



Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 11/18/2022 | Report No: ESRSA02419



BASIC INFORMATION

A. Basic Project Data

| | | | |
|---|--|--------------------------|----------------------------|
| Country | Region | Project ID | Parent Project ID (if any) |
| Western and Central Africa | WESTERN AND CENTRAL AFRICA | P179267 | |
| Project Name | Regional Emergency Solar Power Intervention Project | | |
| Practice Area (Lead) | Financing Instrument | Estimated Appraisal Date | Estimated Board Date |
| Energy & Extractives | Investment Project Financing | 11/7/2022 | 12/20/2022 |
| Borrower(s) | Implementing Agency(ies) | | |
| Republic of Chad, Republic of Liberia, Republic of Sierra Leone, Republic of Togo | Liberia Electricity Corporation, Electricity Distribution and Supply Authority (EDSA), Liberia Electricity Corporation (LEC), Societe Nationale d'Electricite du Tchad (SNE), West African Power Pool (WAPP) Secretariat, Togolese Rural Electrification and Renewable Energy Agency (AT2ER) | | |

Public Disclosure

Proposed Development Objective

The project development objective is to rapidly increase grid-connected renewable energy capacity and strengthen regional integration in the participating countries.

| Financing (in USD Million) | Amount |
|----------------------------|---------------|
| Total Project Cost | 311.00 |

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?



Yes

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

This proposed regional emergency project will finance the procurement, installation and operation of approximately 106 MW of solar photovoltaic (PV) and Battery Energy and Storage Systems (BESS), 41 MW expansion of hydro capacity, and the procurement and installation of related distribution and transmission interventions across four countries: Chad, Liberia, Sierra Leone, and Togo. The proposed project will form part of the Bank's response to the current energy crisis in the region and aims to (i) reduce fiscal impact of rising oil prices and provide fiscal space for countries to address food crisis resulting from geopolitical developments in Ukraine; (ii) increase the supply of affordable and clean energy on the grid to alleviate current power supply crisis; and (iii) help countries to move away from expensive and polluting Heavy Fuel Oil (HFO) and diesel fuel, reducing their emissions.

Country context: The West Africa sub-region has one of the lowest electrification rates coupled with some of the highest electricity costs in Sub-Saharan Africa. Countries faced with poor infrastructure, high losses and inadequate generation capacity have tried to meet demand through oil-based Emergency Power Plants (EPPs), resulting in high costs of electricity supply. Rising oil prices have further increased the liabilities of electricity utilities, who are unable to pay for their power purchases and often turn to the government for additional support to keep the lights on. With very limited fiscal space to support the rising sector arrears, countries are staring at an acute power supply crisis that threatens to upend their economic growth. Participant countries are facing a severe power supply crisis that is feeding into fiscal instability. Liberia, Sierra Leone and Chad are facing huge electricity purchase bills due to the rising oil prices and the importance of liquid fuel generation in their energy mix. The three countries are facing somewhere between 0.5-1 percent of GDP in increased fuel purchase costs creating a fiscal crisis. Civil strife in Sierra Leone has already taken scores of lives and widespread outages in Liberia have heightened tensions. On the other hand, Togo is experiencing security challenges in the Northern region and with limited supply of electricity and other infrastructure services the country's ability to address this situation is severely constrained. The proposed Regional Emergency Solar Power Intervention (RESPITE) Project will form part of the World Bank Group (WBG) response to the energy crisis faced by the region. Instead of offering support to fuel purchases, as was done in the past, the WBG aims to wean countries away from heavy fuel oil (HFO) and diesel power generation by taking a different approach: scaling up renewable power generation and improving capacity for energy trade in the future. The Bank through RESPITE will support public procurement of emergency renewable power generation that can help set a benchmark for greater private sector deployment of renewables in the future. At the same time, the project will support associated investments in transmission and distribution infrastructure needed to use the new generation capacity as well as technical assistance to further facilitate regional energy trade in the future. The regional approach developed for RESPITE i) provides economies of scale; ii) increases regional trade through development of power capacity and optimization of infrastructure; and iii) develops regional public good through establishment of a platform for knowledge sharing and capacity building. Moreover, the proposed intervention will connect at least 65 MWp (51 MW) of solar generation and 41 MW of hydro power to the CLSG interconnector available for regional trade, it will support synchronization of the West African Power Pool (WAPP) network and provide further technical assistance for regional integration.

Sector and Institutional Context:

Public Disclosure



Sierra Leone: The power sector is almost entirely under government ownership and sector institutions have very limited capacity to meet the demand imposed on them. The National Electricity Act, 2011 (the Electricity Act) established two state-owned enterprises: (a) the Electricity Generation and Transmission Company (EGTC) and (b) the Electricity Distribution and Supply Authority (EDSA). EDSA, the distribution utility, has high losses and low collections, and is unable to pay for its power purchases or meet current demand in the country. Sierra Leone has been experiencing power supply shortage and outages since 2021 as EDSA struggles to pay for power purchases from its biggest supplier of electricity, Karpowership (KP),- an Independent Power Producer (IPP). During the dry season Bumbuna hydro capacity drops to less than 5MW, leaving Karpowership as the only source of electricity for Freetown. With high losses, low collections and USD 100/barrel oil prices due to Ukraine war, EDSA is unable to cover the costs of purchasing electricity from KP. Consequently, KP keeps reducing its generation output or shutting down operations frequently. The increasing arrears and continued load shedding have not only created a crisis in the power sector but threatens to disrupt the country's fragile economy as well. Sierra Leone's Integrated Resource Plan identifies solar as the least-cost solution with its low cost to replace thermal generation. It proposes the development of up to 100MW of solar through 2025 and another 80MW of solar and storage by 2027; the initial investment is defined as 45MWp solar in 2022.

Liberia: There has been some modest progress in reforming the energy sector, but institutional capacity remains a significant issue. The sector remains entirely government controlled with the Liberia Electricity Company (LEC), the vertically integrated utility responsible for generation, transmission and distribution. Liberia has one of the lowest electrification rates (28 percent) in the world and a high grid tariff (24 ¢/kWh) with LEC, the sector utility, facing financial issues. Despite having one of the highest tariffs in the world (US\$0.24/kWh), the financial situation of LEC is precarious, propelled by a vicious cycle of a high tariff that incentivizes electricity theft, which subsequently necessitates a higher tariff. The decade-long civil war destroyed the electricity infrastructure, including the main generation source of the country (Mt. Coffee hydropower). The least cost generation expansion plan has identified 90MW of grid connected solar plants (to be implemented in phases) and the expansion of the existing hydropower plant of Mt. Coffee as part of the least cost options for meeting the electricity needs of Liberia. It is expected that roughly 20 MW of grid connected solar could be set up in the first phase on an emergency basis, which would help address the current supply shortages by complementing the Mt. Coffee hydropower running up to the dry season and become a main source of supply during the dry season. The 41 MW hydropower expansion would provide low-cost power to replace expensive thermal power plants during the rainy seasons.

