



LIBERIA ELECTRICITY CORPORATION (LEC)

AND

RURAL AND RRENEWABLE ENERGY AGENCY (RREA)]

Liberia Electricity Sector Strengthening and Access Project (LESSAP-2)
(P180498)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

September 30, 2024

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Abbreviations and Acronyms

ABC	Aerial Bundled Conectors
ACMS	Asset and Customers Mapping Survey
AMI	Advanced Metering Infrastructure
CO	Carbon Monoxide
CSC	Customer Service Centers
E&S	Environmental and Social
EaaS	Energy as a Service
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ELF	Extremely Low Frequency
EMF	Electromagnetic Field
EPA	Environmental Protection Agency
EPML	Environmental Protection and Management Law
ESCP	Environmental and Social Management Plan
ESF	Environmental and Social Framework
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMAP	Energy Sector Management Assistance Program
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMU	Environmental and Social Management Unit
ESS	Environmental and Social Standard
EXCEL	Excellence in Learning in Liberia
FSMS	Field Service Management System
GAP	Gender Action Plan
GBV	Gender-Based Violence
GCP	Grid Code Participant
GEF	Global Environment Facility
GIS	Geographic Information System
GIIP	Good International Industry Practice
GRC	Greivance Redress Committee
GM	Grievance Mechanism
HCs	Hydrocarbons
Hz	Hertz
ICNIRP	International Commission for Non-Ionizing Radiation Protection
IDA	International Development Agency
IMS	Integrated Management System
LEC	Liberia Electricity Corporation
LEGC	Liberia Electricity Grid Code
LERC	Liberia Energy Regulatory Commission
LESSAP	Liberia Electricity Sector Strengthening and Access Project
LIBTELCO	Liberian Telecommunication Corporation
LIRENAP	Liberia Renewable Energy Access Project
LISGIS	Liberia Institute of Statistics and Geo-Information Services
LITS	Liberia Interconnection Transmission System
LLA	Liberia Land Authority

LMP	Labor Management Procedure
LV	Low Voltage
LWSC	Liberia Water and Sewer Corporation
MDM	Meter Data Management
MEA	Multilateral Environmental Agreements
MME	Ministry of Mines and Energy
MFDP	Ministry of Finance and Development Planning
MOH	Ministry of Health
MPA	Multiphase Programmatic Approach
MPW	Ministry of Public Works
MV	Medium Voltage
NEOHP	The National Environmental and Occupational Health Policy
NEP	National Energy Policy
NO _x	Nitrogen oxides
NPHIL	National Public Health Institute of Liberia
NTLA	National Transition Legislative Assembly
NWSHC	National Water Sanitation and Hygiene Commission
OGS	Off-Grid Solar
OHS	Occupational Health and Safety
PCBs	Polychlorinated Biphenyls
PCMU	Project Coordination and Management Unit
PIU	Project Implementation Unit
PM	Particulate matter
PMT	Project Management Team
PRS	Poverty Reduction Strategy
PUE	Public Use of Electricity
PV	Photo-Voltaic
RAP	Resettlement Action Plan
RBF	Results-Based Financing
ROW	Right(s)-of-Way
RF	Resettlement Framework
RREA	Rural and Renewable Energy Agency
SCADA	Supervisory Control and Data Acquisition
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SHS	Solar Home Systems
SOP	Standard Operating Procedure(s)
SO _x	Sulfur oxides
STD	Sexually Transmitted Disease(s)
STI	Sexually Transmitted Infection
TSO	Transmission System Operator
UNDP	United Nations Development Program
USAID	United States Agency for International Development
VOC	Volatile organic compound
WASH	Water, Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
WMP	Waste Management Plan
WSS	Water Supply and Sanitation

Executive Summary

The World Bank will be supporting Liberia Electricity Corporation (LEC) and the Rural Renewable Energy Agency (RREA) in implementing phase 2 of the Liberia Electricity Sector Strengthening and Access Project (LESSAP-2). The proposed Project Development Objective (PDO) of the second phase of the MPA is to expand the access to electricity services and enhance the operational performance of the Liberia Electricity Corporation (LEC) and increase access to grid electricity for households, businesses, and institutions. In addition, the project will also provide off-grid electricity solutions to health institutions and households outside the reach of the current grid network under the Rural Renewable Energy Agency component. The project will support the following activities: (i) Grid electrification mainly in the Capital Monrovia and economic corridors of Margibi and Bomi counties implemented by LEC, and off-grid solar electrification in health centers and remote communities to be spearheaded by Liberia's Rural and Renewable Energy Agency (RREA). The grid component to be implemented by LEC will: (a) increase grid electricity access by rehabilitating and expanding medium voltage (MV) and low voltage (LV) distribution network and connect new households and business; (b) reduce commercial losses by replacing all faulty meters and regularizing all unmetered or illegally connected households and businesses as well as implementing revenue protection measures; (c) decentralize the operations (technical and commercial) into districts to bring delivery of quality electricity services closer to consumers and help LEC to better manage commercial losses; (d) automate the technical operations to improve reliability of supply and better integration with Côte d'Ivoire, Liberia, Sierra Leone and Guinée (CLSG) interconnection; and (e) ensure a smooth transition to full-time sustainable management and strengthen the managerial and staff capacity of LEC to ensure its operational and financial sustainability. The off-grid component will extend solar photo voltaic (PV) electricity services primarily to remotely located health facilities. Guided by Liberia's National Export Strategy (NES), the component will also support a design and implementation of a pilot for a more concessional approach to deploy solar home systems (SHS) to households in very remote and dispersed communities, and support single-community smaller mini-grids in areas where it is feasible.

The grid electrification would be implemented in communities mainly in the capital Monrovia and in the economic corridors of Margibi and Bomi counties. These communities either have existing electricity or there is an ongoing electrification project because not all areas of the communities would benefit from LESSAP-2. The actual existing networks to be rehabilitated and the distribution line routes for network extension will be determined after the detailed design works are completed.

The off-grid solar (OGS) component will be implemented across all 15 counties with an estimated that about 300 health facilities will benefit from the OGS. However, the selection of the specific health facilities and their locations has not yet been completed. The RREA is collaborating with the Ministry of Health (MOH) to select the health facilities to benefit from the Project. The communities to benefit from the pilot solar mini grids and the SHS will be selected from the report of the NES study which is in the final stages of completion. Communities will be selected from all counties, including Montserrado County.

This Environmental and Social Management Framework (ESMF) has been prepared to identify the potential environmental and social risks and impacts of proposed Project activities and propose suitable mitigation measures to manage these risks and impacts. It maps out the Liberia's laws and regulations and the World Bank policies applicable to the Project, and describes the principles, approaches, implementation arrangements, and environmental and social mitigation measures to be followed.

Potential Environmental and Social Risks for Project Activities

LESSAP phase 2 will likely not create significant environmental and social impacts. Hence the Project's environmental and social risk is classified as 'Moderate'. However, the construction activities are likely to have some negative environmental and social impacts which are highlighted below:

Environmental Risks include:

- **Habitat disruption:** Clearing of vegetation for power lines may result in habitat loss or fragmentation.
- **Soil erosion:** Construction activities can lead to soil disturbance and erosion.
- **Air pollution: Dust** and emissions from construction equipment can contribute to temporary air quality issues.
- **Water contamination:** Construction near water bodies can result in runoff and contamination of nearby water sources.
- **Wildlife collisions and electrocution:** Power lines can pose a threat to birds and other wildlife, leading to injuries or death.
- **Visual pollution:** Distribution lines may affect the landscape's visual appeal, particularly in scenic or protected areas.
- **Waste generation:** Construction can result in solid waste, including non-recyclable materials like cables and insulation. Also, solar panels contain hazardous materials (e.g., cadmium, lead), and improper disposal can lead to soil and water contamination.

Social Risks include:

- **Community Health and Safety:** Risks of accidents during construction (e.g., falls, electrocution), as well as potential exposure to electromagnetic fields (EMF) from operational lines.
- **Worker Health and Safety:** Potential OHS risks of accident during construction works.
- **Noise Pollution:** Machinery used in construction may create noise disturbances, affecting nearby communities.
- **Access and Mobility:** Construction activities can temporarily block roads or paths, affecting the mobility of local residents.
- **Traffic:** Construction vehicles and equipment can contribute to road traffic and accidents in the project area.
- **Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH):** Movement of labor into the project affected/beneficiary communities and its proximity with the local communities,

and their behavior at workplace could expose the poor and most vulnerable to Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in the poverty-stricken area

- **Child labor and forced labor:** Likelihood of contractor using laborers below the age of 18 will be allowed to work.

Key Environmental and Social Management Plans

During project appraisal, the LEC and RREA prepared and disclosed the SEP, ESRS and ESCP on LEC and RREA website on May 28, 2024, as well as the Bank website. This ESMF as well as the RF and LMP are also being prepared and will be disclose to guide the preparation of subsequent E&S Screening reports and Environmental and Social Management Plans (ESMPs) according to ESF, GIIP, and World Bank Environmental Health and Safety (EHS) Guidelines.

The E&S team of LEC and RREA updated and adopted the Stakeholder Engagement Plan (SEP) prepared under Phase 1. The existing Environment and Social Commitment Plan (ESCP) for Phase 1 was also updated for Phase 2 to address the environmental and social obligations of the Borrower as by the relevant ESSs and national regulations. Hazardous Waste Management Plans and E-waste plans will be prepared as part of the ESMP in line with the World Bank's EHS Guidelines and the Environment Protection Management Law of Liberia (2003). Other instruments that will be developed by the contractor shall include Occupational Health and Safety Management Plan and a Construction Environmental and Social Management Plan. In addition, the project has hired a GBV consultant under LESSAP 1 to develop a GBV action plan in order to mitigate potential SEA/SH risks and impacts.

The grievance redress mechanism (GRM) established for LESSAP 1 will be utilized to resolve complaints and grievances in a timely, effective, and efficient manner. Project related grievances can be submitted for in response to detrimental impacts on the community, the environment, or on their peoples' quality of life. Stakeholders may also submit comments and suggestions. The GRM provides complaint or resolving measures for any dispute, appropriate redress actions and avoids the need to resort to judicial proceedings. Grievances will be handled at the local community and project level (PCMU/PIU) by Grievance Redress Committees (GRCs) established through PCMU/PIUs at LEC/RREA, including via a dedicated hotline which were established for LESSAP 1 by LEC and RREA.

In addition, the contractor shall be required to also develop a Workers' Grievance Redress Mechanism to mitigate resolve work-related complaints.

The project-implementing agencies have experience implementing World Bank-funded projects and are familiar with the World Bank's safeguard policies and ESF. Based on the nature of potentially adverse environmental impacts that are likely to be site-specific, and manageable with appropriate mitigation measures in place, and the agencies' capacity to implement mitigation measures, the project environmental risk is assessed and rated as moderate.

In summary, the key Environmental and Social Management Plans prepared including those planned to be prepared in line with the ESCP to manage project anticipated risks and impacts during implementation include:

1. Stakeholder Engagement Plan (SEP)
2. Labor Management Plan (LMP)
3. Environmental and Social Management Plan (ESMP)
4. Environmental and Social Code of Practices (ESCoPs)
5. Construction Environmental and Social Management Plan (CESMP)
6. Gender Action Plan (SEA/SH Action Plan)
7. Waste Management Plan

Implementation Arrangements

LESSAP will be implemented jointly by the Rural and Renewable Energy Agency of Liberia (RREA) and the Liberia Electricity Corporation (LEC). RREA will be responsible for implementing the off-grid electrification component (Component 2), while LEC will be responsible for implementing the on-grid electrification and TA components (Components 1&3). The Ministry of Mines and Energy (MME), and the Ministry of Finance and Development Planning (MFDP) will provide oversight over the two implementing agencies through Monitoring and Evaluation (M&E) on behalf of the Borrower (Government of Liberia). The proposed arrangements for project implementation aim to ensure efficiency and strengthen the LEC and RREA human and institutional capacity. LESSAP will capitalize on LEC and RREA experience gained in implementing previous and ongoing World Bank funded projects.

Currently, there is an existing safeguard team comprised of Environmental Specialist and a Gender and Social Safeguards specialist from LEC and RREA implementing and monitoring existing World Bank funded projects. The existing safeguard team will handle the E&S aspects of the Project based on experience, lessons learned, and knowledge gathered from existing projects. The Environmental Specialist and Social Safeguard Specialist of the ESMU of LEC and the Environmental and Social Safeguards Unit of RREA including the Project Manager/Coordinators of LEC /RREA will implement and monitor the Project relative to their components. Two additional Assistants (Environmental Assistant and Gender and Social Safeguards Assistant) would be hired under LESSAP 2 to augment the existing team at LEC and RREA.

The safeguard teams will also work with its Procurement Department during the selection of project contractors to incorporate the relevant E&S aspects identified in the ESIA/ESMP and the LMP into the ESHS specifications of the procurement documents for civil works. This is to ensure the contractors compliance with the ESHS specifications of their respective contracts. Measures related to hazardous waste and OHS management would be identified in the ESIA/ESMPs.

Monitoring

During implementation, the safeguards team will conduct regular monitoring visits to site. The site visits will be done on daily basis to effectively monitor and supervise construction works. The team will ensure that monitoring practices include the environmental and social risks identified in the ESMF and will monitor the implementation of E&S risk management mitigation plans as part of regular project monitoring. Impact and compliance monitoring will be practiced during the construction and operation phases of the proposed project. Monitoring will be conducted to verify the predicted impacts, examine the implementation and effectiveness of mitigation measures, respond to unanticipated environmental impacts, and improve environmental

controls. Monitoring will be conducted by trained individuals following monitoring and recordkeeping procedures and using properly calibrated and maintained equipment. Monitoring data will be analyzed and reviewed at regular intervals and compared with the operating standards so that any necessary corrective actions can be taken. Note that the scale/nature of the Project dictates that the level of the proposed monitoring plan (weekly, quarterly or annually), whereby small projects favor monitoring that is limited to visual observations and photographic documentation while large scale projects require quantitative assessment of several environmental parameters in addition to visual monitoring. The PCMU/PIU in collaboration with the EPA, or an independent consultant hired by the PCMU/PIU, will be responsible for the implementation of the monitoring program. The project will submit E&S implementation reports to the World Bank on a quarterly or biannual basis.

A separate **Stakeholder Engagement Plan** (SEP) has been prepared for the Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement. The SEP can be found [here](https://rrealiberia.org/new/pg_img/LESSAP%20%20E&S%20Appraisal%20Document%20Notice%20of%20Public%20Disclosure.pdf) for RREA: [https://rrealiberia.org/new/pg_img/LESSAP%20%20E&S%20Appraisal%20Document Notice%20of%20Public%20Disclosure.pdf](https://rrealiberia.org/new/pg_img/LESSAP%20%20E&S%20Appraisal%20Document%20Notice%20of%20Public%20Disclosure.pdf) and here for LEC: <https://lecliberia.com/wp-content/uploads/Stakeholder-Engagement-Plan-for-LESSAP-2.pdf>

1. Introduction

This Environmental and Social Management Framework (ESMF) is developed to support the environmental and social due diligence provisions for activities financed by the World Bank in the LESSAP-2. The project will support grid electrification mainly in the Capital Monrovia and economic corridors of Margibi and Bomi counties implemented by LEC, and off-grid solar electrification in health centers and remote communities to be spearheaded by Liberia's Rural and Renewable Energy Agency (RREA). The LEC and RREA will be implementing the Project activities.

This ESMF follows the World Bank Environmental and Social Framework (ESF) as well as the national laws and regulations of Liberia. The objective of the ESMF is to assess and mitigate potential negative environmental and social risks and impacts of the Project consistent with the Environmental and Social Standards (ESSs) of the World Bank ESF and national requirements. More specifically, the ESMF aims to (a) assess the potential environmental and social risks and impacts of the proposed Project and propose mitigation measures; (b) establish procedures for the environmental and social screening, review, approval, and implementation of activities; (c) specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social issues related to the activities; (d) identify the staffing requirements, as well as the training and capacity building needed to successfully implement the provisions of the ESMF; (e) address mechanisms for public consultation and disclosure of project documents as well as redress of possible grievances; and (f) establish the budget requirements for implementation of the ESMF.

This ESMF should be read together with other plans prepared for the project, including the Stakeholder Engagement Plan (SEP), the Environmental and Social Commitment Plan (ESCP), Labor Management Plan (LMP), Resettlement Framework (RF), etc.

2. Project Description

The Project Development Objective (PDO) of LESSAP-2 is to expand the access to electricity services, and enhance the operational performance of LEC, building upon the work carried out under LESSAP-1 to increase access to electricity and improve operational efficiency of the Liberia Electricity Corporation (LEC). LESSAP-2 has three main components and several sub-components. Components 1 & 3 are implemented by LEC whereas component 2 is implemented by RREA.

Component 1: Rehabilitation and Expansion of Electricity Infrastructure and Systems and Enhancement of LEC Revenue Protection (IDA US\$ 19.5 million): This component will expand the rehabilitation and expansion of the electricity infrastructure and systems, and further enhance the LEC financial performance.

