste to be disposed. However such projects can still have environmental and social impacts/risks such as occupational health and safety, improper disposal of by-products thereby creating threat to sanitation and environmental pollution, social grievances related to project schemes and involuntary land acquisition and displacement of inhabitants mainly in larger projects. The prime objectives of considering environmental and social safeguards in SREP sub-project interventions are to make project environment friendly, sustainable as well as socially acceptable.

The SREP sub project interventions must assure environmental and social safeguards during construction and implementation phase. Based on the environmental and social screening performed during feasibility study period, every sub-project shall be categorized in Category "A", "B" or "C". The "Category C" projects with minimal environmental and social impacts require preparation of Environmental and Social Management Plan (ESMP). Similarly, projects fall under Category "B" with moderate environmental and social impacts needs the preparation of Initial Environmental Examination (IEE), whereas that falling under "Category A" requires Environmental Impact Assessment (EIA) prior to project implementation. From social impact point of view, if any project affect more than 50 people due to involuntary land taking and/or physical relocation or losing 10% or more of their productive (income generating) assets, requires preparation of Social Impact Assessment (SIA) and Resettlement Action Plan (RAP). If such impact is influenced to less than 50 people, Abbreviated RAP shall be prepared. Similarly, the Vulnerable Community Development Plan (VCDP) shall be prepared if the sub-project affect vulnerable communities like disadvantaged and deprived groups, marginal communities, including Indigenous People/communities.

## **2.0 Environmental and Social Due Diligence**

Generally, the large biogas plants upto 100m<sup>3</sup> would have very less environmental and social impacts and can be mitigated very easily, if we consider such impacts during planning phase. Such impacts would be occupational health and safety aspects, sanitary issues, increased noise level due to construction activities and waste management issues during construction phase. During operation phase, improper waste transport and storage could lead to sanitary threat. The byproduct wastes and effluents from biogas plants (bio-slurry and excess water removal, pathogens in some cases) contents excess Biochemical Oxygen Demand (BOD), pathogens could lead to water pollution, if directly discharged into surface water. The massive underground biogas plants would result substantial amount of mucks/spoils and need adequate disposal. Increased noise level would be very common in most of electrification projects. In other hand, larger projects including MSW projects would require involuntary land acquisition and displacement of inhabitants. In such larger schemes, vegetation removal, significant land use conversions can also be envisaged.

However, the scale and significance of environmental and social impacts does not completely depend on size of the projects, but on environmental and social settings prevailed in and around project location. In order to deal with such environmental and social impacts and its mitigation, AEPC has prepared Environmental Management Framework (EMF) as well as Social Management Framework (SMF). The eligible commercial as well as MSW biogas projects must ensure environmental and social due diligence. The overall implementation modality of such environmental and social due diligence is presented below.



**Abbreviation Used:** PQC: Prequalified Consulting Firm, PQC Constr: prequalified Construction Company, ESMP: Environmental and Social Management Plan, EIA: Environmental Impact Assessment, IEE: Initial Environmental Examination, SIA: Social Impact Assessment, RAP: Resettlement Action Plan, VCDP: Vulnerable Community Development Plan, AEPC: Alternative Energy promotion Centre, WB: World Bank

### 3.0 Verification during Planning Phase

#### 3.1 Environmental and Social Screening during Feasibility Study phase

The environmental and social screening performed by a developer through prequalified consulting firm will be verified by AEPC Environmental & Social Specialist (ESMF focal person). This verification includes risk categorization and potential impacts reported in screening and shall be done for every project (during initial phase of SREP implementation) once after submission of such screening reports. Followings are the lists to be accomplished during – environmental and social screening verification.

- Verification of specific impacts/ issues mentioned in environmental/social screening by visual inspection and interview
- Verification of social specific impacts/ issues (no. of land parcels to be acquired and no. of households/population to be resettled or impact on livelihood)
- Verification of risk categorization (A, B or C) done in environmental screening by site inspection, and as per EMF, SMF, Environment Protection Act (EPA) /Environment Protection Rules (EPR) 1997 and World Bank Safeguard Policies
- Confirm need for ESMP, IEE, EIA, SIA, RAP, ARAP, VCDP etc with areas of concern specific to the subproject (location and nature)
- Any environmental or social issues raised by communities or nearby inhabitants.