Chad: Despite the endowment of fossil fuels and excellent solar resources, Chad has one of the lowest electricity access rates in Africa at 6.4 percent. The national power utility, Societe Nationale d'Electricite du Tchad (SNE), has been facing several systemic issues that prevented it from expanding the power sector in Chad. With revenues well below costs and reliance on the central budget to cover a considerable share of operating costs, SNE faces chronic cash shortages making it impossible for the company to maintain its assets and attract private investment in power generation. Moreover, the remarkable solar energy potential remains unrealized. Solar energy is by far the most abundant renewable energy resource in Chad. Global Horizontal Irradiation varies between 5.8kWh/m²/day in the South and 6.8kWh/m²/day in the North of the country. Based on the results of an economic investment and dispatch model for N'Djamena power system, most of capacity additions in the coming years should be in the form of solar photovoltaic (PV) and storage with around 130 MW of solar PV and 160 MWh of energy storage capacity already needed by 2023.

Togo: The Government of Togo (GoT) has begun implementing the National Electrification Strategy (NES) to achieve universal energy access by 2030. The Government's ambition is to raise the access rate to 75 percent by 2025 through both on-grid and off-grid schemes. Demand for electricity, estimated at 1,528 GWh in 2021, is expected to grow at 8% per year (20-25 MW/year) and reach 3,440 GWh in 2025. Togo's power sector is primarily government controlled,



with some private sector participation in generation. The Ministry of Mines and Energy (MME) is responsible for electricity sector strategy and planning, whereas the Compagnie Energie Electrique du Togo (Public Distribution Utility – CEET) is the government utility responsible for transmission and distribution of electricity within the country. In 2016, the Togolese Agency for Rural Electrification and Renewable Energy (AT2ER) was created and entrusted with the mission to program and develop rural electrification projects, to promote the use of renewable energies, to seek and mobilize financing and to participate in technical support with operators in the sector. The GoT is also increasing the share of renewable energy in the generation mix through a series of solar PV projects and hydropower. The Government adopted the Generation Transport Distribution Master Plan (PDMC). The PDMC includes an ambitious target of 50 percent renewable energy generation by 2025 and an objective of reducing imports to 30 percent by 2025. Additionally, the PDMC calls for approximately 300 MW in solar capacity additions in 2023 and an additional 60 MW in 2024 (including the Dapaong site). At the same time, the security situation in the Savanes region has prompted the government to focus on service delivery there, including increasing access to power.

Description of components: The project will support: (i) the installation of solar and battery storage capacity along with near-term (roughly 3-year) O&M contracts for the provision of solar supply; (ii) expansion of hydro supply; (iii) grid modernization to ensure effective penetration of variable solar generation; (iv) distribution expansion; and (v) capacity building among the implementing agencies.

Component 1: Construction of Solar PV, Battery energy storage systems (BESS) and Grid Connection (USD 184 million equivalent IDA) will finance all costs associated with the Design, Supply and Installation (DSI) of solar PV (106MW) and BESS, O&M for the first three years of plant operation, and any associated works for grid connection in Liberia, Sierra Leone, Chad and Togo. The Solar PV installation in Liberia will not include BESS.

Component 2: Expansion of Mt. Coffee Hydro Power Plant and Dam Safety Enhancement (USD 61 million equivalent IDA) will finance all costs associated with expansion of the Mt. Coffee Hydro Power plant by installing two new turbines. The project will fund the expansion of the existing 88 MW MCHPP by adding an additional capacity of 41 MW to increase the installed capacity of the project to 129 MW (nominal capacity). Based on the reservoir discharge and gate limitations, the expanded MCHPP is expected to generate 127.4 MW of energy. The component may also finance technical solutions to increase the generation efficiency of the power plant, which will be determined during the project implementation. The project will finance the implementation of the dam safety management program including review and update of the dam safety plans.

Component 3: Distribution Expansion and Transmission Optimization (USD 15.5 Million Equivalent IDA) will finance the expansion of distribution networks and installation of equipment at substations to optimize transmission to help the newly installed capacity to be connected to regional interconnectors and/or reach national populations in Liberia, Sierra Leone, Chad and Togo. Specifically, this component will finance in Sierra Leone the supply and installation of voltage regulation equipment at 161/11kV Substation of Freetown to increase the evacuation capacity of the 161kV transmission line and Supply and installation of 33 kV and 11 kV distribution lines to optimize the integration of the Newton Solar Park (US\$6 million). (ASIDE: The Bumbuna Hydro Plant is connected to the 161kV line approximately 300km from Newtown; therefore, there are no adverse impact expected on the solar PV and battery storage plant at Newton in case of any emergency at Bumbuna.) The component will also finance in Togo the extension and densification of distribution grid in northern Togo with climate resilient grid infrastructure (US\$9.5 million).

Component 4: Regional coordination, Institutional Strengthening, Implementation Support, and Technical Assistance (USD50.5 million equivalent IDA) will finance the establishment and operation of the Regional Technical Committee (RTC) and the Regional Coordination Unit (RCU). The RCU will be responsible for overall quality assurance, coordination and reporting for the project. This component will finance any operational and technical support required by the national PIUs in the implementation of the project. The TA will build technical capacity across all PIUs



as there is extremely limited capacity within PIUs on grid connected solar PV plants. The Component will also provide technical assistance for regional integration under WAPP to continue support for activities that commenced under Component 2 of the WAPP APL4 (Phase 1) – Côte D'Ivoire, Sierra Leone, Liberia, and Guinea Power System Re-Development Project (WAPP-CLSG Project, P113266) when financing under that project closes. Activities include technical support for a new hydro project, St. Paul 2 (SP2) in Liberia for a potential future investment not under RESPITE. Lastly, Component 4D will finance technical assistance for establishment operations and capacity building of a river basin management agency and preparation of new hydro projects in Liberia. The agency will be responsible for managing the entire cascade of hydro projects, including watershed and biodiversity management.

Alignment to the CPF. RESPITE is aligned with the ongoing WBG's Country Partnership Frameworks (CPF) for Sierra Leone, Liberia, Chad, and Togo. The Country Partnership Framework (CPF) for Sierra Leone for FY 21-24 aims to improve the reliability of supply to enhance competitiveness of the country's economy. In Liberia, the CPF for FY19-24 targets expansion of reliable electricity services to narrow the infrastructure gap to foster more equitable development in the country. In Chad, the CPF for FY16-20 recognizes the importance of the energy sector as part of Engagement Theme 1 focused on strengthening the management of public resources, which includes the energy sector, while the CEN for FY23-FY24 (under preparation) envisages investment in energy sector under Focus Area 3 (Resilient Productivity and Connectivity) to address of the greatest binding constraint to Chad's growth and broader economic activity. In Togo, the CPF for FY17-FY20, calls for strengthening energy services to improve private sector performance and job creation.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