Subcomponent 1a: Rehabilitation and expansion of the distribution network (IDA US\$ 6.5 million): The Subcomponent will complete the installation of the Supervisory Control and Data Acquisition (SCADA) System initiated under the first phase to ensure oversight, proactive network

problem detection and resolution, adequate network reliability, obtain required power quality data for real time operational decision. The Subcomponent will also continue the densification and expansion of distribution network. Since the number of communities identified under the first phase was reduced due to the reallocation of funds during the March 2023 restructuring, the proposed Subcomponent will intensify the network to include all households in the beneficiary communities and extend supply to the new communities along the corridor. This Subcomponent is essential for the operations and evacuation of future RE under the Liberia's Electricity Master Plan to increase the share of RE from 45% to 75% from 2020 to 2030[1]. The SCADA system will specifically collect data on technical loss reduction and promote energy efficiency and reduce GHG emissions, as captured in the GHG accounting of the project.

Subcomponent 1.b: Revenue Protection Program (IDA US\$13 million): The Subcomponent will enhance the installation of an advanced-metering infrastructure (AMI) platform under the first phase to include the connection and monitoring of large commercial customers via Meter Data Management (MDM) and ensure accurate measurement of their consumption and prevent tampering with metering systems. It will also fund the procurement of 100,000 prepayment meters for households that will support the replacement of damaged meters, new connection and regularization of illegal connections. In addition, the Subcomponent will support enhancements to the LEC Integrated Management System (IMS) through the addition of a Geographic Information System (GIS), a Field Service Management System (FSMS), and a mobile add-on to the Enterprise Asset Management module and the implementation of the Asset and Customers Mapping Survey (ACMS) for LEC to have accurate information on the point of sale of electricity due to the outdated and inaccurate customer database. The enhancements to the IMS will enable LEC to work with geographical network data and maintain that data as the network grows, control the dispatch and execution of field orders for meter installation, trouble call resolution, network operations and maintenance, and network design and construction activities. The ACMS and the enhanced IMS will also enable LEC to effectively manage client arrears and non-technical losses and improve operational efficiency. The revenue protection program will also help LEC recover the costs of investments in grid expansion.

Component 2: Off-grid Electrification of Households, Public Facilities, and Stimulation of Productive Uses in Rural Areas (IDA US\$ 20.5 million; ESMAP grant US\$ 3 million; private sector co-financing US\$ 1.5 million). This component will scale up the activities under the first phase off-grid electrification component with a focus on mobilizing private capital. Due to the groundwork laid out in phase one, the second phase would focus on accelerating the off-grid activities and devising methods of sustainability through private sector participation.

Subcomponent 2.a: Electrification of public facilities in rural areas (IDA US\$ 6 million):

Subcomponent 2.a (i): Electrification of health facilities: Liberia has about 836 functioning health facilities comprising 38 hospitals, 61 health centers and 736 clinics. About 95 percent of these facilities have no electricity or rely on costly diesel generators, and for the few that have grid electricity (mostly in the Capital Monrovia), supply is intermittent and of poor quality. Thus, electrification of health facilities has emerged as a priority especially following recent epidemics like Ebola and COVID-19. This Subcomponent will focus on the urgent provision of PV services to

selected health facilities to enhance the delivery of healthcare services and improve their resilience. It will target health facilities in underserved and remote rural areas in the country which are identified as priority by the Ministry of Health (MoH) in coordination with RREA. System Design: The facilities will be supplied with standalone or hybrid PV-with-battery energy systems which, depending on type and size of facility, are expected to supply electricity for, among others,

- a. medical equipment loads;
- b. inside and outside lighting; and
- c. office equipment.

System designs are standardized, informed by a series of site-specific technical assessments (energy audits), in close coordination between RREA and the MOH, under the LESSAP first phase, with eight standardized system sizes based on the level-of-service of facilities. Additional surveys will be carried out in parallel to implementation to further improve targeting and avoid donor overlap. The PV arrays would be mounted mainly on roof tops of buildings, walkways, or poles or in empty spaces within the facilities and thus would not require the acquisition of private lands. The lithium-ion batteries used in the designs are safer and easier to manage than other alternatives, with longer operational life and safer for final disposal. However, the batteries will still require special arrangements to ensure proper recycling/disposal after the end of their useful lives.

Subcomponent 2.a (ii): Electrification of education facilities: In addition to health facilities, the project will electrify education facilities. Sites will be selected in coordination with the Ministry of Education, with the aim to exploit synergies with ongoing World Bank interventions in the education sector such as Excellence in Learning in Liberia (EXCEL; P181455) as well as synergies from proximity to supported health facilities. The designs developed for health facilities will be adjusted based on energy surveys of education facilities, with the aim to develop a set of standardized, modular designs. Operation and maintenance will follow the same approach as the health facilities.

Subcomponent 2.b: Deployment of solar home systems for households and off-grid productive uses (IDA US\$ 10 million, ESMAP grant US\$ 1.5 million): The Subcomponent will support scaling up the program by providing results-based financing (RBF) to private off-grid solar companies for solar home systems (SHS) for households developed under the first phase and expand it to include larger systems for productive uses enterprises. The RBF is designed to support the affordability of solar PV systems through partial grants for direct price reductions (i.e., grants that directly translate into price reductions for end-consumers compared to prices charged in currently served areas) and indirect price reductions (i.e., grants that cover the increased costs of expanding the supply chain to cover new areas and/or implement new business models). The RBF was developed together with RREA and EnDev during the first phase and has so far attracted applications from 21 companies.

Component 3: Technical Assistance, training and capacity building of project implementation support (IDA US\$ 5 million, ESMAP grant US\$ 2 million): This component will cover the cost of strengthening the capacity of LEC Project Management Team (PMT) to manage and monitor implementation activities. It will include financing the cost of specialized consultants (technical, financial, procurement, audit, safeguards, etc.) and project staff to support the PMT, the

preparation of technical design and safeguards documents, community engagement and sensitization programs, working on inclusivity and implementation of a gender actions plan, among others. In addition, a Transaction Advisory (TA) contract will be financed to support the tendering of 70MWp of solar power generation.

The transaction advisory services will also support the Government in structuring and tendering bankable and sustainable utility-scale solar PV projects under the Independent Power Producer (IPP) model. The TA scope will include the preparation of feasibility reports, procurement package, financing instruments, risk assessment and mitigation measures, institutional arrangements, policy, legal, and regulatory enablers for IPP; as well as preparation of the environmental and social instruments for the project sites. The scope of the transaction advisory will determine whether and what type of de-risking instruments will be needed to launch the IPP tender (potentially, under the third phase of the MPA).

The LEC and RREA will coordinate project activities, including day-to-day implementation, coordination, supervision, and overall management of project activities. RREA will be responsible for implementing the off-grid electrification component (Component 2), while LEC will be responsible for implementing the on-grid electrification and TA components (Components 1&3). The Ministry of Mines and Energy (MME), and the Ministry of Finance and Development Planning (MFDP) will provide oversight over the two implementing agencies through Monitoring and Evaluation (M&E) on behalf of the Borrower (Government of Liberia).

3. Environmental and Social Policies, Regulations, and Laws

3.1 Legal Framework

The table below contains a summary of the list of national, state, and local policies, laws, and regulations that are relevant and directly applicable to the environmental and social risks and impacts of subproject activities.

Table 1: Relevant Legal Framework

Law	Description and Relevance to Project Activities
Constitution of the Republic of Liberia 1986	Article 7 of the 1986 Constitution of the Republic of Liberia sets the fundamental basis for the constitutional, legislative, and institutional frameworks for the protection and management of the environment. It also encourages public participation in the protection and management of the environment and the natural resources in Liberia.
The Environmental Protection Agency Act (2002)	The EPA Act establish monitoring, coordinating and supervisory authority for the sustainable management of the environment in partnership with regulated ministries and organizations. Section 37 of the EPA Act requires that a project proponent or developer conduct environmental and social impact assessment and obtain a permit from the EPA before undertaking activities that require

	<p>environmental impact assessment as defined by the EPA in its policies, guidelines, and regulations. Therefore, in line with the EPA Act, the implementation of sub-project activities under LESSAP-2 may require the preparation and implementation of an Environmental and Social Impact Assessment (ESIA) and ESMPs once the specific sites are known. Additionally, contractors' Construction Environmental and Social Management Plans (C-ESMPs) will be developed for the management and mitigation of project specific risks and impacts during implementation of LESSAP-2.</p>
Environmental Protection and Management Law (EPML) of Liberia (2003)	<p>The EMPL forms the legal framework for sustainable development, management and protection of the environment and natural resources by the EPA in partnership with relevant institutions and individuals. Part III of the EMPL establishes a comprehensive framework for ESIA, including procedures and substantive standards for the approval and rejection of projects. It also provides for public participation and procedures for appeals against EPA decisions.</p>
The Decent Work Act of Liberia (2015)	<p>The Decent Work Act is the national labor legislation that outlines worker's rights. The Decent Work Act (2015) contains provisions on several issues including, but not limited, wages and deduction, working hours and breaks, leaves, labor disputes, and OHS. It is anticipated that the sub-project activities would have potential health and safety risks and hazards to workers. Hence, a Labor Management Plan will be prepared in line with the Decent Work of Liberia to mitigate Labor-related risks and impacts.</p>
National Gender Policy 2009	<p>The National Gender Policy aims to eliminate the marginalization of women and girls by 2020, among other things by promoting gender-equitable socioeconomic development; enhance women's and girls' empowerment; increase gender mainstreaming in national development; and create strengthened structures, processes and mechanisms in which women participate equally and that ensure that women and men can equally access, control, and benefit from the country's resources. Section 4.1.6 focuses on human rights and gender-based violence (GBV) and calls for welfare programs to rehabilitate/reintegrate GBV survivors, establishment of shelters and provision on psychosocial support facilities, and regular conduct of GBV situation assessment. It also calls for strengthening legislations to respond to GBV, including rape, sexual exploitation and abuse, domestic violence, early and forced marriage and human trafficking as well as the enhancement of capacity in law enforcement and health care providers to effectively respond to GBV cases. The sub-project activities have the potential to facilitate the perpetuation of gender inequalities through unequal employment opportunities for vulnerable groups. Hence, a GBV consultant has been recruited under LESSAP 1 to develop a Gender Action Plan which will be further update for LESSAP 2 to mitigate gender risks and impacts.</p>
Water Supply and Sanitation Policy (April 2009)	<p>Liberia's vision of the Water Supply and Sanitation Policy is in using clean water supply and safe sanitation as a vehicle for reducing the water supply and sanitation related disease burden, increasing productivity, promoting human welfare and setting the nation on a path towards long-term sustainable growth, development, and poverty reduction. Hence, the project would ensure</p>

	contractors provide adequate welfare facilities including safe drinking water for workers during implementation of sub-project activities.
National Energy Policy (NEP) 2009	The principal objective of the NEP is to ensure universal access to modern energy services in an affordable, sustainable and environmentally-friendly manner to foster the economic, political, and social development of Liberia. This is in line with the Project Development Objective (PDO) which is to increase access to electricity and improve the operational efficiency of Liberia Electricity Corporation (LEC).
National Environmental and Occupational Health Policy 2007	The National Environmental and Occupational Health Policy (NEOHP) was developed in 2007 to provide a framework for identifying policy needs and actions to improve occupational health and safety. The sub-project activities anticipate occupational health and safety risks and impacts which will be mitigated in line with the ESMP as well as CESMP and other risk assessment plans that will be developed before construction works.
Land Right Policy 2013	The objective of this act is to propose, advocate and coordinate reforms of land policy, laws and programs in Liberia. LLA is now tasked with the statutory function in areas of land use management, governance and administration of public land, government land, private land and customary land in Liberia; including surveys and cartography, deeds and titles registry and supervision and coordination of the function of county land commissioners. However, the distribution line will not need to acquire or restrict land use. The unused space of ROW of existing roads, streets, avenues, etc. shall be used for erecting wooden poles and energy distribution using mitigation hierarchy to avoid any impacts on the people or community.

3.2 National Environmental and Social Assessment and Permitting

The Environmental Protection Agency (EPA) is the public authority responsible for managing environmental assessments and permitting. The EPA is mandated to ensure compliance with environmental laws, standards, and regulations, and it plays a central role in the Environmental Impact Assessment (EIA) review and approval process.

3.2.1 Environmental Impact Assessment (EIA) Review and Approval Process

The EIA process is governed by the Environmental Protection and Management Law (EPML) of 2002, which mandates that all projects or activities likely to have significant adverse environmental impacts must undergo an EIA before commencing.

Below is an outline of the steps involved:

➤ **Application for EIA Permit License and a Submission of a Project Brief**

- Proponents of any project must submit an application for EIA permit/license along with a project brief. A specified fee for project brief review is required. If the EPA considers the project brief to be complete, a copy of the project brief will be transmitted to

individual relevant line ministry/agency ten days after its submission, for comments. In this case, the LEC and RREA shall conduct an E&S screening of the sub-project activities in order to determine the risk categorization of each sub-project. The project brief must contain the following information:

- a) The nature of the project;
- b) The location of the project and the county under whose jurisdiction it is situated and reasons for proposing the project in the area;
- c) The activities that shall be undertaken during and after the development of the project;
- d) The design of the project;
- e) The materials to be used in the project, including during construction;
- f) The possible products or by-products anticipated and their environmental consequences including the potential mitigation methods and measures;
- g) The number of people the project shall employ;
- h) The projected areas of land, air and water that may be affected; and
- i) Any other

➤ **Notice of Intent**

A proponent whose undertaking requires an EIA must prepare and publish a Notice of Intent that provides information to enable stakeholders to identify their interest in the proposed project.

Information in the Notice of Intent must include:

- a) The nature of the project;
- b) County, district, and community where the project or activity is to be carried out, or is likely to have a significant environmental impact;
- c) The activities that shall be undertaken;
- d) The proposed timeframe for the project or activity;

➤ **Project Screening**

- The EPA reviews the submission to screen and categorize the project based on its potential environmental and social risks. The projects are classified into different risk categories, which help determine the level of assessment required.

➤ **Categorization of Projects**

- Based on the screening, projects are placed in one of the following categories:
 - **Category A:** Projects with significant, irreversible adverse environmental impacts. These projects require a full Environmental Impact Assessment (EIA) with a detailed Environmental and Social Impact Assessment (ESIA) report.
 - **Category B:** Projects with moderate adverse environmental impacts that can be mitigated. These require a limited or simplified Environmental Management Plan (EMP).
 - **Category C:** Projects with minimal or no adverse environmental impacts. These projects are typically exempt from further environmental assessments but still need to comply with basic environmental protection measures.

➤ **Scoping and Terms of Reference (ToR)**

- For Category A projects, the EPA requires a detailed scoping report to identify key issues to be addressed in the EIA. The proponent, in collaboration with the EPA, prepares the Terms of Reference (ToR) for conducting the full EIA.

➤ **Preparation of the Environmental and Social Impact Assessment (ESIA) Report**

- For Category A projects, a comprehensive ESIA report is prepared, which includes baseline environmental data, impact analysis, mitigation measures, and a monitoring plan.
- For Category B projects, an Environmental Management Plan (EMP) is required, detailing specific measures to mitigate identified environmental risks.

➤ **Mitigation Strategy and Time Frame**

Mitigation strategies and implementation time frame must be agreed upon by the proponent/management and the Agency in consultation with line ministries.

➤ **Public Consultation and Disclosure**

Public participation is a key part of the EIA process. For both Category A and B projects, public consultations must be held, and the EIA/EMP reports are disclosed to the public for review and comments.

➤ **Review of the EIA Report**

- The EPA will study the report to ensure that it is of standard and addresses the scope of work outlined in the terms of reference. If the report is satisfactory in these respects, the Agency will distribute copies of it to relevant line ministry/agency and other relevant public agencies, and communities for comments. Comments from the public will be received within 30 days of the publication of notice in respect of the report. If deemed appropriate, on consideration of comments from public and sector agencies/ministries the EPA may determine the need for a public hearing to be held at a location suitable to persons who are likely to be affected by the project.
- After receiving comments from stakeholders on the report, the EPA will constitute a Committee (Environmental Assessment Committee) to review the report. The committee will comprise technical experts from the Agency and sector agencies /ministries, a representative from the project, and also a representative from the project area. The body will give its opinions to the Agency for consideration.

➤ **Making a Decision on the EIA Report**

Following the review of the EIA Report and considering comments received during the review period, the EPA will make a decision on the proposed project. In Pursuance of Section 21 of the EMPL, the Agency may:

- Approve the project unconditionally;

- Approve the application conditionally;
- Request for further study and/or submission of additional detail; or
- Reject the application if the project is likely to cause significant or irreversible damage to the environment.

➤ **Environmental License or Permit**

The issuance of EIA permit/ license will be made within the time period specified below for different categories of projects:

- For project not requiring EIA, 15 days from the date of decision indicated in communication to the applicant.
- For projects requiring EIA, three months following receipt of the EIA Report.