Based on the available logistics, and accuracy of screening performed by prequalified consulting firm, the verification process shall be amended in later stage (visit to few samples or as and when required only)

The status of environmental and social screening of pipeline subprojects (Format presented in **Annex 1**) shall be updated to World Bank.

### **3.2 Review of Environmental and Social Safeguard Documents**

Based on the screening performed during feasibility study, the developer shall prepare and submit sub project specific environmental and social safeguard documents (ESMP, IEE, EIA, SIA, RAP, Abbreviated RAP and VCDP). While doing so, the developer can hire prequalified consulting firm with or without conjunction with expert consulting firm/individuals.. Such safeguard documents shall prescribe evaluation of associated impacts identified during screening, pragmatic mitigation measures of associated impacts and monitoring plan for compliance of implementation of mitigation measures during construction and operation phase. The review and approval process is summarized in bullets below:

- **ESMP** : Customized ToR of ESMP for each subproject will be issued by AEPC; ESMP report review by AEPC, cleared by World Bank (for first few ESMPs) and approved by AEPC
- **IEE**: Prior review (Both ToR and IEE Report) by AEPC and World Bank, review and approval by Ministry of Science Technology and Environment (MoSTE); Approval as per provisioned in Environment Protection Act (EPA) 1997 and Environment Protection Rules (EPR) 1997.
- **EIA**: Prior review (Scoping Document, ToR and EIA Report) by AEPC and World Bank, review and approval by Ministry of Science Technology and Environment (MoSTE); Approval as per provisioned in Environment Protection Act (EPA) 1997 and Environment Protection Rules (EPR) 1997.
- **SIA/RAP/Abbreviated RAP and VCDP**: ToRs and reports review by AEPC, cleared by World Bank and approved by AEPC

### **3.3 Integration of safeguard documents in subproject documents**

The subproject specific safeguard document is integral part of DFS report. The recommendations of ESMP or EIA/IEE, and/or SIA/RAP/VCDP etc must be integrated into the project's plan and design, budget, specifications, cost estimate, bid documents, contract/ agreement clauses. Bid documents are only finalized when ESMP (or EIA/IEE or SIA/RAP/VCDP) recommendations costs of mitigations if required, are adequately and appropriately incorporated.

## **4.0 Monitoring and Supervision during construction and operation phase**

### **4.1 Subproject level Monitoring and Supervision**

The sub-project level safeguard documents (ESMP, IEE, EIA, SIA, RAP, and VCDP) shall present detail pictures of the project impacts and mitigation measures. All the prescribed mitigation measures shall be strictly implemented by the Construction Company and developer. The subproject specific monitoring and supervision responsibility, as prescribed by safeguard document is given to developer. The developer can perform such monitoring and supervision activities by himself or through prequalified construction company or hired expert firm or individual expert consultants.. In order to check and verify such monitoring, the central monitoring and supervision will be conducted by AEPC.

### **4.2 Central Monitoring and Supervision**

In order to verify the mitigation and monitoring performed by the developer during both construction and operation phase as prescribed by sub-project specific safeguard documents, AEPC will perform central level monitoring and supervision of environmental and social safeguards. The central level monitoring and supervision shall be conducted by ESMF focal person (environmental and social safeguard expert/officer) of AEPC or through AEPC designated third party individual or consulting firm. The overall supervision framework is presented as followed:

#### **4.2.1 Compliance of implementation of mitigation measures**

The proponent/developer will regularly monitor and report the progress in environmental and social mitigations and compliance to AEPC. The developer will report these progresses as per environmental and social safeguard documents to AEPC in monthly basis. While preparing such report, the developer, if needed, may seek help from Construction Company and/or any expert consultants. The format for reporting is provided in **Annex 2**.

On the other hand, AEPC will check compliance with implementation of mitigation measures as suggested in subproject specific safeguard document regularly. The table below presents the central level monitoring and supervision framework.