LIBERIA: The project site is in Montserrado County, Careysburg District in Harrisburg, approximately 25 km north of Monrovia. The project site will be situated on Mount Coffee Island at the existing Mount-Coffee Hydro Power Plant (HPP) project zone which lies along the St. Paul River, upstream of Monrovia, close to the villages of Upper Harrisburg and Raymond Camp in the Montserrado County. The land is owned by LEC (to be confirmed). The St. Paul River is 485 km long and its source is the Diani River in South-eastern Guinea. Mount Coffee Hydropower Plant is an existing facility that is a run-of-river project made up of a 22.9 m high dam, three saddle dams, one emergency spillway with 10 radial gates and a power intake structure with 6 independent bays, a transformer substation and two transmission lines to Monrovia. The original HPP was built in the 1960's and equipped with two units of an installed capacity of 32 MW. Two other units were installed in the 1970's to double the plant capacity (64 MW). The HPP was damaged in 1990 during the civil unrest and the Main Dam and the Forebay Dam 1 were overtopped in August 1990 and the latter breached for a length of approximately 200 m. Generating facilities were extensively damaged during this time and functioning was not restored until 2018. The plant and appurtenant structures were successfully rehabilitated in 2014-2017 with the installation of four new units for a total installed nominal capacity of 88 MW. Legacy issues, including those related to compensation/resettlement and biodiversity management impacts remain from this rehabilitation. The plant is operated as a run-of-river structure. The facility and land space are owned by the government of Liberia through LEC. Around Mount Coffee Island, inhabitants also use canoes to travel on the Saint Paul River branches. Formal employment in the project area is minimal; most people earn a living from being engaged in land-based activities like agriculture, charcoal production, and contract work involving cutting palms and sticks.



Women are mostly engaged in cultivation of food crops for household sustenance, selling surplus yields. The main crops cultivated are cassava and rice as the staple crops, vegetable, corn, sweet potatoes and peanuts as cash crops. The majority of household expenditure is on food and transport; very little is spent on education. People are also engaged in fishing in the St. Paul River for household consumption and trade. Domestic water supply for cooking and drinking is mainly from creeks. Water supply for bathing and other household chores is obtained from the St. Paul River. There are approximately 4,500 inhabitants living in 3 communities near the MCHPP. Near the hydropower dam, Unification Town was created as the site for physical resettlement of those living on Mount Coffee as a result of the emergency spillway construction (approximately 200 people). Dam rehabilitation (reservoir area, dam site and transmission lines) in 2017 led to 4,800 people being economically displaced. RAP implementation legacy issues remain.

Soil in the project area is composed of low permeability, dense and homogeneous laterite covering a mother bed rock composed of leucocratic gneiss with outcrops in the St Paul riverbed. The 20 MWp/16 MWac Solar PV plant with fixed tilt (including the construction of 1 km underground transmission line to evacuate solar PV to MCHPP substation) will be in an area next to Mount Coffee HPP around 25 kilometers from the capital city of Monrovia. The project will cover an area of around 24-ha on this island. The grid connection will be made to the 22kV busbar of the Mount Coffee Hydropower Project (MCHPP) substation. The feasibility study, which included a flooding analysis, states that the PV station is technically sound and that the location where the PV panels will be installed would not be flooded even under the highest level of water release through the emergency spillway. At the proposed solar PV location, the project area is covered with dense vegetation. It is uncertain if people are reoccupying and/or using it for economic purposes due to incomplete RAP implementation. There is no protected area, key biodiversity areas, or important bird areas within the project area, but there is a grave site. The project area is degraded by past human occupation and mostly characterized by degraded (< 5 meters) and modified (low canopy forest <12 m) forest. Nevertheless, 20.6% of the project area is composed of natural habitat (regenerating secondary forest <22 m). There are no flora species with status endangered (EN) or critical (CR) and no critical habitat identified within the project footprint. At the proposed MC HPP location, the project is located on modified habitats only. However, there are aquatic species of concern listed as critically endangered and endemic, living in the reservoir formed by the Mount Coffee Dam.

SIERRA LEONE: the solar PV system and battery storage in Newton and Lungi, as well as the transmission and distribution lines linking them to their respective substations, switching stations and grids will be installed on flat open lands, characterized by grassland, secondary vegetation and small farmlands, and over 300m away from sensitive ecosystems, such as wetlands or settlements. The Newton solar power plant (PP) will connect to the 161 kV transmission line which links Bumbuna with Freetown transverses various terrains and vegetation profiles, from highlands characterized by dense vegetation in the North of the country to plateaus and lowlands consisting of secondary vegetation and farmland and culminating in the hilly slopes of the Western Area and Freetown. Newton is a small town in the Western Area Rural District about 30 km Southeast of Freetown, along the main road linking the city to the rest of the country. It is characterized by largely low-income communities with vast farmlands, grassland and secondary vegetation on a plain. The proposed site is a grassland/secondary vegetation adjacent to an existing 6MW solar plant under construction with funds from the Abu Dhabi Fund for Development (ADFD), on land belonging to the Ministry of Agriculture and Forestry. It is unknown at this time if there are any legacy issues. The land area is large enough to provide the 48.5 hectares of land required for the project. As the Bumbuna Hydro Plant (connected to the 161kV line) is approximately 300 km from Newton, at this proximity it would not likely impact communities or the solar PV and battery storage plant at Newton in case of any emergency at Bumbuna. The Lungi site, which requires only 18 hectares, is a greenfield property located at Oku Town, next to the Airport area in Port-Loko District in the



North-West of the country. This land consists of secondary vegetation cover, agricultural land (farm bush) with little or no activity, mostly mosaic vegetations and palm trees on a plain. The property at Lungu is privately owned and would therefore require land acquisition and economic compensation for palm trees, small farms and gardens. The distance from the PV plant to the existing substation is about 3.6 km.

CHAD: The government has confirmed the allocation of a site of approximately 100 hectares for the project, through a letter issued by the Ministry of Petroleum and Energy (MPE). This site is 7 km away from the peri-urban area of Gassi where there is an existing sub-station and about 10km from the capital N'Djamena. This site is in a village called Kartota, in the locality of Bakara, located at the eastern exit of N'Djamena. It is owned by the Government, but land tenure arrangements need to be verified given that the site is currently occupied and used for various economic activities and some parcels of land in the project area are earmarked for future construction by individuals.

TOGO: The site selected for the project is in the locality of Dalwak in the Savanes region. It is located less than 2 km from a national road and close to the 161 kV transmission line currently under construction. The construction project of the solar park in Dapaong will be in the prefecture of Tône. The site occupies a total area estimated at 120 ha. Initial data collection for an unfinished ESIA under another funder for the solar park for this site, found that people are present on the site, including 54 farmers, who conduct farming and animal husbandry activities. Approximately 79.48 ha of the 120 ha has been cultivated. There are also trees of economic value present, which will require compensation. Land is held informally under traditional or customary land ownership. The Borrower has noted a legacy of a land dispute over the last few years on the initially identified for the solar site involving three local communities (Yalbome, Djengue Nawate, and Lango communities). However, they note litigation and tensions have been since been resolved. The Borrower has nonetheless decided to shift project activities to another site of within the 120 ha comprising of 70 ha which may be used for the project and which is apparently free of legacy land dispute issues. This will need to be reconfirmed during implementation. The access roads near the project area are generally precarious and in poor condition, therefore the access road will need to be upgraded and widened as part of the project. The project plans to electrify 64 localities in the northern zone of Togo, through the construction of 191 km of medium voltage distribution lines (DL), 143 km of low voltage DLs, and 64 transformer stations. The project also plans to install 1853 streetlamps for public lighting and will connect about 12,900 households.