➤ **Monitoring and Compliance**

Once the project is implemented, the EPA monitors the compliance of the project with the environmental standards and mitigation measures outlined in the EIA/EMP.

3.2.2 Environmental Impact Assessment (EIA) Categorizations and Requirements

Below is a table summarizing the different project categories and their corresponding requirements:

Category	Project Type	EIA Requirements	Examples of Subprojects
Category A	Projects with significant adverse environmental impacts.	Full EIA, including ESIA, baseline studies, mitigation measures, and public consultations.	Large-scale infrastructure projects, mining, major agricultural expansion.
Category B	Projects with moderate adverse environmental impacts.	Limited or simplified EIA, Environmental Management Plan (EMP), and public consultations.	Medium-scale infrastructure projects, small-scale industrial activities.
Category C	Projects with minimal or no environmental impacts.	Exempt from full EIA but must comply with environmental standards.	Office buildings, small-scale community development projects.

Specific Subproject Categorizations

For the different subprojects eligible under LESSAP II project, the categorization may vary based on their size, location, and potential environmental impacts. The exact categorization of sub-projects will depend on the specific environmental and social risks they pose, which would be determined by the EPA during the screening phase.

3.3 World Bank Standards and Key Gaps with the National Framework

The project will follow the World Bank Environmental and Social Standards (ESSs), as well as the World Bank Group Environmental, Health and Safety Guidelines. Based on these policies, the environmental and social risk of the project is categorized as Moderate. The Moderate Risk rating is based on the consideration that several risks have decreased since the start of phase one implementation and that most of the project sites under phase II are unknown even though the project will likely not create significant environmental and social impacts. Most importantly, the project-implementing agencies have experience implementing World Bank-funded projects and are familiar with the Bank's safeguard policies and ESF, under which this project is being prepared as well as the borrower's capacity to implement mitigation measures. Five of the ten Environmental and Social Standards (ESSs) of the WB's Environmental and Social Framework (ESF) have been screened as relevant to LESSAP 2, while the remaining five ESSs were deemed to be not currently relevant to LESSAP-2. The screening of social risks and impacts is based on discussion with the task team and consultations with LEC and RREA. The ESMF has also considered the national requirements as well as relevant international conventions and protocols for environmental, social and health and safety impacts. The Project is not expected to impact natural habitats or cultural sites. In addition, all activities financed through the project are subject to the World Bank Group Environmental, Health and Safety (EHS) Guidelines including those on Electric Power Transmission and Distribution.

While the general site of some of the works is known, the scope and types of the works are yet to be finalized. The proposed project will therefore build on the safeguard's instruments prepared by LEC and RREA (the implementing agencies) under LESSAP 1. These instruments are the Environmental and Social Management Framework (ESMF), the Resettlement Framework (RF), Labor Management Plan (LMP), Stakeholders Engagement Plan (SEP) and the Environmental and Social Commitment Plan (ESCP). These documents contain the environmental and social management provisions necessary to guide the preparation and implementation of activities in the energy sector. The ESMF, RF and LMP are being updated to reflect the new project details of LESSAP 2. The ESMF, RF and LMP shall be disclosed in-country and on the World Bank website. During project appraisal, the SEP, ESRS and ESCP were prepared and disclosed on LEC website on May 28, 2024, as well as the Bank website. The implementing agencies of the Project, the Liberia Electricity Corporation (LEC) and the Rural Renewable Energy Agency (RREA) will be responsible for the implementation of the ESMF, RPF, LMP and ESCP.

The Liberia Electricity Corporation shall be responsible for the implementation of relevant safeguard instruments on the grid component of the Project. The ESMF includes a "Chance Finds Procedure." However, prior to construction, LEC will develop and implement an ESIA/ ESMP and any other instruments that may become relevant for the Project activities, including subcomponent activities.

The World Bank's environmental and social standards applicable to project activities are summarized below:

The relevant five (5) environmental and social standard of the World Bank environmental and social framework are listed below and summarized in table 2.

Table 2: Relevant World Bank ESS and Key Gaps with the National Framework

E&S Standard	Relevance
1. Assessment and Management of Environmental and Social Risks and Impacts	ESS1 is relevant for the project because project activities are expected to pose moderate environmental and social risks anticipated during the construction phase which includes vegetation clearing, noise pollution from heavy vehicles, soil erosion from excavations for wood pole planting and mini-grid foundation works, fugitive dust and other emissions, and various wastes such as metal, plastic, electronic wastes (E-waste) and potential for hazardous materials and oil spills associated with heavy vehicle operation and fueling activities, among others that are typical to medium-scale electrical installation works which will be handled and disposed of according to national requirements and Good International Industry Practice (GIIP).
2. Labor and Working Conditions	ESS2 is relevant for the project because there are certain labor risks for project workers. Labor-related risks include (i) security risks to project workers, (ii) traffic and road safety issues, (iii) inadequate terms and conditions of employment, (iv) forced labor, and (v) occupational health and safety risks.
3. Resource Efficiency and Pollution Prevention and Management	ESS 3 is relevant for the project because the project is expected to generate hazardous and non-hazardous waste and project related emissions which will be mitigated through a Waste Management Plan (WMP) that will be developed as part of the LESSAP-2 ESMP for the management, control and disposal of both hazardous and non-hazardous waste that will be generated by the Project.
4. Community Health and Safety	ESS 4 is relevant for the project because the project is expected to impact beneficiary communities during construction works e.g. includes traffic and road safety risks, diseases and hazardous materials associated with project implementation and operation.
10. Stakeholder Engagement and Information Disclosure	ESS10 is relevant for all projects given the need to engage with beneficiaries and stakeholders on development activities that affect their lives.

4. Potential Environmental and Social Risk Impacts and Standard Mitigation Measures

This chapter identifies the potential environmental and social impacts that may arise from the Project, and measures to mitigate those impacts or risks.

4.1 GENERAL CONSTRUCTION AND/OR REHABILITATION ACTIVITIES

The following is a discussion of the impacts associated with the rehabilitation and construction phases of distribution networks as well as the off-grid solar system. Activity-specific impacts are also outlined whenever applicable. Due to the localized and temporary nature of construction works, fast recovery is likely to take place especially if the sub-project is small or if field activities are accomplished in stages, where only small parcels are disturbed at a time. Ninety-nine percent of the distribution network construction activities will be undertaken within existing ROWs of highways, roads, streets, etc., reserved by the MPW for such purposes. The solar PV modules of the OGS for the health facilities would be mounted on building rooftops or on support structures within the premises of the facilities. Single-community mini-grid installations will be mounted in established sites within the community. Thus, the risks and impacts associated with the construction works is expected to be moderate

The distribution network works involve planting of poles (footprint $\leq 0.6\text{m}$) to carry medium voltage (MV) and low voltage (LV) lines, stringing of MV/LV line materials (conductors/cables and accessories), mounting of distribution transformers (mostly on pole structures) and installation of energy meters for households and businesses. The LV lines will be strung with insulated aerial bundled conductors (ABC) to reduce the line safety risks to the households (it requires very small horizontal clearance). The MV lines are mainly of bare aluminum alloy conductors but in very congested areas, where line safety clearance would be difficult, insulated conductors or underground cables will be used. The intra-community road ROW ($\geq 3\text{m}$ wide) is usually sufficient for the construction of MV distribution lines that requires at least 2m horizontal and vertical clearances. They are usually free of vegetation and trees and so do not require line clearing as would otherwise be the case for transmission line construction. However, during construction and operation of distribution lines, there may be occasional need for trimming or cutting of branches of trees including some economic trees like mangoes, coconuts, pears, etc., within premises that could grow into the ROWs. The distribution line poles (usually treated wood) are usually buried directly in circular excavated holes (diameter $\leq 0.8\text{m}$) and backfilled with the same excavated material. However, to enable the network to adapt to worsening climate condition (increasing rainstorm and flooding) steel tubular poles may be used to construct the MV lines and both the MV and LV wood poles would be planted with 150mm concentric concrete foundation cover below and 300mm above ground level.

Table 3: Environmental and Social Risks and Mitigation Measures

Subcomponent Activity	Risks and Impacts	Mitigation Measures
1. Rehabilitation and expansion of the distribution network	Noise during construction	<ul style="list-style-type: none"> Plan activities in consultation with communities so that noisiest activities are undertaken during periods that will result in least disturbance (e.g. limit working hours for noisy activities working hours close to schools, hospitals, residents, places of worship, etc.). Noise levels should be maintained within the national permissible limits/ standards (or international standards depending on whichever is most stringent) and limited to restricted times agreed to in the permit. Use noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines). Minimise transportation of construction materials through community areas during regular working time.
	Soil erosion	<ul style="list-style-type: none"> Implement suitable design (e.g., establish appropriate erosion and sediment control measures. Use mulch, grasses or compacted soil to stabilise exposed areas. Cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) construction areas once work is completed.
	Air quality	<ul style="list-style-type: none"> Minimise dust from exposed work sites by applying water on the ground regularly. Minimize traffic wherever possible and drive slowly. Re-vegetate the disturbed areas as soon as activity is completed. Do not burn site clearance debris (trees, undergrowth) or construction waste materials. Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals.
	Water quality	<ul style="list-style-type: none"> No construction materials, solid wastes, toxic or hazardous materials should be dumped or thrown into water bodies for dilution or disposal. The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of riverbeds or flooding of settlements. Use isolation techniques such as diversion during construction to limit the exposure of disturbed sediments to moving water.

Subcomponent Activity	Risks and Impacts	Mitigation Measures
	Solid and hazardous waste	<ul style="list-style-type: none"> • Institutionalise procedures and facilities for the prevention, reduction, reuse, recovery, recycling, removal and disposal of wastes. • Establish and clarify waste management procedures for all persons. • Collect and transport construction waste to appropriately designated/ hazardous waste-controlled dump sites. • Maintain or store waste (including soil for foundations) at least 300 meters from rivers, streams, lakes and wetlands. • Use secured area for refuelling and transfer of other toxic fluids distant from settlement area and ideally on a hard/non-porous surface. • Train workers on correct transfer and handling of fuels and other substances and require the use of gloves, boots, aprons, eyewear and other protective equipment for protection in handling highly hazardous materials. • Collect and properly dispose of small maintenance materials such as oily rags, oil filters, used oil, etc. • Put in place spill control and prevention, and counter measures with inspection procedures and training of personnel. • Reuse the excavated soil as much as possible for backfilling, landscaping and for other activity areas where excavation material is required. • Collaborate with relevant authorities to transport and dispose waste in accordance with legal requirements.
	Traffic	<ul style="list-style-type: none"> • Communicate with communities on traffic safety, install appropriate signage and mark off areas used in loading and off-loading construction and other activity related materials. • Implement speed limits for all activity vehicles. • Ensure drivers are properly trained and licensed. • Train all drivers on safety provisions. Emphasise safety precautions and observation of traffic rules. • Equip vehicles transporting construction or activity related materials with reverse signals. Ensure that truck drivers are accompanied by a flagman or watchman while reversing, unloading and loading. • Regularly maintain vehicles to ensure functionality and safety.

Subcomponent Activity	Risks and Impacts	Mitigation Measures
		<ul style="list-style-type: none"> • <i>Keep first aid kit in each vehicle.</i> • <i>Use safe routes and limit trip duration appropriately.</i> • <i>Use local traffic signage and collaborate with the responsible local authorities and communities.</i> • <i>Avoid vehicle traffic during hours that children are travelling to and from school. Apply particular caution in areas such as schools, playgrounds, hospitals, market, etc.</i>
	Occupational Health and Safety	<ul style="list-style-type: none"> • <i>Provide health and safety training to all participants and conduct regular conversations on health and safety during implementation.</i> • <i>Provide Personal Protective Equipment (PPE) for workers as necessary (gloves, dust masks, hard hats, boots, goggles)¹.</i> • <i>Keep PPE in good condition and change them in case they are damaged.</i> • <i>Prevent slips and falls and other injuries through good housekeeping practices in all worksites, provision of safe equipment and tools, and use of PPE.</i> • <i>Keep worksite clean and free of debris on daily basis.</i> • <i>Prevent ergonomic illnesses from over-exertion by lifting and carrying of materials and equipment by stipulating weight limits, breaks and job rotations.</i> • <i>Prohibit usage of alcohol or illegal drugs.</i> • <i>Use the right tool for the activity.</i> • <i>Keep corrosive fluids and other toxic materials in properly sealed containers for collection and disposal in properly secured areas.</i> • <i>Ensure adequate toilet facilities for workers from outside of the community.</i> • <i>Provide sufficient drinking water for workforce.</i> • <i>Each construction sub-Project to have a basic first-aid kit with bandages, antibiotic cream, etc. and a trained first aider, a standby emergency vehicle, emergency contacts etc.</i>

¹ The appropriate PPE needs to be identified and in place before starting work, used and maintained regularly, and its use and maintenance monitored; Eye and face protection for flying particles, molten metal, liquid chemicals, gases or vapours, light radiation: safety glasses with side-shields, protective shades. Head protection for falling objects, inadequate height clearance, and overhead power cords: plastic helmets with top and side impact protection. Hearing protection for noise: ear plugs or ear muffs. Foot protection for falling or rolling objects, pointed objects, corrosive or hot liquids: safety shoes and boots. Hand protection for hazardous materials, cuts or lacerations, vibrations, extreme temperatures: gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials. Respiratory protection for dust, fogs, fumes, mists, gases, smokes, vapours: facemasks with appropriate filters for dust removal and air purification.

Subcomponent Activity	Risks and Impacts	Mitigation Measures
	Work site management	<ul style="list-style-type: none"> • Ensure proper housekeeping at all times • Avoid proximity to schools, health posts and households with vulnerable families. • Clean up the worksite and rehabilitate the site to its original condition. • Rehabilitate all temporary access tracks, haul roads and any other disturbed areas outside of the approved working areas to their original condition. • Refuel vehicles at least 30 m away from water courses. • Divert runoff / water the construction sites or disturbed areas, using ditches.
	Employment and Labour Rights	<ul style="list-style-type: none"> • Implement a fair and transparent employment process. • Provide activity workers with clear and understandable information regarding rights via contract documents in simple language • Ensure that all volunteer community labour is provided without coercion. Documentation of the community agreement must record: <ul style="list-style-type: none"> ○ The terms of which the voluntary labour is provided. ○ The way in which the agreement was reached. ○ Representation of the volunteer community workers.
	Land Use	<ul style="list-style-type: none"> • The distribution line project will utilize existing road ROW maintained by MPW or local authorities in order to mitigate impact on land resources • Secure worksites with physical separation through buffer strips, fencing and walls, as appropriate. • Rope off construction area and secure materials stockpiles/ storage areas from the public and display warning signs. Do not allow children to play in construction areas. • Establish appropriate site boundary and access controls near settlements to prevent unauthorised entry to construction or activity sites especially by children (e.g. fencing of construction section in the vicinity of settlements or communities).

Subcomponent Activity	Risks and Impacts	Mitigation Measures
	Community Health and Safety	<ul style="list-style-type: none"> • <i>Inform relevant authorities immediately in case of damages on utilities such as underground and aboveground electricity lines, water lines, gas lines, oil pipelines, etc.</i> • <i>Construct and repair all buildings using standards that to ensure structures are designed and constructed in accordance with sound architectural and engineering practice.</i> • <i>Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire.</i> • <i>Protect water sources, quality and access.</i> • <i>Fill in all earth borrow-pits once construction is completed to avoid standing water, water-borne diseases and possible drowning.</i>
	Fire Prevention and Control	<ul style="list-style-type: none"> • <i>Identify fire risks and their sources.</i> • <i>Take all reasonable and precautionary steps to ensure that fires are not started as a consequence of activities.</i> • <i>Store flammable materials under conditions that will limit the potential for ignition and the spread of fires.</i> • <i>Sensitize communities on fire risk to avoid uncontrolled burning of slashed vegetation in close proximity to wooden poles</i>
	Incident reporting	<ul style="list-style-type: none"> • <i>Record and report any hazards, any incidents or injuries.</i>

Subcomponent Activity	Risks and Impacts	Mitigation Measures
2. Electrification of health facilities and households in off-grid rural areas through stand-alone solar systems	land use, water consumption, emissions, and the use of hazardous materials. The main impacts will be on impact of hazardous waste materials (spent batteries) Risk of Li-ion batteries catching fire needs to be included as a risk. Once LI batteries catch fire, they are very difficult to extinguish.	<ul style="list-style-type: none"> • For household solar PV, selectin of approved equipment meeting the highest safety standard is key. • For the local grids, safely placing the LI battery unites away from other structures is key in the design and layout of the sites, so that any battery fire can burn out without affecting other part of the structures or nearby vegetation. Design and technical solutions are key to mitigate this risk. • In depth training and warning signs are also required to be placed near the battery storage sites, to clearly warn of the danger of Li-battery fires.

4.2 Risks and Mitigation Measures Specific to Disadvantaged and Vulnerable Groups

The project will also assess and mitigate risks on vulnerable groups that may be disproportionately affected by the Project due to their vulnerable status (for example, due to age, gender identity, sexual orientation, ethnicity, disability, economic disadvantages, etc.) and may require special engagement efforts to ensure their equal representation in the consultation and decision-making process associated with the project.