**Table: Central Level Supervision of environmental and social safeguards implementation**

Category	Method	Sample plants to be monitored	Schedule*
<b>Early SREP Implementation Phase (for first 20 sub-projects)</b>			
Category C Projects	Site Inspection; verification of compliance with safeguard document	All plants	Construction (three monthly) and operation Phase
Category B and A Projects	Site Inspection; verification of compliance with safeguard document	All plants	Construction (three monthly) and operation Phase
<b>SREP Implementation Phase</b>			
Category C Projects	Site Inspection; verification of compliance with safeguard document	10% of total plants within each trimester <sup>+</sup>	Construction (three-monthly) and Operation Phase
Category B and A Projects	Site Inspection; verification of compliance with safeguard document	All plants	Construction (three monthly) and Operation Phase

\* *There will be at least two monitoring/supervision visits for each subproject: once in construction phase and another in operation phase. The first visit shall be done during construction phase, while the second visit during operation phase after six months of operation of subproject.*

<sup>+</sup> *For category C projects during SREP Implementation phase, 10% of total plants which are in construction and operation phase with six months of operation within each trimester will be monitored.*

During the central level monitoring/supervision, if the subprojects are found to be non-compliance, corrective actions will be prescribed. AEPC/WB will request to developer for immediate response over such recommendations and corrective measures. Even after this upon the finding unsatisfactory conditions, AEPC may take decision for suspension of the project or cancellation for subsidy as mentioned in the deviation, consequence and implementation mechanism at any stages mentioned above.

### 4.3 Responsibility of conducting central level monitoring/supervision

AEPC's Environmental and Social Specialist shall be responsible for conducting central level monitoring/supervision. While doing this, AEPC can hire individual consultant/third party consulting firm for such monitoring/supervision.

The District Energy Environment and Climate Change Section(DEECCS)officers will be involved in central level monitoring and supervision of plants during construction phase.

### 4.4 Reporting

The outcomes of environmental&social safeguard monitoring/supervision will be prepared and shared with World Bank on Trimester Basis (Jan-Apr, May-Aug, and Sep-Dec). The report shall be shared no later than 45 days after the end of trimester (as stated in Section II Part A 1 of Grant Agreement). The outcomes of monitoring and supervision including implementation status as well as recommendation of corrective actions if any shall be included in report. The generic format of reporting is presented in **Annex 3**.

**Annex 1: Format for summary status of environmental and social screening of pipeline subprojects**

SN	Sub-Project, Address	Capacity m3, enduse, Biogas Design, Construction Process	Type of Waste Input and process outputs	Potential Env./Social Impact	Category and justification	Verification and Clearance of Screening report	Remarks

## Annex 2: Subproject Level Environmental and Social Safeguard Monitoring Report

Subproject Name: .....

Address: .....

Capacity and end use: .....

Project Category: .....

Safeguard Document prepared: .....

Construction started on: ..... Construction Completed on:.....

Date of Testing and Commissioning: .....

Date of Reporting .....

S N	Mitigation Measures of significant impacts	Implementation of Major Mitigation Measures	Compliance status <sup>1</sup>	Compliance Rating <sup>2</sup>	If not implemented what is the reason?	Evidences of implementation of mitigation measures
Construction Phase						
1						
2						
3						
4						
Operation Phase						
1						
2						
3						
4						

**Notifications:**

1. Compliance Status: Under implementation = **U**; Implemented =  $\checkmark$ ; Not implemented =  $\times$
2. Compliance Rating: Excellent = **E**; Satisfactory = **S**; Moderately Satisfactory = **M**; Unsatisfactory = **U**

**Reported by**

Name: .....

Institution .....

Contact No. : Phone No. .... Mobile No.: ..... Email: .....

Signature:

(Attach evidences of compliance of specific mitigation measures implemented for eg. photographs/test reports/lab reports etc.)

**Annex 3: Central Level Monitoring/Supervision Sample Reporting Format**

S N	Sub-Project, Address	Capacity m3, enduse, Biogas Design, Construction Process	Category (A, B or C)	Safeguard document prepared	Mitigation Measures of significant impacts as specified in safeguard document	Implementation of Major Mitigation Measures	Compliance status/ Indicators	Compliance Rating and justification	Supervision Period (Construction or Operation) and Date of Inspection	Recommendations (corrective actions), if any

3. Notations: End use (TH = Thermal, EL = Electrification); Categorization of project: (A, B or C); Compliance Status: Under implementation = U; Implemented = √; Not implemented = ×  
Compliance Rating (E = Excellent; S=Satisfactory; M=Moderately Satisfactory; U=Unsatisfactory)