D. 2. Borrower's Institutional Capacity

The Liberia Electricity Corporation (LEC), Sierra Leone Electricity Distribution and Supply Authority (EDSA), National Electricity Company of Chad (SNE), the Togolese Agency for Rural Electrification and Renewable Energy (AT2ER), and the West Africa Power Pool (WAPP) will be the implementation agencies for their respective project activities.

All works contracts under the various components will be signed by the National Governments through the existing national PIUs at LEC, EDSA, SNE and AT2ER, who will also implement relevant sub-projects. All the implementing entities except for Togo have existing PIUs implementing existing World Bank projects. The main purpose for using these PIUs is to leverage the existing expertise within these PIUs, and reduce time in setting up new PIUs. However, the Bank team will ensure that the PIUs supplement E&S staffing needs as required during project implementation, especially related to environment and social risk management and in some cases, PIUs are managing multiple projects.

In Togo, the Borrower does not have experience with the ESF as the other energy projects previously funded by the Bank have been processed under the Operational Policies. At the time of project preparation, there is a dedicated



Energy Project Implementation Unit (PIU) under the Togo Energy Sector Support and Improvement Project (TESSIP, P160377) that has one environmental and one social specialist, who are supporting the AT2ER Environmental and social specialist in the preparation phase. The E&S specialist within AT2ER will require training to effectively implement, monitor, and report E&S requirements under the ESCP, including managing physical and/or economic displacement, SEA/SH risks, and security risks. The PIU will also hire an environmental specialist, a social specialist, and a gender-based violence (GBV) consultant. All E&S staff shall be in place within 60 days of project Effective Date.

The PIU in Chad will use the existing SNE PIU of the Cameroon-Chad Power Interconnection Project - CCPIP (P168185) to manage E&S risks. In addition to the existing environmental, social, and GBV specialists, the SNE PIU will recruit additional staff to strengthen its capacity, namely an international Occupational Health and Safety (OHS) specialist and an international GBV specialist. The positions shall be in place within 60 days of project effectiveness

The current environmental and social specialists of the PIU implementing Liberia Electricity Sector Strengthening and Access Project (P173416) will implement the RESPITE project and shall be in place within 30 days of project effectiveness. In addition, the PIU will also engage a biodiversity consultant, a social consultant with experience in resettlement and GBV specialist within 60 days of Project Effective Date. Capacity building and training will be necessary throughout the life of the project, especially related to monitoring and supervision, managing labor influx, job seeker influx risks, SEA/SH risks, addressing livelihood restoration/resettlement legacy risks, cultural heritage risks (including possible impacts to tombs), stakeholder engagement, biodiversity risks (including impacts to endangered species and fisheries), social conflict risks due to pressures on basic services, and dam safety (including ensuring regular consultation with vulnerable groups and individuals to ensure dam safety and emergency preparedness measures addresses the needs and realities of vulnerable individuals and groups). In line with the provisions for Mt Coffee dam safety in Liberia, an independent dam safety specialist will be hired by the PIU to manage required maintenance works to ensure the long-term functionality and reliability of the spillway gates, and their hoisting and control equipment. It will be essential to assist the Government to develop a mechanism to mobilize required financing for ensuring long term safety of the dam, including regular inspection and preventive maintenance, and periodic detailed dam safety inspections and reviews by an independent dam safety specialist.

In Sierra Leone, the existing implementation arrangements of the Enhancing Sierra Leone Energy Access Project (ESLEAP) (P171059) and Sierra Leone Energy Sector Utility Reform Project (ESURP) (P120304) will be maintained for RESPITE Project. The current PIU is staffed with an Environmental Specialist and a Social Specialist. These two staff will be in place 30 days after Effective Date. In addition, the PIU will recruit an experienced social, a GBV consultant, and one environmental/OHS consultant, within 60 days of project effectiveness, to assist in project implementation and in building the capacity of the regular EDSA staff.

A RESPITE Coordination Unit (RCU) will be established within 60 days of project Effective Date to provide overall guidance, supervision and where necessary, make any collective decisions during the project. The RCU will be responsible for overall coordination of the project that includes quality assurance, monitoring and evaluation, regular reporting to World Bank including on environmental and social, and communication with all entities, etc. The RCU will report directly to the Regional Technical Committee and the World Bank. One of the key functions of the RCU will be to manage the contracts for the technical and procurement specialists in the Panel of Experts (PoE) who will be responsible for supporting the procurement of most infrastructure works. The RCU will consist of a project coordinator, a procurement specialist, a financial management specialist, an environmental specialist, a social specialist, and a support staff. The RCU will also be responsible for providing technical assistance, including on



environmental and social risk management, to the national PIUs during the project. It was agreed that the RCU will be domiciled in Liberia (separate from the national PIU) to ensure timely implementation of the projects.

The WAPP Secretariat will implement Component 4A, Regional Integration Technical Assistance (RITA), which includes technical assistance activities. This is a continuation of activities for Component 2 of the WAPP-CLSG Interconnector Project. The WAPP implementation team for RITA will coordinate with the RCU to ensure timely exchanges of knowledge and results of the studies under this TA, on activities related to Liberia MCHPP and solar. However, this component also covers preparation of several upstream priority generation and transmission projects listed as critical in the WAPP Master Plan, 2018. This included TA support for preparation of the North Core Regional Transmission Interconnector (Nigeria, Niger, Benin and Burkina Faso), preliminary preparatory studies for the Souapiti hydro generation plan in Guinea; St. Paul HPP 2 in Liberia; Ghana-Burkina-Mali (GBM) interconnection, and (iii) Median interconnection (Nigeria, Benin, Togo, Ghana, Côte d’Ivoire). The studies to be prepared under this component include feasibility studies, transmission routing lines, ESIA/ESMP and RAPs. A Project Implementing Unit will be established in WAPP that is tasked with ESHS management, including one environmental specialist, one social specialist, and one GBV consultant within two months of effective date. Additional consultants may be hired by the PIU during implementation as capacity needs require. Client capacity under the ESF is considered weak as most of the TA projects WAPP supports are under the OPs.

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

High

Environmental Risk Rating

High

The environmental risk of the project is rate High at this stage. The rating considered the nature of the project, the direct and indirect environmental risks and impacts with cumulative impacts, legacy issues and the Borrower’s capacity on ESF implementation to manage the expected environmental risks and impacts. The project will support construction of 20 MWp Solar PV power plant on Mount Coffee Island in Liberia, and any associated works for power evacuation under component 1A, and expansion of Mt. Coffee Hydro Power Plant under component 2. Both activities will rely on use of the existing facilities and infrastructure which raise legacy issues. Legacy issues related to Mt. Coffee Hydro Power Plant (MCHPP) include weak biodiversity management, a lack of emergency preparedness plan, and community health and safety issues. Project activities such as HPP expansion and grid activities have large footprints that might impact large areas. There are outstanding issues related to the Mt. Coffee HPP dam safety, monitoring, and Emergency Planning Preparedness, as identified in the environmental and social gap assessment in Liberia. The activities to be funded under the project for the four countries are expected to result in positive environmental benefits by using renewable energy to meet increasing electricity demand instead of use of fossil use for electricity generation. The project will support (i) the installation of solar PV, battery storage (excluding in Liberia, where a 1-km underground transmission line to evacuate solar PV to MCHPP substation will be constructed), (ii) hydropower generation and implementation of the dam safety management program (in Liberia only) with (iii) near-term (about 3-year) Operations and Maintenance (O&M) contracts for the provision of solar supply; (iv) as needed, necessary grid connection infrastructure; (v) grid modernization and upgrades to ensure effective penetration of variable solar generation; and (vi) capacity building among the implementing agencies and technical assistance for