The following disadvantaged groups have been identified:

- Persons with disabilities
- Children with special needs
- Women/girls
- Orphans
- Elderly

The project would involve those identified as vulnerable groups through consultation activities based on the principle of inclusiveness, transparency and accountability to build trust and allow project stakeholders to assume ownership of the project, i.e., engaging all segments of the local community, including disabled persons, women/girls and other vulnerable individuals, as specified above and identified during the project. Where necessary, logistical assistance would be provided to enable representatives from remote areas, persons with limited physical abilities

and those with insufficient financial and transportation means to attend stakeholder meetings scheduled by the Project. In cases where vulnerable status may lead to people's reluctance or physical incapacity to participate in large-scale community meetings, the project will hold separate small group discussions with them at their home villages a way for the Project to reach out to the groups who, under standard circumstances, may be insufficiently represented at general community gatherings. They will be included in the stakeholder engagement plan to ensure the plan reflects their needs, and especially vulnerable and disadvantaged groups (i.e. women, elderly, persons with disabilities, children, landless, illiterate persons, those without information communication technology, etc.). In addition, activities related to mapping of gender-based violence (GBV) services and elucidation of the grievance mechanism (GM) to address incidents related to sexual exploitation and abuse/sexual harassment (SEA/SH) will be included by the GBV Consultant.

4.3 Planning and Design Considerations for Avoidance of Environmental and Social Risks and Impacts

In the early stages of subproject planning and design, a number of measures would be implemented to avoid or minimize potential environmental and social impacts. These considerations help ensure that the subproject is sustainable and reduces harm to both ecosystems and communities. Key measures include:

1. **Alternative Site Selection:** The project will identify and evaluate different locations for the subproject to help in selecting a site with minimal environmental or social disruption. This may involve choosing a site with lower biodiversity value or areas that are not inhabited by vulnerable communities.
2. **Technology and Methodology Selection:** The project will employ technologies and methods that are less harmful to the environment or that better align with social needs can minimize negative impacts. For example, selecting energy-efficient technologies, using eco-friendly materials, or opting for non-invasive construction techniques.
3. **Waste Management: Proper planning for waste disposal**—The project will develop waste management systems that will include developing systems for waste reduction, recycling, and ensuring that disposal methods comply with environmental regulations.
4. **Emergency Preparedness:** The project will design the subproject in a manner that will ensure resistance and adaptation during emergency situations in mind, such as natural disasters or accidental spills, can help mitigate long-term environmental and social impacts. This could include the development of emergency response plans and the installation of safety infrastructure like spill containment systems.
5. **Environmental and Social Impact Assessments (ESIA):** The project will conduct assessments early in the planning process to identify potential risks, enabling the subproject to incorporate mitigation measures from the start.

Integrating the above-mentioned considerations into the planning and design phases, subprojects can minimize negative environmental and social consequences while enhancing sustainability and community benefits

5. Procedures and Implementation Arrangements

5.1 Environmental and Social Risk Management Procedures

The environmental and social risk management procedures will be implemented through the Project's subproject selection process. In summary, the procedures aim to do the following:

Table 4: Project Cycle and E&S Management Procedures

Project Stage	E&S Stage	E&S Management Procedures
[a. Assessment and Analysis: Subproject identification	[Screening	<ul style="list-style-type: none"> - During subproject identification, ensure subproject eligibility by referring to the <i>Exclusion List in table 5</i> below. - For all activities, use the <i>Screening Guide in Annex 6</i> to identify and assess potential environmental and social risks and impacts, and identify the appropriate mitigation measures for the subproject. - Identify the documentation, permits, and clearances required under the government's Environmental Regulation.
b. Formulation and Planning: Planning for subproject activities, including human and budgetary resources and monitoring measures	Planning	<ul style="list-style-type: none"> - Based on <i>Screening Guide and Checklist Question</i>, adopt and/or prepare relevant environmental and social procedures and plans. - For activities requiring Environmental and Social Management Plans (ESMPs), submit the first 5 ESMPs [or another number agreed with the World Bank] for prior review and no objection by the World Bank prior to initiating bidding processes (for subprojects involving bidding processes) and/or launching activities (for subproject activities not subject to bidding). - Ensure that the contents of the ESMPs are shared with relevant stakeholders in an accessible manner and consultations are held with the affected communities in accordance with the SEP. - Complete all documentation, permits, and clearances required under the government's Environmental Regulation. - Train staff responsible for implementation and monitoring of plans. - Incorporate relevant environmental and social procedures and plans into contractor bidding documents; train contractors on relevant procedures and plans.

c. Implementation and Monitoring: Implementation support and continuous monitoring for projects	Implementation	<ul style="list-style-type: none"> - Ensure implementation of plans through site visits, regular reporting from the field, and other planned monitoring. - Track grievances/beneficiary feedback. - Continue awareness raising and/or training for relevant staff, volunteers, contractors, communities.
d. Review and Evaluation: Qualitative, quantitative, and/or participatory data collection on a sample basis]	Completion	<ul style="list-style-type: none"> - Assess whether plans have been effectively implemented. - Ensure that physical sites are properly restored.]

More detail for each stage is provided below.

a. Subproject Assessment and Analysis – E&S Screening

As a first step, all proposed activities should be screened to ensure that they are within the boundaries of the Project's eligible activities, and they are not considered as activities listed on the E&S Exclusion List in the table below.

Exclusion List

- [Weapons, including but not limited to mines, guns, ammunition, and explosives
- Support of production of any hazardous good, including alcohol, tobacco, and controlled substances
- Any construction in protected areas or priority areas for biodiversity conservation, as defined in national law
- Activities that have the potential to cause any significant loss or degradation of critical natural habitats, whether directly or indirectly, or which would lead to adverse impacts on natural habitats
- Activities that involve extensive harvest and sale/trade of forest resources (post, timber, bamboo, charcoal, wildlife, etc.) for large-scale commercial purposes
- Activities involving changing forestland into agricultural land or logging activities in primary forest
- Purchase or use of banned/restricted pesticides, insecticides, herbicides, and other dangerous chemicals (banned under national law and World Health Organization (WHO) category 1A and 1B pesticides)
- Construction of any new dams or rehabilitation of existing dams including structural and or operational changes; or irrigation or water supply subprojects that will depend on the

storage and operation of an existing dam, or a dam under construction for the supply of water

- Activities that involve the use of international waterways
- Any activity affecting physical cultural heritage such as graves, temples, churches, historical relics, archeological sites, or other cultural structures
- Activities that may cause or lead to forced labor or child abuse, child labor exploitation or human trafficking, or subprojects that employ or engage children, over the minimum age of 14 and under the age of 18, in connection with the project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral, or social development
- Any activity on land that has disputed ownership or tenure rights
- Any activity that will cause physical relocation of households or will require the use of eminent domain
- Any activity with significant environmental and social risks and impacts that require an Environmental and Social Impact Assessment (ESIA)
- Any activity that will require Free, Prior and Informed Consent (FPIC) as defined in ESS7.]

As a second step, the LEC and RREA will use the ***E&S Screening Guide and Checklist Questions in Annex 1*** to identify and assess relevant environmental and social risks specific to the activities, and identify the appropriate mitigation measures. The *Screening Guide and Checklist questions* lists the various mitigation measures and plans that may be relevant for the specific activities (such as the Environmental and Social Codes of Practice, the Environmental and Social Management Plan, the Labor Management Procedures, Chance Find Procedures, etc.). The ESCOP, LMP and CFP shall be developed as part of the ESMF preparation and included as Annex. The LEC and RREA will also identify the documentation, permits, and clearances required under the government's Environmental Regulation.

.Subproject Formulation and Planning – E&S Planning

Based on the process above and the Screening Guide and Checklist Questions, the LEC and RREA will adopt the necessary environmental and social management measures already included in the Annexes of this ESMF (such as the ESCOPs, the LMP, etc.) or develop relevant site-specific environmental and social management plans.

If site-specific ESMPs are necessary, the LEC and RREA shall hire an EPA-certified consultant/firm to develop an ESIA and prepare these ESMPs and other applicable documents as needed. The LEC and RREA will provide approval and compile ESMPs and other applicable forms. The contents of the ESMPs will be shared with relevant stakeholders in an accessible manner, and consultations will be held with the affected communities on the environmental and social risks and mitigation measures. If certain subprojects or contracts are being initiated at the same time or within a certain location, an overall ESMP covering multiple subprojects or contracts can be prepared. Some moderate risk subprojects may also benefit from the preparation of a site-specific environmental and social assessment prior to the preparation of an ESMP.

The first [two] ESMPs in each category of subproject will also be submitted to the World Bank for prior review and no objection. After this first 2, the World Bank and LEC and RREA will reassess whether prior review is needed for further ESMPs or a certain category of ESMPs.

The PIU staff of LEC and RREA will also complete the documentation, permits and clearances required under the government's Environmental Regulation before any project activities begin. At this stage, staff who will be working on the various subproject activities shall be trained in the environmental and social management plans relevant to the activities they work on. LEC and RREA shall also provide such training to field staff. The LEC and RREA Environmental and Social Team shall also ensure that all selected contractors, subcontractors, and vendors understand and incorporate environmental and social mitigation measures relevant to them as standard operating procedures for civil works. The LEC and RREA E&S team s shall provide training to selected contractors to ensure that they understand and incorporate environmental and social mitigation measures; and plan for cascading training to be delivered by contractors to subcontractors and vendors. The LEC transmission and Distribution department and RREA shall further ensure that the staff responsible for ongoing operation and maintenance of the investment have received training on operations stage environmental and social management measures as applicable.

b. Implementation and Monitoring – E&S Implementation

During implementation, the PIU staff of LEC and RREA will conduct regular monitoring visits to site. The site visits will be done on daily basis to effectively monitor and supervise construction works. Describe the mechanisms, responsible parties, and the frequency for project supervision. If there are contractors implementing subproject activities, the contractors will be responsible for implementing the mitigation measures in the E&S risk management documents, with LEC and RREA oversight.

The LEC and RREA PIU E&S team will ensure that monitoring practices include the environmental and social risks identified in the ESMF and will monitor the implementation of E&S risk management mitigation plans as part of regular project monitoring.

At a minimum, the reporting will include (i) the overall implementation of E&S risk management instruments and measures, (ii) any environmental or social issues arising as a result of project activities and how these issues will be remedied or mitigated, including timelines, (iii) Occupational Health and Safety performance (including incidents and accidents), (iv) community health and safety, (v) stakeholder engagement updates, in line with the SEP, (vi) public notification and communications, (vii) progress on the implementation and completion of project works, and (viii) summary of grievances/beneficiary feedback received, actions taken, and complaints closed out, in line with the SEP. Reports from the local levels will be submitted to the Project Manager/Coordinator at the national level, where they will be aggregated and submitted to the World Bank on a quarterly [or biannual] basis.

Throughout the Project implementation stage, the PIU E&S team of LEC and RREA will continue to provide training and awareness raising to relevant stakeholders, such as staff, selected contractors, and communities, to support the implementation of the environmental and social risk management mitigation measures. An initial list of training needs is proposed below, in Section 6.3.

The PIU Social Safeguard Specialist of LEC and RREA will also track grievances/beneficiary feedback (in line with the SEP) during project implementation to use as a monitoring tool for implementation of project activities and environmental and social mitigation measures.

Last, if LEC and RREA becomes aware of a serious incident in connection with the project, which may have significant adverse effects on the environment, the affected communities, the public, or workers, it should notify the World Bank within 48 hours of becoming aware of such incident. A fatality is automatically classified as a serious incident, as are incidents of forced or child labor, abuses of community members by project workers (including gender-based violence incidents), violent community protests, or kidnappings.

c. Review and Evaluation – E&S Completion

Upon completion of Project activities, the LEC and RREA will review and evaluate progress and completion of project activities and all required environmental and social mitigation measures. Especially for civil works, the Project Manager/Technical Coordinator of LEC will monitor activities with regard to site restoration and landscaping in the affected areas to ensure that the activities are done to an appropriate and acceptable standard before closing the contracts, in accordance with measures identified in the ESMPs and other plans. The sites must be restored to at least the same condition and standard that existed prior to commencement of works. Any pending issues must be resolved before a subproject is considered fully completed. The LEC and RREA will prepare the completion report describing the final status of compliance with the E&S risk management measures and submit it to the World Bank.

5.2 Technical Assistance Activities

The LEC and RREA will ensure that the consultancies, studies (including feasibility studies, if applicable), capacity building, training, and any other technical assistance activities under the Project are carried out in accordance with Terms of Reference acceptable to the Bank, that are consistent with the ESSs. They will also ensure that the outputs of such activities comply with the Terms of Reference.

5.3 Implementation Arrangements

LESSAP will be implemented jointly by the Rural and Renewable Energy Agency of Liberia (RREA) and the Liberia Electricity Corporation (LEC). RREA will be responsible for implementing the off-grid electrification component (Component 2), while LEC will be responsible for implementing the on-grid electrification and TA components (Components 1&3). The Ministry of Mines and Energy (MME), and the Ministry of Finance and Development Planning (MFDP) will provide

oversight over the two implementing agencies through Monitoring and Evaluation (M&E) on behalf of the Borrower (Government of Liberia).

The proposed arrangements for project implementation aim to ensure efficiency and strengthen the LEC and RREA human and institutional capacity. LESSAP will capitalize on LEC and RREA experience gained in implementing previous and ongoing World Bank funded projects

A project implementation team has been established to oversee contractors and project monitoring. Currently, there is an existing safeguard team comprised of Environmental specialist and a Gender and Social Safeguards specialist from LEC and RREA implementing and monitoring existing World Bank funded projects. The existing safeguard team will handle the E&S aspects of the Project based on experience, lessons learned, and knowledge gathered from existing projects. The Environmental Specialist and Social Safeguard Specialist of the ESMU of LEC and the Environmental and Social Safeguards Unit of RREA including the Project Manager/Coordinators of LEC /RREA will implement and monitor the Project relative to their components. Two additional Assistants (Environmental Assistant and Gender and Social Safeguards Assistant) would be hired under LESSAP 2 to augment the existing team at LEC and RREA.

The safeguard teams will monitor the implementation of the ESMP provisions for reporting implementation progress in the project semi-annual progress reports and or Periodic Reports. The safeguard team will supervise and monitor the overall safeguards implementation process and prepare progress reports on the application of safeguards during the planning, design, and construction phases of the Project. The safeguard teams will develop the reporting requirements and procedures to ensure compliance of the contractors; conduct public consultation and public awareness programs; and carry out periodic E & S training for field engineers and contractors as appropriate. The safeguard teams will prepare and submit to the World Bank regular monitoring reports on the environmental, social, health and safety (ESHS) performance of the Project, including but not limited to, stakeholder engagement activities, accident reporting and grievances log.

The safeguard teams will also work with its Procurement Department during the selection of project contractors to incorporate the relevant E&S aspects identified in the ESIA/ESMP and the LMP into the ESHS specifications of the procurement documents for civil works. This is to ensure the contractors compliance with the ESHS specifications of their respective contracts. Measures related to hazardous waste and OHS management would be identified in the ESIA/ESMPs.

The selected contractor(s) shall prepare and submit their completed work plans and Construction Environmental and Social Management Plan (CESMP) to the Project Manager (LEC/RREA) prior to initiating the civil works. The ESMP shall aid the contractor in preparation of the project's CESMP. The CESMP shall outline project- specific impacts/mitigation measures for effective management/monitoring of E&S risks associated with LESSAP2 prior to initiating the civil works. In addition, the project contractor will set aside a separate budget line for smooth implementation of the CESMP. Also, the project contractor will share and communicate the

ESMP/CESMP with her subcontractor (s) to ensure the ESMP is implemented during project construction works.

The project contractor shall also prepare and submit to LEC for approval, a site specific OHS plan which will be implemented during construction works. The OHS measures will be followed throughout project implementation. They will address: (a) identification of potential hazards to project workers, particularly those that may be life-threatening; (b) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (c) training of project workers and maintenance of training records; (d) documentation and reporting of occupational accidents, diseases and incidents; (e) emergency prevention and preparedness and response arrangements; and (f) remedies for adverse impacts such as occupational injuries, deaths, disability and disease. The project will ensure that contractors, subcontractors and their workers are trained and are aware of risks and to avoid and mitigate impacts on local communities.

The project contractors shall notify LEC within 24 hours of occurrence of any incident or accident related or having an impact on the Project, which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers. This will include workplace accidents, incidence of SEA/SH, Protection of Woman and Child Adolescent Health and well-being, maternal mortality and the notification of teenage pregnancy, labor related, work & vehicle related. This will be followed by a detailed incident investigation report which will be submitted to the World Bank and the Ministry of Mines and Energy.