Public Disclosure



greater regional integration. The potential environmental risks or impacts associated with the proposed activities during both the construction and operational phases might include: (i) impacts on terrestrial and aquatic biodiversity associated with land clearing for installation of solar PVs, and grid infrastructure, and aquatic biodiversity, especially species of high endemic value, associated with HPP expansion component; (ii) handling and disposal of hazardous waste both during construction and also operation (such as damaged/end of life solar PV panels, used batteries, transformer oil and chemicals produced during grid O&M, etc.); (iii) increased levels of dust, noise and vibrations during construction; (iv) soil erosion and sediment control from materials sourcing areas and site preparation activities; (v) surface and ground water contamination, (vi) disposal and management of surplus excavated soils from MCHPP expansion and Solar PV site clearances and levelling; (vii) generation of both hazardous and non-hazardous waste; (viii) occupational and community health and safety issues as a result of the project activities including influx of workers; and (ix) road congestion and traffic accidents due to the transportation of a large volumes of materials. There are also risks associated with the operation of the power plant such as electrocution of humans and wildlife by the high voltage lines carrying electricity from the plant to the distribution stations. In Liberia, based on the visual inspection and assessment of the safety condition of the MCHPP dams and associated structures, there is no evidence of deficiency that could affect the normal operation condition of the dam. However, there are several dam safety issues which have been identified and these will be addressed under ESS4.

Social Risk Rating

High

The social risk classification is High at appraisal stage based on the complexity and the nature of the anticipated risks and impacts of the activities, the expected location of project sites (including in insecure areas), existing legacy issues in Liberia and potentially in Sierra Leone and Togo, the level of client capacity to implement the project under the ESF, and past performance to effectively manage and monitor social risks. While these risks are expected to be manageable with proper implementation and supervision of mitigation measures, at this time, ESIA/ESMPs and the E&S audits have not yet been finalized in Liberia and Sierra Leone (at Newton), and E&S studies have yet to be prepared for Togo, Chad, and the Lungu site for Sierra Leone; therefore uncertainties about project risks remain. Key social risks include: physical and/or economic displacement and large land requirements needed for solar PV farms and distribution and transmission lines; legacy issues related to incomplete Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) in Liberia of a previous RAP in 2017 (implemented by the Liberian government and funded by the German Development Agency) for the existing hydropower dam; possible legacy risks in Sierra Leone at the Newton site; cultural heritage risks (possible disturbance of tombs in Liberia); land tensions in Togo and Sierra Leone; SEA/SH and social cohesion risks due to labor influx and influx of possible job seekers in project areas raising the risks for child labor and informal labor use (especially in Liberia, Togo and Sierra Leone), including in areas that may be difficult to monitor due to security risks (such as in northern Togo); weak management of labor camps and history of sexual harassment incidents (i.e. Liberia); exposure to communicable diseases, such as Covid-19, STI/STDs resulting from the presence of project workers; and forced labor risks in the procurement of solar PV materials. Given the expanded scope of the ESF, and the limited experience of implementing projects under the ESF and, in some cases, PIUs managing more than one project at a time, client institutional capacity to implement the project under the ESF is considered weak. Additional risks include weak past performance of E&S risk management; the possible exclusion of project affected vulnerable groups from receiving project benefits, such as resettlement benefits, access to jobs in the project, and access to decision making (such as women, rural communities, migrants and refugees, pastoralists/ethnic minorities, the poor, illiterate persons, persons with disabilities, the elderly and others), as well as weak stakeholder engagement performance and grievance management.

Public Disclosure



B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

The four countries, the RCU and the WAPP are in various stages of the preparation of environmental and social assessments and instruments.

In Liberia, the project will support construction of 20 MWp Solar PV power plant on Mount Coffee Island (MCHPP), and any associated works for power evacuation under component 1A, and expansion of MCHPP under component 2. Both activities will rely on use of existing facilities and infrastructure, including the use of a previously constructed labor camp site. At this stage it is unknown if it will be sufficient to house labor needs in peak periods. The PIU in Liberia has prepared two draft ESIA's, one for the construction of the Solar PV Project and one for the MCHPP Extension Project, both require substantial revision. An E&S gap assessment has been prepared by the Borrower to identify legacy issues related to existing facilities and infrastructure; however, an E&S audit will be required to provide concrete information on the full extent of legacy issues identified in the gap assessment. The ESIA's are under review by the WB. These instruments will be finalized by the Borrower for disclosure once the E&S Audit Action Plan and Biodiversity Management Plan (BMP) has been incorporated into the E&S instruments. The gap assessment highlighted infrastructure and activities related to the operation of the MCHPP and the incomplete implementation of the Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) developed under previous rehabilitation works for the MCHPP (in 2017). The assessment also identified the presence of tombs on the Solar PV site that would be impacted under current technical designs. Measures to be undertaken by the Borrower during implementation include the preparation of site specific ESMPs that will be implemented during operation to decommissioning phases to address legacy issues, reconsider technical designs to avoid disturbing tombs, update the dam safety plans, develop an socially inclusive Emergency Preparedness Plan (EPP) for the dam, install surveillance and monitoring equipment and a monitoring program. The ESMPs will include but not limited to implementation and monitoring plans developed during the construction phase and adapted for operation/decommissioning phases, including labor camp management plan, biodiversity management plan (and fisheries plan), E&S audit action plan, and SEA/SH Prevention and Response Action Plan. The Borrower will undertake an E&S assessment to address potential E&S risks and mitigation measures associated with potential inundation in the downstream of the HPP due to upgrading of MCHPP. To ensure the EPP meets the needs and realities of vulnerable persons and groups (such as the elderly, persons with disabilities, children, women, persons without access to information/communication technology, etc.), consultation with these groups is essential to develop a meaningful and effective EPP.

In Sierra Leone, a detailed ESIA/ESMP will be prepared during implementation based on the nature and scale of the activities and its potential environmental and social risks and impacts before the initiation of any civil works at the Lungi site. A draft ESIA for the Newton site was prepared in 2019 by the Ministry of Energy, with the support of another donor, for the construction of the 6MWp grid connected solar power plant including substation and distribution and transmission lines. It will be updated during implementation to ensure consistency with the ESF and potential changes to the project area over the last three years. The updated ESIA/ESMP will also cover expansion of the existing solar facility and battery storage, expansion of the nearest substation, connection to Waterloo substation and to Bumbuna transmission line. An E&S due diligence screening will be conducted on the Newton site to assess possible of legacy issues and verify government (Ministry of Energy) land ownership.



Chad and Togo have started technical studies but are not yet complete. E&S studies be completed during implementation and prior to the start of project activities. ESMPs will be prepared prior to any work that will have a potential negative impact on the environment or affect local people or their property.