LEC and RREA will update the Grievance Mechanism (GM) established for LESSAP 1 for LESSAP 2 that will allow project- affected persons who are not satisfied with compensation and/or resettlement packages or procedures to lodge a complaint or a claim without cost and with the assurance of a timely and satisfactory resolution of their complaint or claim. The aggrieved person also reserves the right to go to a court of law at their own cost. To facilitate this process, the GM will operate at two levels: affected community and project level at LEC. Even though the community level is likely to be the main recipient of complaints, provision has been made to allow access to the GRM at the project level at the PCMU/PIU at LEC, depending on which component of the project is being implemented.

Other stakeholders involved in the implementation of the project include:

1. Ministry of Finance and Development Planning (MFDP).

MFDP considered the recipient of the loan between the GOL and the WBG, will conduct Monitoring and Evaluation missions of the project activities at any time convenient to the Ministry. The Project Team will be responsible for facilitating the M&E missions of the Ministry, in accordance with the project Financial Management guidelines and policies.

2. Ministry of Mines and Energy (MME)

MME will conduct Monitoring and Evaluation (M&E) missions of the project activities at any time convenient to the Ministry. The Project Team is responsible to facilitate the M&E missions of the Ministry in accordance with the project Financial Management guidelines and policies.

The table below summarizes the roles and responsibilities regarding the implementation arrangements for **environmental and social management**.

Table 5: Implementation Arrangements

Level/ Responsible Party	Roles and Responsibilities
[National/ regional	<ul style="list-style-type: none"> - Provide support, oversight, and quality control to field staff working on environmental and social risk management. - Collect, review, and provide quality assurance and approval to Screening Forms and ESMPs as relevant. Keep documentation of all progress. - Oversee overall implementation and monitoring of environmental and social mitigation and management activities, compile progress reports from local levels/subprojects, and report to the World Bank on a quarterly [or biannual] basis. - Train field staff and contractors who will be responsible for implementing the ESMF. - If contracting is managed centrally, ensure that all bidding and contract documents include all relevant E&S management provisions per screening forms, ESMPs, and ESCOPs.
Regional/local field staff	<ul style="list-style-type: none"> - Ensure project activities do not fall under the Negative List. Fill out Screening Forms for relevant subproject activities and submit forms to the national level. - If relevant, complete site-specific ESMPs for subproject activities and submit forms to the national level. - Oversee daily implementation and monitoring of environmental and social mitigation measures, and report progress and performance to the national level on a monthly basis. - Provide training to local contractors and communities on relevant environmental and social mitigation measures, roles, and responsibilities. - If contracting is managed regionally, ensure that all bidding and contract documents include all relevant E&S management provisions per screening forms, ESMPs, and ESCOPs.
Local contractors]	<ul style="list-style-type: none"> - Comply with the Project's environmental and social mitigation and management measures as specified in ESMPs, ESCOPs, and contract documents, as well as national and local legislation. - Take all necessary measures to protect the health and safety of workers and community members, and avoid, minimize, or mitigate any environmental harm resulting from project activities.]

5.4 Proposed Training and Capacity Building

Successful implementation of the Project will depend, among others, on the effective implementation of the environmental and social risk management measures outlined in this ESMF. Training and capacity building will be necessary for the key stakeholders in order to ensure effective implementation of the ESMF, SEP, and other environmental and social documents. An initial training approach is outlined in the table below. To the extent possible, training on environmental and social risk management will be integrated into the project cycle and operational procedures. Given the need to raise awareness among project workers and stakeholders at many levels, a cascading model is proposed where information will follow from the national level to the field levels..

Table 6: Proposed Training and Capacity Building Approach

Level	Responsible Party	Audience	Topics/Themes that May Be Covered
[National level]	Centre for Project Management (CPM), Center of Excellence in Ghana, GIMPA, ESAMI and others	National staff responsible for overall implementation of ESMF	ESMF and approach: <ul style="list-style-type: none"> - Identification and assessment of E&S risks - Selection and application of relevant E&S risk management measures/instruments - E&S monitoring and reporting - Incident and accident reporting - Application of LMP, including Code of Conduct, incident reporting, SEA/SH, COVID-19 mitigation - Application of SEP and the grievance/beneficiary feedback mechanism - Introduction & understanding of ESS1-10; - Basics training on preparation and implementation of RAP; - Requirements for implementing and updating SEP, on an as required basis; - E&S requirements integration in the bidding document and procurement process; - Implementing and supervising the relevant ESSs under the Project - Biodiversity management - OHS and Community Health and safety, - Waste Management including hazardous waste
Regional level	National staff	Regional staff Contractors	ESMF and approach: <ul style="list-style-type: none"> - Identification and assessment of E&S risks - Selection and application of relevant E&S risk management measures - E&S monitoring and reporting

			<ul style="list-style-type: none"> - Incident and accident reporting - Application of LMP, including Code of Conduct, incident reporting, SEA/SH, COVID-19 mitigation - Application of SEP and the grievance/beneficiary feedback mechanism - Application of OHSP
Local/site level	Regional staff	Local staff Local contractors	<ul style="list-style-type: none"> - Application of SEP and the grievance/beneficiary feedback mechanism - Application of LMP, including Code of Conduct, incident reporting, SEA/SH, COVID-19 mitigation - Application of ESCOPs or ESMPs, as relevant
Community level	Local staff	Community members Community Workers, if relevant	<ul style="list-style-type: none"> - Basic OHS measures and Personal Protective Equipment - Community health and safety issues - Worker Code of Conduct - SEA/SH issues, prevention, measures] - COVID-19 mitigation - Grievance redress - Workers' grievance redress

Capacity building is an essential component towards sustainable environmental management. The implementing agencies (LEC and RREA) have established safeguard units responsible for the training of individuals hired to work in the Unit, and capacity building of those individuals will be key.

In addition, though the EPA currently performs functions related to the ESMF roles mentioned above, the EPA staff are also in need of training and further capacity building. The objective of the training program is to ensure appropriate environmental awareness, knowledge and skills for the implementation of environmental management plans as well as environmental and process monitoring. In an effort to strengthen institutional capacity and environmental awareness, training sessions will be opened for individuals from the EPA, RREA and the LEC, and other concerned ministries and governmental authorities. Appraisal will be conducted following a training session for feedback towards improving the training program. The typical scope of the training sessions will encompass:

- Defining relevant environmental laws, regulations, and standards for each of the targeted institutions based on their responsibilities as well as current and prospective projects in the energy sector.
- Reviewing and discussing the World Bank's ESF ESS and guidelines.

- Conducting bid tenders where appropriate while ensuring that the World Bank's ESF ESS and guidelines, and the applicable EPA legislation and GoL laws are respected.
- Reviewing Environmental Impact Assessment methodology (at both the sub-project and strategic levels) and environmental sampling and monitoring procedures (air, noise, water, etc.).
- Introducing mitigation measures aimed at minimizing adverse environmental impacts associated with the construction and operation of energy-related projects with special emphasis on low technology, affordable and sustainable measures.
- Introducing the fundamentals of occupational health and safety procedures with emphasis on the risks associated with electricity production.
- Presenting case study EMPs of relevant projects, such as hydroelectric projects, thermoelectric projects, and solar power energy production.
- Conducting an open dialogue with the targeted audience, whereby individuals will be asked to share their experiences (success stories and shortcomings) in implementing EMPs and the main technical problems faced in the field.

The training program will consist of technical assistance, likely by individual consultants, and will be targeted at individuals within primarily the LEC, RREA and EPA whose main responsibilities currently or in future will encompass environmental and social safeguards. It is proposed that the training program be implemented at least twice a year over the period of the project. Staff and operators of sub-projects may also be targeted as appropriate. The total training budget is estimated at around US\$ 200,000. This is only an indicative budget depending on the number of trainees, so the training budget may be less than or greater than the proposed.

5.5 Estimated Budget

The following table lists estimated cost items for the implementation for the ESMF, which have been included in the overall project budget:

Table 7: ESMF Implementation Budget

Activities	Unit	No. of Units	Unit Cost (US\$)	Extended Cost (US\$)	Comments
Salaries for retaining 4 E&S Specialists at LEC & RREA to lead implementation of safeguard documents including ESMF	Months	60	20,000	1,200,000	Salaries will be subject to contract renewal based on satisfactory performance
Salaries for recruiting	Months	60	8000	480,000	Salaries will be subject to

Activities	Unit	No. of Units	Unit Cost (US\$)	Extended Cost (US\$)	Comments
4 E&S support staff at LEC & RREA					contract renewal based on satisfactory performance
Recruitment of consultancy firm for preparation of ESIA report including permit acquisition	L/S	1	200,000	200,000	This includes 2 ESIA/ESMPS, one for LEC and one for RREA
Disclosure, implementation & Monitoring of safeguard documents including ESMF	L/S	1	15,000	75,000	
Preparation of training manual including cost of reproduction	L/S	1	15,000	15,000	
Capacity building for E&S staff of LEC, RREA, MME, & EPA	L/S	1	200,000	200,000	Estimated 30 trainees from the four institutions for the period of 5 years
Update of LESSAP 1 GBV action plan for LESSAP 2 and implementation of the updated GBV action including the GBV service provider.	L/S	1	150,000	150,000	
Total Cost US\$				2,320,000	

6. Stakeholder Engagement, Disclosure, and Consultations

A separate Stakeholder Engagement Plan (SEP) has been prepared for the Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement. The SEP can be found [here](https://rrealiberia.org/new/pg_img/LESSAP%202%20E&S%20Appraisal%20Document_Note%20of%20Public%20Disclosure.pdf) for RREA and LEC: (https://rrealiberia.org/new/pg_img/LESSAP%202%20E&S%20Appraisal%20Document_Note%20of%20Public%20Disclosure.pdf) and <https://lecliberia.com/wp-content/uploads/Stakeholder-Engagement-Plan-for-LESSAP-2.pdf>]

This ESMF, as well as the SEP and the Environmental and Social Commitment Plan (ESCP) that have been prepared for this project, have been disclosed for stakeholder consultations on the following website: (<https://rrealiberia.org>) <https://lecliberia.com/wp-content/uploads/Stakeholder-Engagement-Plan-for-LESSAP-2.pdf>] on May 28, 2024 for SEP and ESCP and September 30, 2024 for ESMF].

Key feedback, if any, on the disclosed ESMF is listed in the summary of feedback].

The consultations held in September and October 2020 for LESSAP-1 are relevant to LESSAP-2's ESMF preparation as they provided critical insights on stakeholder expectations, key concerns, and recommendations for engagement that have directly informed LESSAP-2's design and ESMF structure. The emphasis on continuous consultation and coordination between implementing agencies, line ministries, and affected communities highlighted by stakeholders during LESSAP-1 has been incorporated into LESSAP-2's engagement plan to strengthen collaboration and ensure successful implementation.

The stakeholders also requested the implementing agencies (LEC and RREA) do the following:

1. Share the project appraisal document and other relevant documents with them;
2. Adhere to national laws and policies at all stages of project planning and implementation;
3. Develop a plan to maintain and operate the solar PV systems to be installed at health facilities;
4. Prioritize local employment;
5. Avoid involuntary resettlement and where avoidance is impossible, compensate for properties affected; and

Promote gender equity with sex disaggregated data to monitor and measure the success of the proposed project. (See Attachment 2 for detail information/attendance of stakeholder consultation meetings)

During the early May 2024 event conducted for LESSAP-2, an overview of the previous LESSAP-1 was presented covering implementation statistics, challenges, and opportunities. This was also followed by a presentation on LESSAP-2, including background, objectives, target communities, and implementation approaches. The purpose of the meeting was to gather information, perspectives, and feedback from stakeholders involved in the proposed LESSAP-2 MPA program. The specific objectives were as follows:

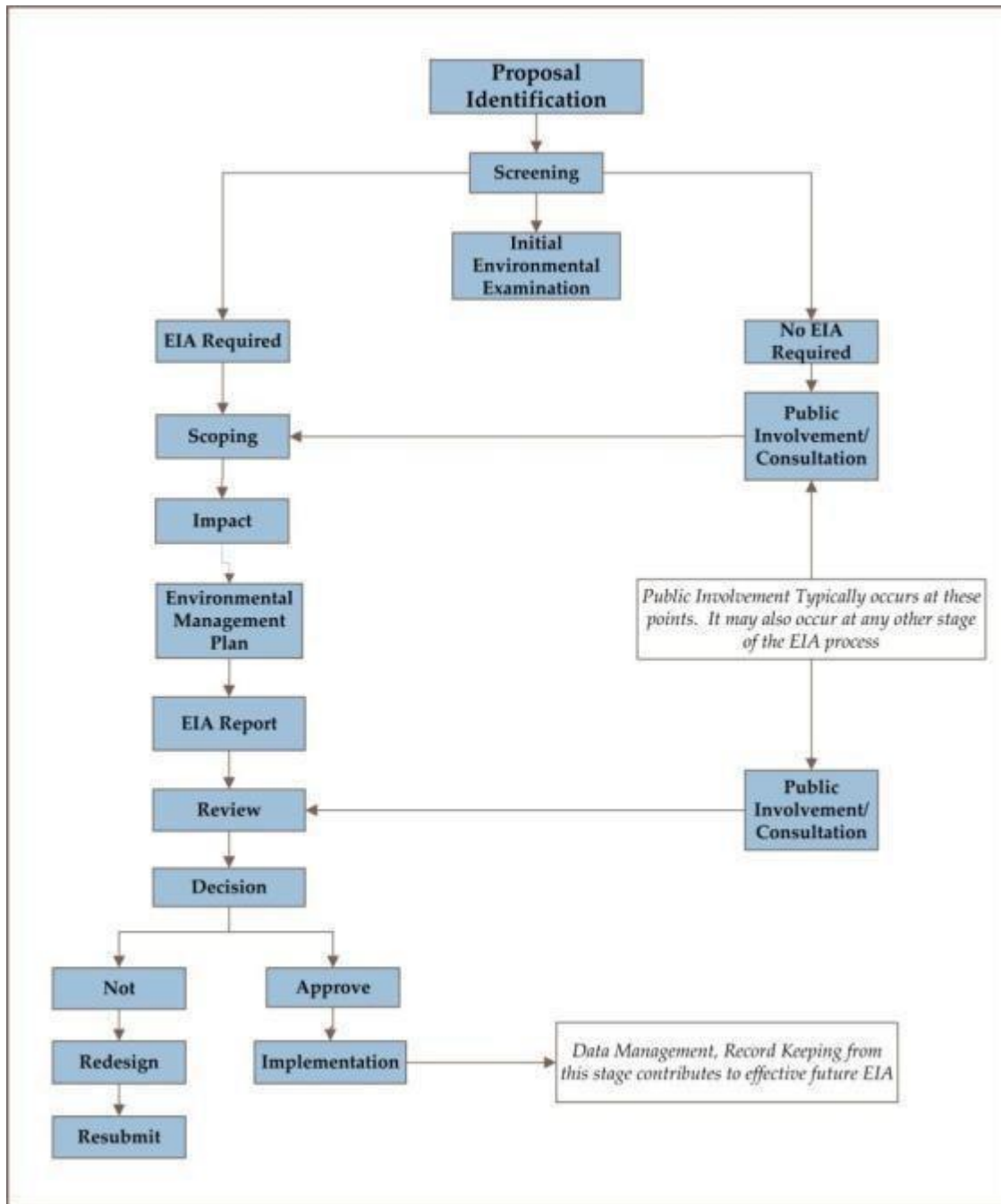
- Introduce the project to national stakeholders, relevant Government ministries and agencies, off-grid companies, potential customers, partners, investors, and other stakeholders;
- Demonstrate the benefits and features of LESSAP-2 to stakeholders;
- Solicit feedback and opinions that will help to shape the project design, planning, project implementation and decommissioning;
- Manage expectations and misconceptions about the outcomes of the LESSAP-2 project; and
- Identify and where possible, address potential Conflicts and/or risks that may arise during implementation of LESSAP-2.

The consultation meeting was conducted in two modes: face-to-face and via virtual link. The meeting brought together a total of fifty (50) participants with 39 participants at the face-to-face meeting while 11 participants joined virtually. On the whole, the participants were overwhelmed and very supportive of the project as they indicated that the project will contribute towards improving the life of its beneficiary.