Cumulative impacts from the existing facilities adjacent to the project infrastructure (at Newton in Liberia for example), and all related facilities, such as the existing transmission or distribution lines supplied from the installation will be considered as part of the overall project ESIA process. The project will utilize the national requirements, WBG Environment, Health, and Safety Guidelines (EHSGs) for Electric Power Transmission and Distribution, WBG general EHSGs and ESF, and GIIP.

Other relevant site-specific management plans to be included in each ESMPs include the Contractor’s Environmental and Social Management Plan (C-ESMP), Occupational Health and Safety Plan (OHP)/Community Health and Safety Plan (CHP), and Waste Management Plan (WMP) (to address waste management during construction and operation, with specific reference to handling and disposal of old/damaged battery and electronic waste), and labor influx/labor camp requirements. Based on the screening of sub-projects for biodiversity risks and impacts, a Biodiversity Management Plan (BMP) will form part of the ESMP in accordance with the guidelines of the ESIA that shall be prepared for the Project, and consistent with ESS6. In addition, Traffic Management Plan (TMP), and site specific Security Management Plans (SMP) in Togo (due to security concerns), will be developed by the contractors prior to commencement of civil works. Furthermore, all bidding documents will require the selected Contractors to comply with the ESIA/ESMPs, including preparing construction management plans. To support forced labor risk mitigation, Borrowers will be required to strengthen solar related procurement processes by including forced labor bidder declarations, qualification requirements and strengthened contractual provision as per WBG requirements.

Sub-component 4.A (implemented by West Africa Power Pool): A simplified ESMP for activities under Component 4.A will be prepared no later than three months after effective date to address risks and impacts associated with the synchronization of power systems, as well as E&S risks associated with WAPP undertaking TA activities through contracted services to manage security risks, OHS/labor risks, stakeholder risks, weak grievance management, security risks (in insecure countries), SEA/SH, and road safety risks. All previously prepared or underway E&S instruments/studies will be revised to reflect ESF requirements.

ESS10 Stakeholder Engagement and Information Disclosure

Each Borrower has prepared and disclosed a draft Stakeholder Engagement Plan (SEP). Given the short timeline for preparation, all SEPs will be revised and updated within three months of project effectiveness to ensure that all relevant indirect and direct stakeholders are included, and consultations for the project have been conducted and their views summarized, especially ensuring that the views and interests of project affected communities and vulnerable individuals and groups, are taken into consideration throughout the project lifecycle. In addition, the Grievance Mechanism will be verified and the GM related to handling of SEA/SH incidents, and mapping of GBV referral services, will be included in the GM section in the SEP.



It will be important to monitor stakeholder engagement activities to ensure these are inclusive, accessible and responsive to community feedback throughout the project lifecycle, as the risk of elite capture can potentially heighten risks of local conflict. The project will also pay close attention to: (i) the potential legacy issues related to weak previous RAP implementation in Liberia in the project area; and (ii) land tensions in Togo when undertaking consultation. This will ensure the views and concerns of affected persons and communities are incorporated into technical designs and mitigation measures, and that they are aware of how to access the project Grievance Mechanism (GM).

Among other things, each SEP includes details on types, frequency, and approach to consultations, information sharing, and GM-related procedures. In addition, within three months of project effectiveness and before the start of project activities, all Borrowers will design and implement an SEA/SH-sensitive GM for safe and confidential documentation, response, and management of SEA/SH complaints and will include targeted and regular involvement of women and other groups at-risk in stakeholder engagement. Awareness-raising activities on project-related risks of the project-level GM and the SEA/SH and mitigation strategies are included in the SEPs and will target communities and project workers, especially vulnerable and disadvantaged individuals and groups, while contractual obligations in terms of SEA/SH mitigation will be enforced through the integration of specific provisions on Codes of Conduct addressing SEA/SH and training of workers.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

To manage labor related risks, each participating country and the WAPP will prepare Labor Management Procedures (LMPs) during implementation and before hiring project workers. The LMPs will define measures to avoid discrimination, include occupational health and safety (OHS) measures for project workers and employee working conditions, stipulate that contractors and sub-contractors will ensure that there is no forced or child labor employed during construction; include provisions to ensure fair wages in line with local legislation; and require contractors to establish a worker's Grievance Mechanism (GM) to allow prompt resolution of workplace grievances.

The project will involve direct, contracted workers, and primary supply workers. Direct workers include both full and part-time workers assigned to the PIUs and consultants hired based on project needs. Civil servants working with the project full-time or part-time will remain subject to the terms and conditions governing their existing public sector terms of employment or agreements, unless there has been a valid legal transfer of their employment or engagement to the project. Contracted workers include the contractors and sub-contractors hired for the anticipated civil works. The terms and conditions of the contracts for any workers involved will be consistent with national labor law to ensure that working conditions are acceptable (terms and conditions of employment, nondiscrimination and equality of opportunity, workers' organizations).

All Borrowers shall ensure that the requirements of ESS2 are incorporated into: (a) contracts between the Borrower and the Contractor and any entity (including the Project Owner's Engineer) supervising the civil works of the Project;



and (b) contracts between the Contractor and the Contractor's subcontractors, including remedies for non-compliance. Contractual obligations related to SEA/SH mitigation will be enforced through the inclusion of provisions in Codes of Conduct addressing SEA/SH, labor camp management, and worker training and monitoring of ages of the workers.

In Chad, no large-scale labor influx is expected given the limited scope of the works and given the proximity to the national capital, it is not expected that there will be a labor camp at the site. However, these risks will be assessed for Togo and Sierra during preparation of the ESIA/ESMPs. In Liberia, it is estimated that 400 workers (workers for the solar PV and HPP subprojects) are expected on site and to be housed in a labor camp that was previously built on the existing facilities of the MCHPP. It is uncertain if the labor housing is sufficient to accommodate this number or the condition of the facilities (i.e. waste management, sanitation, access to potable water, health, safety, emergency plan, etc.). ESIA/ESMPs will need to include mitigation measures to address labor influx (including safe living conditions at the labor camps) handling of, SEA/SH risks, social cohesion risks, the spread of communicable diseases among workers and community members, pressure on existing basic services and natural resources, services, and occupational health and safety measures. The same will need to be managed in the other countries.

There may be a potential risk of child labor and forced labor in all four countries. This is a significant risk particularly in the global supply chain for solar panels and solar components. To support forced labor risk mitigation, the Bank requires Borrowers to strengthen solar related procurement processes by including forced labor bidder declarations, qualification requirements and strengthened contractual provision in procurements involving financing of solar panels/solar components by the World Bank Group.

Under the WAPP component, OHS risks and impacts associated with the synchronization of power systems and technical assistance will be included in preparation of environmental and social instruments and feasibility studies including risk of accidents in the workplace and traffic accidents in the communities and incidents involving project workers on site. This will be included under the OHS measures in the ESMP and LMP.

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS 3 is relevant due to the risk associated with the disposal of batteries and the lack of recycling facilities for used solar panels. A waste management plan will be also prepared and included in each ESMP to prevent or minimize pollution from inadequate waste management and disposal from the Solar PV and the power plant sites including disposal of old, damaged or disused PV panes, old batteries, electronic waste (e-waste), and other wastes. The mitigation measures to address the generic impacts of small-scale construction sites will be included in ESMPs and are expected to be limited to soil, water and air pollution, and pressures on natural habitats. Water balance will be closely monitored during operation so as not to impact water availability for other users.

The project will involve construction/upgrading of new/existing grid, and substations. During substation upgrading, transformers may include Sulfur Hexafluoride (SF6), a greenhouse gas with a significantly higher global warming potential (GWP) than CO2, or Polychlorinated Biphenyls (PCB). Therefore, handling and disposal of the old transformer should be handled as per national requirements, GIIP, and WB/IFC EHS Guidelines on Electric Power



Transmission and Distribution, and General EHS Guidelines, and as per ESS3 and ESS4. Vegetation must be controlled in order to limit the regrowth of trees likely to cause damage to the installations onsite and reduce the risk of fire in case of accident along the transmission and distribution lines. The use of chemical weed killers will be prohibited. Vegetation control for transmission and distribution lines will be defined in ESMP and will be in line with WBG ESS3, WB/IFC EHS Guidelines on Electric Power Transmission and Distribution, and GIIP.

Under the WAPP component, the risks and impacts associated with the synchronization of power systems and technical assistance in the form of preparatory environmental and social instruments and feasibility studies may include inappropriate disposal of waste resulting from the change of parts at the power plants and the substations. This will be addressed in the ESMP for this component.

ESS4 Community Health and Safety

Community health and safety risks associated with the project activities include exposure to physical hazards on project sites and health and safety issues, such as exposure to communicable diseases, SEA/SH, road/traffic accidents, security risks and social conflict due the presence of project workers and the strain on deficient access to basic services. The ESIA/ESMPs will include measures to address these risks. In Togo and Chad, a security management assessment and plan will be included in the ESIA/ESMP. Road traffic movements and concomitant road safety/security risks due to the movement of construction, especially in areas of higher population density, will be further assessed as part of site specific ESMPs. A traffic management plan will also be included in the C-ESMP.

In Liberia, construction works will include large number of workers. It is expected they will be housed at the existing labor camp venue at HPP; however, it is uncertain if it would be of sufficient size to house workers, or what is the condition of the camp to provide safe living conditions. As Monrovia is 2.5 hours away from the MCHPP, daily workforce commuting will not be feasible given distance, traffic and road safety risks, risks to workforce retention and fatigue, and SEA/SH risks to women/girls walking along routes. Monitoring labor influx and potential influx of job seekers into the project area will be required to mitigate possible social conflicts over access to basic services and natural resources, employment, as well as social cohesion and SEA/SH risks.

Another community health and safety risk associated with the project activities in MCHPP is the impact on vector borne diseases, such as malaria, schistosomiasis, filariasis, etc. The dam could create favorable conditions for the transmission of malaria, schistosoma mansoni, and other vector borne diseases. Malaria is endemic in Liberia with a prevalence rate of up to 60% in some regions, and it has been a major cause of death in children under 5 years of age and Mt. Coffee Island is already a malaria prone area. If the necessary precautionary measures are not in place, the reservoir could aggravate the problem. Hence, Environmental Measures for Vector Control will be prepared as part of the ESIA/ESMP.

ESMPs and SEPs for each country will also include awareness campaigns for workers and communities, on the spread of communicable diseases such as HIV/AIDS and other sexually transmitted infections (STIs) Such campaigns to raise awareness, are planned for communities and for workers and will include measures to prevent transmission of vector borne diseases, enforcement of Code of Conduct, zero tolerance of illegal activities by all personnel, forbidding the use of prostitution; forbidding the sale, purchase or consumption of drugs, illegal gambling and fighting, hunting,



burning of waste, etc., and forbidding to disturb local population when undertaking their ritual activities at the river (bathing, washing, fishing, etc.).

Subcomponent 2A on hydro infrastructure involves the installation of two Francis turbines, at the Mount Coffee Hydro Power Plan. A visual inspection and assessment of the safety condition of the Mount Coffee dams and associated structures have been conducted to assess their operational status and their performance history, to identify any required works or safety-related measures necessary to upgrade the dams to an acceptable standard of safety. According to the Dam Safety Assessment, there is no evidence of any deficiency that could affect the normal operation condition of the dam. However, several dam safety issues have been identified and a comprehensive dam safety program is required for Mount Coffee extension project to be compliant with WB requirements on dam safety (ESS4-Annex 1). The following shall be prepared by the Borrower: (i) an updated surveillance and monitoring plan, including repair of damaged instruments and installation of new instruments, to improve the current monitoring system to correctly monitor the dam's behavior including its performance and the related hydrometeorological, structural and seismic factors; (ii) an updated and operational O&M plan for the civil works with a specific section dedicated to O&M activities for the hydromechanical equipment of the spillway upgrade all relevant dam safety plans, purchase/install new surveillance and monitoring equipment (or repair damaged ones) and implement a monitoring program; (iii) an Emergency Preparedness Plan (EPP) for normal operation of the dam, including the analysis of uncontrolled release of water and dam break with preparation of related inundation maps will be prepared within six months of project effectiveness and implemented throughout the project lifecycle. Other measures include training and capacity-building of the team involved in operations and maintenance (O&M) activities.

The Borrowers will also be required to prepare and implement community health and safety mitigation measures at sub-project levels and for all contractors and suppliers. The mitigation measures, including the enforcement of the Code of Conduct (CoC), will be clearly stipulated in the contractor's ESMP (C-ESMP) based on the project's ESMP, for which the contractor will be fully responsible for implementation. At appraisal, a SEA/SH risk assessment has been conducted and as GBV risks are substantial (Liberia and Togo) and moderate (Sierra Leone and Chad), a SEA/SH Prevention and Response Action Plan will be included in the ESMP. A Code of Conduct, including measures against SEA/SH for ensuring community health and safety, will be prepared, and included in all bidding documents. Each Borrower's GM will be designed to include a referral pathway for GBV services, and to register confidentially, safely and ethically, address and document SEA/SH incidents.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

Land acquisition will be necessary in Togo, Chad and Sierra Leone and is likely to lead to physical and/or economic resettlement. Resettlement Action Plans will be developed, disclosed, and implemented during implementation, prior to the start of activities. If the E&S audit determines outstanding resettlement issues, a RAP will also be prepared, consulted upon and implemented in Liberia prior to the start of project activities. The land tenure arrangements for the proposed infrastructure activities will be confirmed in these countries during implementation.

In Liberia, a series of RAPs were implemented in 2014 - 2017 during the rehabilitation of the Mount Coffee Hydropower Plan (MCHPP). An E&S audit on legacy issues, including but not limited to outstanding resettlement,



compensation, community infrastructure and livelihood restoration for all components of the 2014-2017 dam rehabilitation project, through a consultative process, shall be prepared by the Borrower with appropriate corrective actions/mitigation measures. This E&S audit action plan will be included in ESIA and ESMP for both the MC HPP and Solar PV projects. At the solar PV site in Liberia, the project area is owned by the Liberia Electricity Corporation (LEC), which will be confirmed by the WB. Moreover, in Liberia, an estimate of 400 or more workers for the solar PV and HPP subprojects are expected on site. An existing labor housing facilities at the MCHPP is expected to house workers, however, if this is not sufficient, additional facilities as maybe required, which may lead to land acquisition. Planning of the phased construction approach between the solar PV and HPP project will be assessed to determine land needs for labor.