The key issues or concerns raised by stakeholders during the consultation meetings can be summarized as follows:

1. Stakeholder Support: Stakeholders unanimously welcomed the proposed project and expressed their support;
2. Continuous Consultation and Coordination: Stakeholders requested ongoing consultation and coordination between the project implementing agencies (LEC and RREA) and relevant line ministries and agencies, including affected communities, to ensure successful project implementation;
3. Specific Requests to Implementing Agencies:
 - Share project concept notes and relevant documents with stakeholders;
 - Adhere to national laws and policies throughout project planning and implementation;
 - Prioritize local employment; and
 - Avoid involuntary resettlement; if unavoidable, compensate affected properties.
4. Additional Suggestions and Advocacy:
 - Holistic adoption of a sustainable management plan for all donor and nationally funded projects;
 - Prioritization of gender considerations throughout the project lifecycle;
 - Advocacy for Productive Use of Electricity (PUE) to reduce energy poverty;
 - Support for clear and stable energy policies to encourage long-term investment;
 - Adaptation of appropriate technologies for Liberia's unique context;
 - Addressing higher financing costs for off-grid companies implementing RBF projects;
 - Donor coordination in the energy sector through stakeholder meetings and joint planning; and Legal agreements (easements or servitudes) to protect IPP infrastructure from LEC grid projects

Annex 1: ESIA Flow Chart



Annex 2: sub-project implementation E&S monitoring list

Inspection Items	YES/NO	Remarks (Specify location, good practices, problem observe, possible causes of non-conformity and proposed corrective/preventative actions, etc.)
A. Environmental Management		
1.0 Regulatory Compliances		
1.1 Appropriate permissions/ approvals/ clearances obtained before commencement of construction	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	Attach copies during the assessment period
1.2 EPA permit obtained for construction works?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	Attach copy
1.3 Construction Environmental Management Plan developed prior to construction works	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
1.3. Intimation given about the distribution line project to relevant institutions and agencies?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.0 Air & Water Quality		
2.1 Regular sprinkling of water to suppress dust emissions during dry season?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.2 Idling construction vehicles are shut-down/ switched-off to arrest vehicular exhaust fumes and mitigate air pollution?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.3 Appropriate measures taken to prevent oil/ lubricants/ wastewater/ cement/ other contaminants from entering into water bodies?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.4 Excavated area has been back-filled and compacted properly?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.5 Excavated topsoil properly stored and covered to prevent erosion during the rainy season	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
2.6 Excess soil removed and disposed from the site	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	
3.0 Waste Management		
3.1 Waste Management Procedure is developed for management of both hazardous and non-hazardous waste?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	Attach copy of waste management plan
3.2 Installation of garbage bins for bio-degradable, recyclable and unrecyclable?	[<input type="checkbox"/>] Yes/ [<input type="checkbox"/>] No	

3.3 Disposal of segregated construction waste at designated disposal sites?	[] Yes/ [] No	
3.4 All waste and construction materials from worksite are removed from working areas	[] Yes/ [] No	
All waste and construction materials from worksite are stacked in designated storage areas	[] Yes/ [] No	
4.0 Noise		
4.1 Construction site properly barricaded?	[] Yes/ [] No;	
4.2 Only well-maintained mechanical equipment is operated on-site?	[] Yes/ [] No;	
4.3 Shut down or throttle down to a minimum equipment that may be intermittent in use?	[] Yes/ [] No;	
4.4 Scheduled noisy activities during the morning hours informing the locals when noisy activities are planned?	[] Yes/ [] No;	
4.5 Provide ear plugs or mufflers for workers to reduce vibration on construction equipment?	[] Yes/ [] No;	
5.0 Occupational Health and safety		
5.1 Risk assessment is conducted and analyzed for the given task?	[] Yes/ [] No	
5.2 If high risk involved, has the Standard Working Procedure been followed?	[] Yes/ [] No	
5.3 Occupational Health and Safety Standards are in Place?	[] Yes/ [] No	
5.4 Occupational Health and Safety Standards are met?	[] Local; [] International; [] Company	
5.5 Installation of Road Signs to warn pedestrians/ motorists?	[] Yes/ [] No	
5.6 Installation of Diversion Signs to warn pedestrians/ motorists?	[] Yes/ [] No	
5.7 Installation of Danger Signs to warn pedestrians/ motorists?	[] Yes/ [] No	
5.8 Safety Officer is available onsite and knowledgeable of associated risks/hazards?	[] Yes/ [] No	
5.9 Standard Operating Procedure for the given task available onsite?	[] Yes/ [] No	
5.10 Daily Tool Box Talk is conducted and	[] Yes/ [] No	

recorded?		
5.11 Construction Crew is equipped with appropriate Safety Gear or Personal Protective Equipment (PPEs)?	[] Yes/ [] No	
5.12 Safety precaution are adhered while working at heights?	[] Yes/ [] No	
5.13 Trained First Aider available to administer first aids?	[] Yes/ [] No	
5.14 Emergency Response/Vehicles/Contact details available?	[] Yes/ [] No	
5.15 Any accident/incident/Near miss occurred during construction works?	[] Yes/ [] No	
Accident/Near miss recorded and reported?	[] Yes/ [] No	Attach records/photographs
5.16 Construction Vehicles maintain speed limits?	[] Yes/ [] No	
5.17 Construction workers are aware about Health and Hygiene?	[] Yes/ [] No	
5.18 Construction workers are provided with safe drinking water?	[] Yes/ [] No	
5.19 Construction workers are provided with appropriate resting area/shed during lunch/rest time?	[] Yes/ [] No	
6.0 Flora and Fauna		
6.1 Critical biodiversity areas avoided during construction works	[] Yes/ [] No	
6.2 Right-of ways utilized to avoid important natural areas such as wild lands and sensitive habitats.	[] Yes/ [] No	
7.0 Social Management		
7.1 consultation based on public needs conducted?	[] Yes/ [] No	attach public consultation plan
7.2 Information of working hours and type of work shared with community members?	[] Yes/ [] No	
7.3 Local Un-skilled workers have been engaged?	[] Yes/ [] No	
7.4 Their payment is made on?	[] Daily; [] Weekly; [] Monthly basis	
7.5 Verification of workers' age to identify potential cases of child labor (beyond relying on community reports). ?	[] Yes/ [] No	

7.6 Review of employment records for any indications of sexual exploitation (instead of relying solely on reported cases).?	[] Yes/ [] No	
7.7 Construction workers are aware about Communicable diseases, including HIV/AIDS, STD, Venereal diseases?	[] Yes/ [] No	
7.8 Places/ Spaces/ Objects of Historic, Cultural, and Religious Sites found in/around the RoW and working areas?	[] Yes/ [] No; If Yes, To whom and How it was reported	
379 Is Grievance Redress Mechanism (GRM) in place?	[] Yes/ [] No	Document grievances (Workforce, Project Affected Persons) and conflict resolution activities;
7.10 Number of Grievances Redressed?		Specify:
7.11 Any case of dissatisfied recipient?	[] Yes/ [] No;	Reasons for dissatisfaction:
7.12 Number of Grievance Redressals Pending?		Specify:
7.13 Reasons for pending cases		State Reason (s): 1. _____ _____ _____ 2. _____ _____ _____ _____
Attach copies of the GRM Register for the reporting duration		

Signed by Environment Specialist:

Name: _____

Title: _____

Date: _____

Signed by Project Manager:

Name: _____

Title: _____

Date: _____

Signed by: Social safeguard Specialist

Name: _____

Title: _____

Date: _____

Annex 3: Terms of Reference (Generic ESIA)

The TOR evolves from the scoping process of ESIA. The critical issues identified during the Scoping exercise, to be carried out in ESIA study, should be included in the TOR. The project proponent should prepare a TOR that both delineates the scope of the ESIA and provides complete guidance for undertaking the ESIA study. After approval from the authorizing agencies the TOR becomes an official document. In the ESIA report review process the TOR serves as a standard document against which the subject matter covered by the ESIA report will be evaluated.

The consultant will perform the following tasks:

- Carry out a description of the biophysical characteristics of the environment in which the planned activity will take place, and highlight the major constraints that need to be taken into account during construction as well as during operation of the facility;
- Carry out a description of the socio-economic environment of the planned investment, and highlight the major constraints that need to be taken into account during construction as well as during operation of the facility;
- Assess the potential environmental and social impacts due to construction, operation, or rehabilitation activities, and recommend mitigation measures as appropriate, including cost estimates;
- Assess the potential environmental and social impacts due to the provision of water supply and sanitation facilities that might be needed for the planned facility and make appropriate recommendations;
- Assess the need for liquid and solid waste collection, disposal and management in the facility, and make recommendations accordingly;
- Discuss and assess alternative project designs and make recommendations;
- Carry out a review of the respective national environmental policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank's safeguard policies, indicate which of these policies is triggered by the planned activity, identify any gaps that might exist, and make recommendations as to how potential gaps should be bridged in the context of the planned activity;
- Review the Conventions and Protocols to which the country is a signatory;
- Assess the country's environmental assessment and management capacity, as well as the capacity to implement the proposed mitigation measures, and make appropriate recommendations, including potential capacity building and training needs, and their costs;
- Prepare an Environmental and Social Management Plan (ESMP) for the planned activity. The ESMP should outline:
 - Potential environmental and social impacts resulting from the activity;
 - Proposed mitigation measures;
 - Institutional responsibilities for implementation of the mitigation measures;
 - Monitoring indicators;
 - Cost estimates for these activities; and
 - Time horizons for implementing the ESMP

- Public consultations. ESIA results and proposed mitigating measures will then be shared with the potentially affected population, NGOs, local authorities and the private sector working in the area where the activity will take place. Minutes of this consultation will form an integral part of the report.

Annex 4: ESHS Clauses for Construction Contractor

Adequate selection of project site and right of way and appropriate project design can have a significant influence on the magnitude of the associated environmental impacts and the proper environmental management of energy and electricity distribution projects in Liberia. As such, the EA for projects involving any new construction, or any rehabilitation or reconstruction for existing projects, should provide information on screening

criteria for site selection and design, including the following:

- Site selection
- Sites should be chosen based on community needs for additional projects, with specific lots chosen based on geographic and topographic characteristics. The site selection process involves site visits and studies to analyze:
 - The site's urban, suburban, or rural characteristics;
 - National, state, or municipal regulations affecting the proposed lot;
 - Accessibility and distance from inhabited areas;
 - Land ownership, including verification of absence of squatters and/or other potential legal problems with land acquisition;
 - Determination of site vulnerability to natural hazards (i.e., intensity and frequency of floods, earthquakes, landslides, hurricanes, volcanic eruptions);
- Suitability of soils and subsoils for construction;
- Site contamination by lead or other pollutants;
- Flora and fauna characteristics;
- Presence or absence of natural habitats (as defined by ESS 6) and/or ecologically important habitats on site or in vicinity (e.g., forests, wetlands, coral reefs, rare or endangered species); and
- Historic and community characteristics.

After choosing an appropriate site and design, the contractor needs to prepare his own C- ESMP including health and safety at construction site, a traffic management plan, a waste management plan, chance-find procedures for physical cultural resources, etc. The C-ESMP needs to be approved by the EPA and the Project PIU/PCMU. The contractor is responsible for the implementation of the C-ESMP and is supervised by an independent consultant.

As construction activities could cause significant impacts on and nuisances to surrounding areas, careful planning of construction activities is critical. These are generally consistent for all power generation activities due to the similarity of the works involved. The following rules (including specific prohibitions and construction management measures) should be incorporated into all relevant bidding documents, contracts, and work orders.

Prohibitions:

The following activities are prohibited on or near the project site:

- (1) Cutting of trees for any reason outside the approved construction area;
- (2) Hunting, fishing, wildlife capture, or plant collection;
- (3) Use of unapproved toxic materials, including lead-based paints and asbestos;

- (4) Disturbance to anything with architectural or historical value;
- (5) Building of fires;
- (6) Use of firearms (except authorized security guards); and
- (7) Use of alcohol or any drug(s) by workers.

Construction management measures:

Dust and other air pollution emissions:

- (1) Watering of surfaces and/or chemical stabilization
- (2) Reduction of surface wind speed with windbreaks or source enclosures
- (3) Covering the road surface with a new material of lower silt content
- (4) Grading of gravel roads
- (5) Proper site enclosure through appropriate hoarding and screening;
- (6) Maintaining minimal traffic speed on-site and on access roads to the site;
- (7) Covering all vehicles hauling materials likely to give off excessive dust emissions;
- (8) Ensuring adequate maintenance and repair of construction machinery and vehicles;
- (9) Avoiding burning of material resulting from site clearance;
- (10) Covering any excavated dusty materials or stockpile of dusty materials entirely by impervious sheeting;
- (11) The provision of water troughs at entry and exit points to prevent the carryover of dust emissions, beyond the construction site
- (12) Proper truck maintenance
- (13) Turning off equipment when not in use

Noise:

- (1) Enclosing the site with barriers/fencing
- (2) Effectively utilizing material stockpiles and other structures to reduce noise from on- site construction activities
- (3) Choosing inherently quiet equipment
- (4) Operating only well-maintained mechanical equipment on-site
- (5) Maintaining all construction-related traffic at or below 15 mph on streets within 200 m of the site.
- (6) Maintaining all on-site vehicle speeds at or below 10 mph.
- (7) To the extent possible, maintaining noise levels associated with all machinery and equipment at or below 90 db.
- (8) Keeping equipment speed as low as possible

- (9) Shutting down or throttling down to a minimum equipment that may be intermittent in use
- (10) Utilizing and properly maintaining silencers or mufflers that reduce vibration on construction equipment
- (11) Restricting access to the site for truck traffic outside of normal construction hours
- (12) Proper site logistics and planning
- (13) Limiting site working hours if possible
- (14) Scheduling noisy activities during the morning hours
- (15) Informing the locals when noisy activities are planned

Solid waste management:

- (1) Use of generated construction debris materials for reclamation purposes whenever applicable, after ensuring the absence of contamination and the adequacy of the physical and chemical properties of such material
- (2) Minimization of construction and demolition wastes through careful planning during the design stage, whereby reducing or eliminating over-ordering of construction materials
- (3) Sorting of construction and demolition wastes into various categories and adopting re-use/recycle on site whenever deemed feasible.
- (4) Segregating chemical wastes and properly storing and disposing of it as hazardous waste.
- (5) Storing chemical wastes in a separate area that has an impermeable floor, adequate ventilation and a roof to prevent rainfall from seeping
- (6) Clearly labeling all chemical waste in English and Liberian, storing it in corrosion resistant containers and arranging so that incompatible materials are adequately separated
- (7) Securing a prior agreement with the EPA for the disposal of hazardous waste generated on-site
- (8) Drafting an agreement with the solid waste collector in the county where the project is being implemented to identify collection sites and schedule the removal to minimize odor, pest infestation and litter buildup
- (9) Prohibiting the burning of refuse on the construction site
- (10) Promoting recycling and reuse of general refuse.

Wastewater management

- (1) Provide channels, earth bunds or sand bag barriers to properly direct storm water to silt removal facilities
- (2) Use adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins before discharge into the surrounding waters
- (3) Maintain silt removal facilities by regularly removing deposited silt and grit

- (4) Discharge rainwater pumped out from trenches or foundation excavations into storm drains via silt removal facilities and not directly to the aquatic environment
- (5) Cover open stockpiles of construction materials on site with tarpaulin or similar fabric during rainstorm events to prevent the washing away of construction materials
- (6) Compact earthworks as soon as the final surfaces are formed to prevent erosion especially during the wet season
- (7) Collect and connect water used in vehicle and plant servicing areas to foul sewers via an oil/grease trap. Oil leakage or spillage should be contained and cleaned up immediately
- (8) Collect spent oil and lubricants and store them for recycling or proper disposal
- (9) Prepare guidelines and procedures for immediate clean-up actions following any spillages of oil, fuel or chemicals.
- (10) Contain sewage from toilets, kitchens and similar facilities in sanitary cesspools before being transported by trucks to a nearby wastewater treatment plant

Health and safety

- (1) Restriction of access to the construction site by proper fencing
- (2) Establishment of buffering areas around the site
- (3) Provision of guards on entrances and exits to the site
- (4) Installation of warning signs at the entrance of the site to prohibit public access
- (5) Provision of training about the fundamentals of occupational health and safety procedures
- (6) Provision of appropriate personal protective equipment (PPE) (impermeable latex gloves, working overalls, safety boots, safety helmets, hearing protecting devices for workers exposed to noise levels exceeding 90 dBA, and lifesaving vests for construction sites near water bodies) that workers can swim and that lifesaving rings are available at the worksite, near water, and safety harness for working at heights
- (7) Ensuring that the protective material is being used wherever it is required
- (8) Ensuring that especially sensitive or dangerous areas (like areas exposed to high noise levels, areas for especially hazardous work etc.) are clearly designated
- (9) Ensuring that all maintenance work necessary for keeping machines and other equipment in a good state will be regularly carried out.
- (10) Ensuring that the workers are qualified, well trained and instructed in handling their equipment, including the use of personal protective equipment (PPE)..
- (11) Provision of adequate loading and off-loading space
- (12) Development of an emergency response plan
- (13) Provision of on-site medical facility/first aid
- (14) Provision of appropriate lighting during night-time works
- (15) Implementation of speed limits for trucks entering and exiting the site

- (16) Ensuring that hazardous substances are being kept in suitable, safe, adequately marked and locked storing places
- (17) Ensuring that containers of hazardous substances are clearly marked, and that material safety data sheets are available
- (18) Ensuring that all workers dealing with hazardous substances are adequately informed about the risks, trained in handling those materials, and trained in first aid measures to be taken in the case of an accident
- (19) Designating an area where contaminated materials and hazardous waste can be stored for proper disposal according to environmental guidelines
- (20) The adoption of good housekeeping practices for ensuring hygiene on site
- (21) The elimination of pools of stagnant water, which could serve as breeding places for mosquitoes
- (22) The provision of bed nets for workers living on site.
- (23) The appropriate elimination of waste of all types, including wastewater
- (24) The provision of a safety specialist responsible for the preparation, implementation and maintenance of a comprehensive safety program
- (25) For the rehabilitation and/or construction of fuel supply facilities, provision of fire- fighting equipment such as dry powder extinguishers
- (26) Conducting fire-fighting and leak checks training drills for the construction staff
- (27) Prohibition of smoking as well as litter or weed build up in the area as these may pose fire risks

Environmental Supervision during Construction

The bidding documents should indicate how compliance with environmental rules and design specifications would be supervised, along with penalties for non-compliance by contractors or workers. Construction supervision requires oversight of compliance with the manual and environmental specifications by the contractor or his designated environmental supervisor. Contractors are also required to comply with national and municipal regulations governing the environment, public health, and safety.

Annex 5: Chance Find Procedure

Chance finds are defined as physical cultural resources encountered unexpectedly during project implementation. Chance find Procedures includes provisions for managing aforementioned encountered chance finds. These include the following:

- In the case of chance find of any sites or artifacts of historical, cultural, archeological or religious significance all construction activity in the vicinity of the find/feature/site will cease immediately.
- The discovery will be clearly delineated and secured, and all found remains will be left in situ.
- An LEC/RREA contract and assign an archaeological consultant who will assess, record and photograph the find/feature/ site.
- In consultation with the Ministry of Information, Culture and Tourism, the assigned Archaeologist will complete a report on the findings and determine the appropriate course of action to take. the contacted Archaeologist will complete a report on the findings and determine the appropriate course of action. The PIU/PCMU will initiate contact with the MoICT through the designated focal point at the Ministry and ensure that all communication is documented for tracking purposes. The PIU will be responsible for covering the costs associated with the investigation, including site visits, assessments, and reporting. To facilitate this process, the PIU/PCMU will establish clear guidelines outlining the roles and responsibilities of each party, including the timeline for actions, necessary approvals, and budget allocations. This ensures that the procedure is streamlined, and the necessary support is available to conduct the investigation efficiently.
- An on-site finds storage area will be provided, allowing storage of any artifacts or other archaeological material recovered during the process.
- A conservator will be made available to the project, if required, and will decide on the disposition of any found samples or relics.
- Once authorization has been given by the Ministry of Information, Culture and Tourism, the proponent will be informed when works can resume.

Annex 6: Screening Checklist Guide

Site Selection

Rate the sensitivity of the proposed project site in the following table according to the given criteria. High ratings indicate that more substantial environmental and/or social planning may be required to adequately avoid, mitigate, and manage potential effects.

<i>Issues</i>	<i>Site Sensitivity</i>			<i>Ratings</i>
	<i>Low</i>	<i>Medium</i>	<i>High</i>	
Natural habitats	No natural habitats present of any kind	No critical natural habitats; other natural habitats occur	Critical natural habitats present	
Water quality and water resource availability and use	Water flows exceed any existing demand; low intensity of water use; potential water use conflict expected to be low; no potential water quality issues	Medium intensity of water use; multiple water users; water quality issues are important	Intensive water use; multiple water users; potential for conflicts is high; water quality issues are important	
Natural hazards vulnerability, floods, soil stability/ erosion	Flat terrain; no potential stability/erosion problems; no known volcanic/seismic/ flood risks	Medium slopes; some erosion potential; medium risks from volcanic, seismic, flood, hurricane	Mountainous terrain; steep slopes; unstable soils; high erosion potential; volcanic, seismic, or flood risks	
Physical Cultural property	No known or suspected physical cultural heritage sites	Suspected cultural heritage sites; known heritage sites in broader area of influence	Known heritage sites in project area	
Involuntary resettlement	Low population density; dispersed population; legal tenure is well defined; well defined water rights	Medium population density; mixed ownership and land tenure; well- defined water rights	High population density; major towns and villages; low-income families and/or illegal ownership of land; communal properties; unclear water rights	

Indigenous peoples	No indigenous population	Dispersed and mixed indigenous populations; highly acculturated indigenous populations	Indigenous territories, reserves and/or lands; vulnerable indigenous populations	
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Checklist Questions

Parameter	Yes/No answers and bullet lists
Physical data	
Site area in ha	
Rehabilitation of existing site	
Plans for new construction	
Preliminary environmental information	
Source of information available at this stage	
Has there been litigation or complaints of any environmental nature directed against the proponent or sub-project?	
Likely environmental impacts	
What are likely environmental impacts, opportunities, risks, and liabilities associated with the sub-project?	
Determine which category the sub-project falls under based on the environmental categories A, B, and C	
Mitigation of potential pollution	
Does the sub-project have the potential to contravene regulations?	
Does the sub-project involve PCBs?	
Does the design adequately detail mitigation measures?	
Does the proposal require, under national or local laws, the public to be informed consulted, or involved?	
Has consultation been completed?	
Land acquisition and resettlement?	
What is the likelihood of land purchasing for the sub-project?	
How will land be purchased?	
What level or type of compensation is planned?	
Who will monitor actual payments?	

Recommendations:

- Requires an ESIA.
- Requires ESMP
- Requires an Environmental Audit
- Does not require further environmental studies

Annex 7: List of issues raised and responses provided at the September and October 2020 consultation meetings

The issues raised during the September and October 2020 consultation meetings were relevant to LESSAP-2 because they provide insights that have shaped the project's design and strengthened its alignment with community needs. For example, concerns related to stakeholder engagement, communication, and collaboration emphasized the need for transparency and clear information-sharing, which are critical for building trust and securing stakeholder support throughout the project's lifecycle. Similarly, addressing issues around compensation, grievance management, and defining stakeholder roles builds on lessons learned from LESSAP-1 and other World Bank-funded projects, enabling LESSAP-2 to refine its approach to resettlement and community engagement. In terms of project sustainability, feedback on the maintenance of off-grid solar systems for health centers and streetlights has led to the integration of dedicated maintenance plans and technical support teams, ensuring long-term functionality and service delivery. Overall, these insights have informed a more robust and responsive design for LESSAP-2, positioning it to better meet stakeholder expectations and project objectives.

No	Issue/Concern Raise	Response (s) Provided
1.	What is the precise goal of this project?	The proposed project will seek to electrify health facilities as part of developing critical infrastructure for resilience against epidemics like Ebola and COVID 19 and ensuring the operational sustainability of LEC in the post pandemic recovery period. The Project will also reinforce and expand the medium and low voltage distribution network, intensify customer connections and expand access to the grid, establish district offices and customer service centers in the five (5) named counties. Additionally, the proposed project will support the extension of off-grid solar electricity services to health facilities and will also support some pilot solar powered mini grid for some communities in the catchment area of the selected health facilities.
2.	Who are the Project implementer(s)	The Project will be jointly implemented and coordinated by the Liberia Electricity Corporation (LEC) and Rural and Renewable Energy Agency (RREA).
3.	How are the Project implementers going to promote and ensure adequate communication, collaboration and sharing of information among stakeholders	Each stakeholder will be engaged at every stage of the proposed project. The engagement strategies of the Project will include face-to-face meetings, phone calls, email, workshops, info shops, print media publications, and radio communications.
4.	Are there any studies conducted on potential environmental, social, health and cultural impacts of the Project on local communities?	No, at this stage, we haven't done studies to ascertain potential impacts on local communities. Further studies will be done after the Project is approved and before implementation. However, considering the nature and scope of the proposed project, it is professionally assumed at this stage that the proposed project will have moderate environmental and social impacts on communities.
5.	Does the Project have a plan	We don't have the answer to your question at this stage, but

	to maintain and rehabilitate solar PV systems to be installed at various health centers or facilities? A maintenance and rehabilitation plan is important for the sustainability of solar installations at health facilities.	your question and concern are noted for consideration by the Project during the planning and design stages. We will get back to you with an answer during our next stakeholder engagement meeting.
6.	Will private and public health facilities be electrified under the proposed project?	The Project will electrify health facilities in five counties (Montserrado, Grand Bassa, Margibi, Bomi, and Grand Cape Mount Counties) via solar PV installations but the specific health facilities to be electrified are not yet identified by the Project. The implementing agencies of the Project will coordinate with the Ministry of Health in collaboration with the local County Health Teams from each of the beneficiary counties to identify the specific health facilities to be electrified by the Project.
7.	What are the project's guidelines for Sustainable Community Development?	Consistent with international best practices, and in line with relevant Liberian Legislations, the Project will initiate multi-stakeholder consultation engagements where the concerns, aspiration and interest of the communities will be integrated into the project design and plan, with the hope of achieving economically, environmentally, socially and healthy resilient communities without harming the future generations.
8.	Will the proposed project be void of political interferences?	Politics is part of human nature which makes it difficult to divorce human activities from political interferences. However, the Project is a politically neutral project with the main objective to reduce poverty. Hence, the implementing agencies of the Project will endeavor as much as possible to avoid or minimize political interference at all stages of the Project, through clearly defined roles, guidelines and principles.
9.	How will the Project determine appropriate compensation mechanisms for individuals whose properties will be affected by the Project?	The Constitution of Liberia and other Liberian Laws provide the basis for fair and just compensation for individual's property(ies) affected by development project for public use, such as the proposed project. Hence, in consultation with all relevant stakeholders, a just and transparent compensation mechanisms will be determined for affected properties.
10.	What are your suggestions to address the problem with involuntary resettlement? Do you have previous experiences with it?	Building on experiences from ongoing World Bank funded projects implemented in Liberia (LIRENAP, LACEEP, and LACEEP-AF), we can safely say that the compensation measures will be just, adequate and satisfactory. But in the case where there's a gap, measures will be taken to address

		them in the best interest of all parties.
11.	Is there any mechanism to mitigate misunderstanding and address concerns amongst project stakeholder?	Yes, the Project will have Grievance Redress Mechanisms (GRM) at various levels, and this will include: Community, District, County and National levels. Each level of the GM will strive to satisfactorily address concerns or complaints related to the project activities. Additionally, there will be pragmatic information dissemination campaigns on both local and national media outlets to inform the public about the project activities.
12.	What criteria did the project proponents use to select the five counties as beneficiaries of the Project (Margibi, Bomi, Cape Mount, Grand Bassa Counties)?	The five referenced counties are within the major economic corridors of Liberia and they were selected given their proximity to the existing and planned electricity grid of the country. The project approach is to first provide access to electricity to these five counties which will indirectly boom economic development across other parts of the country. Subsequently, the electricity network will be expanded to reach other counties in Liberia, based on the availability of additional funding.
13.	Who are the stakeholders involved in the project preparation and implementation stages, and what are the roles they will play, and how effective their roles will be?	The project stakeholders comprise of people and institutions who are either directly affected by the Project or have influence and interest in the Project, including relevant government ministries and agencies, local county officials, and affected communities. County Superintendents and local officials will be involved at every stage of the proposed project, based on their interest, influence and impacts. The role and involvement of every stakeholder will be clearly defined by the Project.
14.	What opportunities are there for youth and women empowerment?	The proposed project, when approved, will create both direct and indirect job opportunities but not everyone will be employed. Also, through the availability and productive use of electricity, the Project will empower local communities to sustainably manage and expand their business network, generate more revenues, and elevate themselves to higher standard of living. With the completion of the Project, women who are generally affected by inhaling smoke causing respiratory problems from cooking with wood and charcoal will be safe, as more women will then use electricity for cooking. Additionally, contractors operating in the project communities will be encouraged to recruit local workforce, including the youth, whenever possible.
15.	What is the project plan on gender, does the Project have specific gender policy/plan?	In accordance with the National Gender Policy of Liberia, the Project will mainstream gender and where applicable, the Project may develop a Gender Action Plan (GAP) to ensure that gender issues are adequately addressed throughout the

		project life cycle.
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Annex 8: September and October 2020 Consultation Meetings held with Government Ministries², Agencies and Local County Superintendents

The consultations held with Government Ministries, Agencies, and Local County Superintendents in September and October 2020 were highly relevant to LESSAP-2 for several reasons. These meetings provided critical feedback on sector-specific needs, expectations, and recommendations that directly inform the project's design, planning, and implementation strategy. The feedback from key stakeholders such as the Ministry of Health, Ministry of Mines and Energy, and Environmental Protection Agency (EPA) emphasized the importance of coordination, integration, and continuous consultation with line ministries to enhance project sustainability and reduce potential environmental and social impacts.

Additionally, the inputs from local county superintendents and the Ministry of Internal Affairs reflect community-level priorities, such as the need for equitable electrification of health facilities, gender mainstreaming, and support for local workforce development, which are essential for achieving inclusive development and gaining local buy-in. Addressing these concerns helps mitigate risks of misunderstanding and project resistance. The engagement with technical agencies like Liberia Telecommunication Corporation (LIBTELCO) and Liberia Water and Sewer Corporation (LWSC) also highlighted the need to manage competing interests for right-of-way use and promote infrastructure sharing, which is crucial for optimizing resources and minimizing conflicts.

Incorporating these recommendations into LESSAP-2 enhance stakeholder ownership, strengthen project governance, and ensure alignment with national policies and sectoral objectives, ultimately contributing to more effective project outcomes and sustainability.

² A letter requesting a meeting with the Ministry of Labor and the Ministry of Finance and Development Planning were served but the meetings were not held after several follow-ups done by LEC and RREA safeguards team.

No	Stakeholder	Date of meeting	Thematic Area	Level of support	Feedback/Recommendation
1.	Ministry of Mines and Energy	September 15, 2020	Energy	Strongly in favor	<p>The Ministry of Mines and Energy welcomed the Project and stated that it should be involved in the implementation of the Project, (ex. information sharing, consultations, meetings, etc.) as all energy related information in Liberia emanates from the Ministry.</p> <p>Consideration for communities within Monrovia, that are not yet connected to the existing LEC grid connection</p>
2.	Ministry of Health	Sept. 18, 2020	Health	In support of the Project	<p>The Ministry of Health indicated that the Health Infrastructure Implementation Unit should be adequately consulted and involved at the planning and implementation stages of the proposed project</p> <p>The Ministry of Health already has ongoing discussions with few other donor institutions to provide support to projects targeting access to solar PV energy for health care facilities in rural areas</p> <p>The Ministry also said that it had a challenge with the maintenance and sustainability of previous solar PV systems installed at health facilities in Liberia</p> <p>That public healthcare services are free of charge and the government may not be able to generate revenue from the use of solar PV energy services to cover maintenance under the proposed project</p> <p>Health centers and hospitals are the facilities with high energy consumption needs to run laboratory services, operation rooms, maternal & child health services, pharmacies, etc.</p> <p>Clinics have low power consumption need and they constitute majority of healthcare facilities in Liberia.</p>
3.	Environmental Protection Agency	September 20, 2020	Environment		<p>The EPA welcomed the Project and requested that the framework document (RPF & ESMF) be shared with them for their input/comment before public disclosure.</p> <p>An updated ESIA procedural guideline (2017) contains section</p>

No	Stakeholder	Date of meeting	Thematic Area	Level of support	Feedback/Recommendation
					on RAP procedure which can aid in the preparation of the RPF. The magnitude of project impact cannot be properly assessed and considered at this stage of the Project as Moderate because the project details and specific sites are not known.
4.	Liberia Land Authority	Sept. 8, 2020	Land use, land governance and administration	In support of the Project	<p>Welcomed the project and thanked the LEC and RREA for the meeting.</p> <p>Need for continuous consultation with all stakeholders regarding the proposed project.</p> <p>Outsource the distribution component to locals as it is done with the Cote d'Ivoire, Liberia, Sierra Leone and Guinea (CLSG) project in Nimba</p> <p>Sustainability of the Project in rural areas</p> <p>Minimize Resettlement Impacts</p> <p>Appointed a focal person from LLA to coordinate with LEC and RREA during implementation of the Project</p>
5.	Ministry of Public Works	Sept.16.2020	Zoning/Right of Way use and access	Partially in favor	<p>Welcomed the project but stated that it will only participate in any form of meeting upon submission of LESSAP Project documents for it review and inputs.</p> <p>The role of the Ministry of Public Works should be clearly defined, including budgetary allotment for its activities on the proposed project.</p>
6.	Ministry of Agriculture	Sept.16.2020	Tree & Cash crops impacts	Strongly in favor	<p>Welcomed the Project and stated that an updated price list for tree crops compensation be considered</p> <p>Project documents be shared for its review and inputs.</p> <p>Priority should be given to agriculture sectors as a mean to boost food security, production and sustainability</p>
7.	Ministry of Internal Affairs	Sept. 10, 2020	Local Governance	In support of the Project	<p>copies of the project documents should be shared with the Ministry</p> <p>Project should develop plans to maintain and rehabilitate solar PV systems to be installed at various health centers or facilities</p> <p>Appointed Mr. Emmanuel Whenyou, as focal person from MIA to coordinate with LEC and RREA during implementation of the</p>

No	Stakeholder	Date of meeting	Thematic Area	Level of support	Feedback/Recommendation
					Project Volunteered to send letters to the Superintendents of the five counties where the Project will be implemented, to inform them about LEC and RREA engagement meetings with them. Emphasized the need for continuous consultation
8..	Liberia Water and Sewer Corporation	September 10, 2020	Water and Sewer/ competing interest for right-of-way use for public utilities	Strongly in favor	Welcomed the Project and emphasized the need for flow of communication, consultations and coordination at every stage of the Project LEC should adhere to all existing Agreements entered into between their respective Institutions
9.	Liberia Telecommunication Corporation	Sept. 10, 202	competing interest for right-of-way use for public utilities	In support of the Project	Welcomed the Project and intimated that the LEC and LIBTELCO should combine national resources to achieve the following goals: develop an infrastructure sharing model for LEC and LIBTELCO; Design LEC's pole infrastructure and high voltage network to accommodate LIBTELCO fibers. set up fiber network and national data center to monitor usage of power and at the same time allow LIBTELCO to use the same infrastructure. Need for Continuous Consultation between LEC and LIBTELCO
10.	Ministry of Gender, Children and Social Welfare	September 11, 2020	Gender, Children and Social Protection	In support of the Project	The Ministry of Gender welcomed the Project and indicated that light is security for women and girls. Nurses in rural areas sometimes used their mobile phones at night to attend to pregnant women giving birth at their health facilities. Project should seek to empower women and sustain their livelihood There should be sex or gender disaggregated data to monitor and measure the success of the proposed project Emphasis should be given to the National Gender Policy of Liberia

No	Stakeholder	Date of meeting	Thematic Area	Level of support	Feedback/Recommendation
					There should be continuous consultation Project documents or information should be shared with the Ministry
11.	Superintendent of Margibi	Sept. 23, 2020	local governance/ direct project beneficiaries? The same applies to the other counties where the Project will be implemented.		The Superintendent of Margibi County welcomed the Project and said that nearly all healthcare facilities in Margibi County are in need of power. The proposed project should provide electricity to both private and public owned health facilities in Margibi County. The local county leadership is in support of the proposed project
12.	Superintendent of Grand Cape Mount County	September 25, 2020	local governance and direct project beneficiary. The same applies to the other counties where the Project will be implemented.	Strongly in favor	Emphasized the need for the proposed project to provide broad support for gender mainstreaming in every aspect of the Project, and this includes employment opportunity, gender equality and equity. That at least 40% of households that will be electrified under the Project should be female headed. Selection of health facilities for the purpose of the Project should be done in consultation with project communities at local level. Private health facilities that provide critical services to the communities should be considered. Avoid involuntary resettlement and if avoidance is impossible, compensate for private properties affected by the Project.
13.	Superintendent of Bomi County	Sept. 24, 2020	local governance/ direct project beneficiaries? The same applies to the other counties where	Strongly in favor, but with reservations	The Superintendent and local county officials of Bomi County welcomed the proposed project and indicated the need for vigorous information dissemination of the Project to avoid misunderstanding, misinformation and misinterpretation of the project development objectives. Whenever possible, local workforce should be prioritized for employment during the construction of the Project.

No	Stakeholder	Date of meeting	Thematic Area	Level of support	Feedback/Recommendation
			the Project will be implemented.		<p>Contractors should consider Corporate Social Responsibility as one of their deliverables</p> <p>Training of local work force in basic maintenances and repair of electrical appliances and service should be considered as a deliverable for contractors. By so doing, the local Liberian workforce will be learning by doing, coaching, teaching and mentoring.</p> <p>selection of health facilities for the proposed project should be done in consultation with communities at the local level.</p> <p>Need for GM through which concerns/complains will be channeled for redress</p>
14.	Superintendent of Grand Bassa County	Sept. 24, 2020	<p>local governance/ direct project beneficiaries?</p> <p>The same applies to the other counties where the Project will be implemented</p>		<p>The Superintendent and local county officials of Grand Bassa County welcomed the proposed project and intimated that there is huge need for electricity in Buchanan to run local government institutions and also boom the local economy</p> <p>fishery activities incur huge cost of storage for preservation of sea foods</p> <p>The County Authority of Grand Bassa is poised to collaborate and give its support to make the Project successful in areas of preventing power theft and carrying out community awareness</p>

Annex 9: Issues Raised and Responses Provided in the Early May 2024 Consultation Meetings with National Stakeholders Under LESSAP 2

No	Issue/Concern Raise	Response (s) Provided
1.	What is the precise goal of this project?	<p>The goal of the Liberia Electricity Sector Strengthening and Access Project (LESSAP) Phase 2 is to increase access to electricity and improve the operational efficiency of the Liberia Electricity Corporation (LEC), and also support the implementation of off-grid components that will be implemented by RREA.</p> <p>This project, funded by the World Bank, focuses on rehabilitating and expanding electricity infrastructure, enhancing distribution networks, and extending access to electricity. The second phase of LESSAP aims to further strengthen Liberia's power sector and contribute to the country's development and resilience.</p>
2.	Who are the Project implementers?	<p>The implementing agencies for the Liberia Electricity Sector Strengthening and Access Project (LESSAP) Phase 2 are the Liberia Electricity Corporation (LEC) and the Rural and Renewable Energy Agency (RREA). These organizations play a crucial role in executing the project, which aims to increase access to electricity and improve the operational efficiency of Liberia's power sector. The second phase of LESSAP is funded by the World Bank and focuses on rehabilitating and expanding electricity infrastructure, enhancing distribution networks, and extending access to electricity</p>
3.	How are the Project implementers going to promote and ensure adequate communication, collaboration and sharing of information among stakeholders	<p>To promote effective communication, collaboration, and information sharing among stakeholders, the implementers will employ several strategies:</p> <ul style="list-style-type: none"> • Stakeholder Engagement Workshops and Meetings: Regular workshops and meetings will be organized involving key stakeholders, including government agencies, local communities, and development partners. These gatherings will provide a platform for sharing project updates, addressing concerns, and fostering collaboration. • Communication Channels: Implementers will establish clear communication channels, such as newsletters, project websites, and social media platforms. These channels will disseminate project information, progress reports, and relevant announcements to stakeholders. • Community Outreach: The project team will engage with local communities through awareness campaigns, town hall meetings, and community forums. This approach ensures that community members are informed about project activities and can

No	Issue/Concern Raise	Response (s) Provided
		<p>actively participate in decision-making processes</p> <ul style="list-style-type: none"> • Capacity Building: Implementers will enhance the capacity of LEC staff, government officials, and other relevant stakeholders in effective communication and collaboration. Training programs will focus on skills related to stakeholder engagement, conflict resolution, and information sharing. • Partnerships: Collaborating with other organizations, such as non-governmental organizations (NGOs), development agencies, and private sector entities, will facilitate knowledge exchange and resource sharing. Partnerships can enhance the project's impact and sustainability. • Feedback Mechanisms: Implementers will establish feedback mechanisms to receive input from stakeholders. Regular surveys, suggestion boxes, and online platforms will allow stakeholders to express their views, raise concerns, and provide feedback on project implementation. <p>By adopting these strategies, LESSAP Phase 2 aims to create a supportive environment for all stakeholders involved in Liberia's electricity sector.</p>
4.	Are there any studies conducted on potential environmental, social, health and cultural impacts of the project on local communities?	<p>The Liberia Electricity Sector Strengthening and Access Project (LESSAP) Phase 2 has undergone environmental and social assessments to evaluate its potential impacts on local communities. Here are some relevant findings:</p> <ol style="list-style-type: none"> 1. Appraisal Environmental and Social Review Summary (ESRS): <ul style="list-style-type: none"> • The World Bank conducted an ESRS for LESSAP Phase 2, which includes an assessment of environmental and social aspects. <p>While the ESRS does not provide detailed studies, it outlines the project's objectives and context¹.</p>
5.	Does the Project have sustainability plan?	<p>The proposed project incorporates sustainability considerations to ensure long-term impact with emphasis on the followings:</p> <ol style="list-style-type: none"> 1. Operational Sustainability: <ul style="list-style-type: none"> ○ LESSAP Phase 2 aims to improve the operational efficiency of LEC. By enhancing LEC's capacity that will contribute to the sustainability of electricity services, thus, reducing losses, enhance revenue collection, and promote financial stability. 2. Infrastructure Rehabilitation and Expansion:

No	Issue/Concern Raise	Response (s) Provided
		<ul style="list-style-type: none"> ○ The project focuses on rehabilitating and expanding electricity infrastructure. Upgrading existing facilities and extending the distribution network enhance the reliability and longevity of the system to ensures sustained electricity supply to communities. <p>3. Community Engagement and Ownership:</p> <ul style="list-style-type: none"> ○ It will engage local communities through awareness campaigns, workshops, and community forums that will fosters a sense of ownership and encourages responsible use of electricity. <p>4. Environmental Considerations:</p> <ul style="list-style-type: none"> ○ While specific studies are not detailed in the provided documents, the project aims to minimize adverse environmental impacts, and Implementers will prioritize environmentally friendly practices during construction, operation, and maintenance. <p>5. Capacity Building and Training:</p> <ul style="list-style-type: none"> ○ It will include capacity-building programs for LEC staff and relevant stakeholders to enhances skills related to project management, maintenance, and customer service to ensures sustained project outcomes. <p>6. Monitoring and Evaluation:</p> <ul style="list-style-type: none"> ○ Implementers will monitor project performance and assess its impact over time to help identify areas for improvement and ensure project sustainability.
6.	What will be the roles and support of the off-grid companies during the implementation of the Project? ?	<p>In the second phase of the Liberia Electricity Sector Strengthening and Access Project (LESSAP), there is a focus on supporting off-grid companies that will include the followings:</p> <p>1. Off-Grid Support</p> <ul style="list-style-type: none"> ○ During the project implementation, off-grid companies will play a crucial role in expanding energy access beyond the traditional grid. Their specific activities include: <ul style="list-style-type: none"> ▪ Solar Home Systems: These systems involve the installation of PV panels, inverters, and batteries in selected health facilities, education centers and individual households. ▪ Mini-Grids: Off-grid companies may establish stand-alone systems

No	Issue/Concern Raise	Response (s) Provided
		<p>for households, public institutions, and communities in remote and dispersed areas of Liberia.</p> <ul style="list-style-type: none"> ▪ They will contribute to the project's success by providing innovative solutions for energy access in underserved areas.
7.	What are the Project's gender mainstreaming guidelines?	<p>The project will mainstream gender through by integrating gender considerations systematically throughout the project lifecycle wit focus on the following:</p> <ol style="list-style-type: none"> 1. Understand the existing gender dynamics related to energy access, use, and decision-making. 2. Incorporate gender-responsive activities into project design and implementation. <p>Examples include:</p> <ul style="list-style-type: none"> ○ Promoting women's participation: Ensure women's involvement in decision-making processes related to energy. ○ Addressing gender-specific needs: Design energy solutions that meet women's practical requirements (e.g., clean cooking solutions). ○ Reducing gender-based violence: Consider safety concerns related to energy access. <ul style="list-style-type: none"> ▪ Supporting women-led microenterprises: Encourage income-generating activities in the energy sector. ▪ Capacity-building: Train project staff and partners on gender mainstreaming.
8.	Will the proposed project be void of political interferences?	<p>Politics is part of human nature which makes it difficult to divorce human activities from political interferences. However, the project is a politically neutral project with the main objective to reduce poverty. Hence, the implementing agencies of the project will endeavor as much as possible to avoid or minimize political interference at all stages of the project, through clearly defined roles, guidelines and principles.</p>
9.	How will the project determine appropriate compensation mechanisms for individuals whose properties will be affected by the	<p>The Constitution of Liberia and other Liberian Laws provide the basis for fair and just compensation for individual's property(ies) affected by development project for public use, such as the proposed project. Hence, in consultation with all relevant stakeholders, a just and transparent compensation mechanisms will be determined for affected properties.</p>

No	Issue/Concern Raise	Response (s) Provided
	project?	
10.	What are your suggestions to address the problem with involuntary resettlement? Do you have previous experiences with it?	Building on experiences from ongoing World Bank funded projects implemented in Liberia (LIRENAP, LACEEP, and LACEEP-AF), we can safely say that the compensation measures will be just, adequate and satisfactory. But in the case where there's a gap, measures will be taken to address them in the best interest of all parties.
11.	Is there any mechanism to mitigate misunderstanding and address concerns amongst project stakeholder?	Yes, the project will have Grievance Mechanisms (GMs) at various levels, and this will include: Community, District, County and National levels. Each level of the GM will strive to satisfactorily address concerns or complaints related to the project activities. Additionally, there will be pragmatic information dissemination campaigns on both local and national media outlets to inform the public about the project activities.
12.	What criteria did the project proponents use to select the five counties as beneficiaries of the project (Margibi, Bomi, Cape Mount, Grand Bassa Counties)?	The five referenced counties are within the major economic corridors of Liberia and they were selected given their proximity to the existing and planned electricity grid of the country. The project approach is to first provide access to electricity to these five counties which will indirectly boom economic development across other parts of the country. Subsequently, the electricity network will be expanded to reach other counties in Liberia, based on the availability of additional funding.
14.	What opportunities are there for youth and women empowerment?	The proposed project, when approved, will create both direct and indirect job opportunities but not everyone will be employed. Also, through the availability and productive use of electricity, the project will empower local communities to sustainably manage and expand their business network, generate more revenues, and elevate themselves to higher standard of living. With the completion of the project, women who are generally affected by inhaling smoke causing respiratory problems from cooking with wood and charcoal will be safe, as more women will then use electricity for cooking. Additionally, contractors operating in the project communities will be encouraged to recruit local workforce, including the youth, whenever possible.
15.	What is the Project plan on gender, does the Project have specific gender policy/plan?	In accordance with the National Gender Policy of Liberia, the project will mainstream gender and where applicable, the project may develop a Gender Action Plan (GAP) to ensure that gender issues are adequately addressed throughout the project life cycle.

No	Issue/Concern Raise	Response (s) Provided

Annex 10: Specific Concerns and Recommendation provided by Participants during Early May 2024 Stakeholder Engagement Meeting under LESSAP 2

NO.	NAME	INSTITUTION	CONCERNS RAISED	RESPONSE/LEC & RREA
1.	Steven Payma	Rural Renewable Energy Agency	What are the plans to incorporate the private sector or actors into the energy sector?	<ul style="list-style-type: none"> The LEC has some private sector incorporated in the energy sector, as evident in the Bong, Nimba, Fish Town, and Pleebo corridors, as those connections are currently managed by private firms. An example is the Jungle Energy Power (JEP) operating in Nimba and Bong.
2.	Albert Toukolon	Ministry of Public Works	<ul style="list-style-type: none"> What are the challenges encountered during the implementation of LESSAP? It is recommended that roles and responsibilities be allotted to key stakeholders for such engagement in order to have them in attendance. 	<ul style="list-style-type: none"> Consultants and contractors are currently being recruited for the project, E&S instruments have been compiled, and the engineering design has been reviewed and approved. As construction work has not yet begun, we are unable to say what challenges will be faced in implementing the project. Recommendation is noted.
3.	Anthony N. Borlay	Ministry of Gender Children and Social Protection	<ul style="list-style-type: none"> What strategy has been deployed to incorporate marginalized groups in the project corridor? It is recommended 	<ul style="list-style-type: none"> The project is non-discriminatory; the benefit of the project is cut across every individual in the project corridor. Recommendation is noted.

			to recruit females on the project for capacity building as part of the project's beneficiaries.	
4.	Lily Olive Saab	LEAP Network	<ul style="list-style-type: none"> • What are the plans to work with the mini-grid developer when LEC starts to operate in off-grid areas? • How does capacity building tend to benefit all implementing partners of the project. • How do you describe your level of success in the implementation of the project. 	<ul style="list-style-type: none"> • There is always coordination and information dissemination with mini-grid developers whenever the entity wants to start operation in off-grid areas. • Capacity building under the project shall benefit all implementing partners. • The level of success of the project can only be described at the end of its implementation.
5.	Jocelia J. Taplah	Ministry of Public Works	Stakeholder engagement should be a holistic approach that incorporates all government entities and partners.	Recommendation Noted.
6.	Thomas M. Parker	Ministry of Education	Is there a plan to include women beneficiaries under the project?	The project is non-discriminatory, and its beneficiaries are gender-balanced.

7.	William B. Toe	Ministry of Mines & Energy	Will electricity be affordable enough to serve the poor, as they have no source of income?	Project materials and connections will be provided on a free basis. Thus, project beneficiaries are responsible for purchasing their electricity as they can afford.
8.	Desmond T. Thompson	EPA	What are the Environmental Impacts of the project?	The environmental impacts are identified during the conduct of the environmental and social impacts assessment. After that study is conducted, the impacts of the project will be known.
9.	Stanley Mccauley	RREA	Recommends the establishment of an assest management policy that will serve as a guiding tool for safeguarding assests in the energy sector.	Recommendation Noted.

Attachment 1: Attendance and pictures of meetings with government ministries, agencies and county superintendents consulted.

Attachment 2: Attendance and pictures of meetings with affected communities