The Lungi site in Sierra Leone will require land acquisition. An E&S due diligence is required for potential encroachment and contested land ownership at Newton, and if required, a Livelihood Restoration Plan and/or RAP will be prepared. Confirmation of government ownership of land at Newton will be required during implementation.

In Togo, the PIU noted there was a land dispute over the last few years involving three local communities (Yalbome, Djengue Nawate, and Lango) with respect to the site initially identified for the project. The Borrower asserts that litigation and tensions have been since been resolved. However, the Borrower has now identified another 70 hectares site within the previously identified site, which is free from land conflict. This will now be used for the project, but it will be necessary to prevent incursion into contested areas (such as creation of access roads). An E&S due diligence will be undertaken during implementation to confirm that there are no prior or competing claims or social conflict on this alternative site. At this stage in preparation, it is uncertain what is the magnitude for potential need for land take for new distribution or transmission lines. This will be determined when technical studies indicate alignment of new DL or TLs, in which case a RAP will be prepared if land take is required.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

Any impacts on modified habitats will be assessed during the preparation of the site-specific ESIA/ESMP. The ESIA/ESMP will provide guidance on screening and mitigation measures to ensure that project activities do not alter or cause destruction of any critical or sensitive natural habitats. In Liberia, there are potential risks and impacts on terrestrial and aquatic biodiversity associated with land clearing for the installation of solar PVs, and grid infrastructure at an area of around 24-ha at Mt. Coffee Island, and on aquatic biodiversity, especially species of high endemic value, in the reservoir associated with MCHPP. The Project will undertake a study to determine what due diligence was undertaken in the past/on the existing structure at Mt Coffee. To address impact of vegetation clearance on the PV site, a compensatory afforestation plan to replace trees lost in clearing 24 ha of 2nd generation forests and a reservoir fisheries plan shall be developed for the MCHPP. A Biodiversity Management Plan (BMP) which shall be prepared as part of the ESMPs in accordance with the guidance of the ESIA. This E&S audit and actions/mitigation measures will need to be included into the Environmental and Social Impact Assessment (ESIA), and corresponding Environmental and Social Management Plan (ESMP) for both the Mt Coffee HPP and Solar PV projects. The E&S Audit will be prepared based on TORs cleared by the World Bank.

The potential project related risks to and impacts on habitats and the biodiversity that they support will be identified through these assessments. The assessment undertaken will include identification of the types of habitats potentially



affected and consideration of potential risks to and impacts on the ecological function of the habitats. The assessment will encompass any areas of potential biodiversity importance that may be affected by the project, whether or not they are protected under national law and international agreements. The extent of the assessment will be proportionate to the risks and impacts, based on their likelihood, significance and severity, and will reflect the concerns of project affected parties and other interested parties.

Solar PV projects will require a large amount of land clearance and leveling, where needed. In Liberia, according to the draft ESIA for Solar PV, the project area is degraded by past human occupation and mostly characterized by degraded and modified forest. There are no flora species with endangered or critically endangered status and no critical habitat is identified within the project footprint. During the construction phase, the EPC will implement specific measures to reduce the potential risks on the environment and biodiversity that will be outlined in the C-ESMP. Corrective measures such as reducing noise nuisance, light disturbance and avoid accidental pollution will be applied. In addition, ecological monitoring is proposed from the start of the operation in order to check that corrective measures to reduce impacts are effective.

The ESIA for expansion of MCHPP in Liberia states that, the risk of degradation/conversion/destruction of natural habitat by the project activities is considered as low. Indeed, the project is located on modified habitats only. However, as a critically endangered species trigger critical habitat alerts, specific measures have to be implemented. For the aquatic component, the species of concern (*Coptodon coffea*; a demersal fish) listed as critically endangered and endemic, is confirmed as living in the Mount Coffee Dam area, in the reservoir. The work procedure during construction phase has been specifically designed to avoid the drop in the water level in the reservoir by carrying out certain operations at the time of low water levels and by lowering the reservoir level no more than its current minimum operating level. Regarding reptiles and amphibians, from the hunter survey and the bibliography, the slender-snouted crocodile (*Mecistops cataphractus*), a critically endangered species, is present in the area. However, its terrestrial habitat is not in close proximity of the project site. A BMP will be implemented during construction and operation phases as per WBG ESS6 requirements, and GIIP.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

This standard is not currently relevant and its relevance will be assessed during implementation. If deemed relevant, the appropriate instruments will be prepared and disclosed prior to the start of project activities.

ESS8 Cultural Heritage

ESS 8 is considered relevant. The subproject-specific environmental and social assessment will assess cultural heritage risks as part of the ESIA/ESMP, in accordance with the guidelines of the ESIA prepared for the Project. There is no proposed use of intangible cultural heritage. The Borrower shall include and implement the chance find procedures in ESIA/ESMPs throughout Project implementation. A chance finds clause will also be added to contracts, requiring contractors to stop construction as per the procedures if cultural heritage is encountered during construction.



In Liberia, the ESIA prepared for Liberia Solar PV project states that on the Mount Coffee Island, an area with tombs was identified during the field survey (April 2021) at the former village of Buzzi Quarters. These tombs are located close to the North-East border or area B of the proposed solar PV site. The project team will look at the possibility of shifting the project site boundary a safe distance away from the tombs, otherwise a Cultural Heritage Management Plan (CHMP) will be developed as part of the ESMP in accordance with the ESS8. In case the tombs will need to be relocated, a RAP will need to be prepared to outline the arrangements for the relocation of these tombs. The implementation of the CHMP shall commence in advance of construction. The Plan must contain at least the following steps: i) consultation with the community/families concerned; ii) consultation with local authorities and traditional leaders; iii) protocol to protect the tombs to be implemented; and iv) monitoring of the implementation of the Plan.

ESS9 Financial Intermediaries

This standard is not relevant as the project does not include financial intermediaries.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways

Yes

The Policy on Projects on International Waterways (OP 7.50) applies because project activities involve the potential use of international waterways that originate in Liberia. The project falls under an exception to the riparian notification requirement under paragraph 7(a) of the Policy, because activities are limited to the extension of an existing hydropower plant, namely Mount Coffee Hydropower Plant (MCHPP). These activities will not cause any change in water abstraction or water quality, accordingly the exception to the notification requirement was approved by the World Bank Regional Vice President on October 25, 2022.

OP 7.60 Projects in Disputed Areas

No

B.3. Reliance on Borrower’s policy, legal and institutional framework, relevant to the Project risks and impacts

Is this project being prepared for use of Borrower Framework?

No

Areas where “Use of Borrower Framework” is being considered:

The use of Borrower Framework is not being considered for any of the four Borrowers.

IV. CONTACT POINTS

World Bank

Contact: Rhonda Lenai Jordan Antoine Title: Senior Energy Specialist

Public Disclosure



Telephone No: +1-202-458-7099

Email: rjordan@worldbank.org

Borrower/Client/Recipient

Borrower: Republic of Chad

Borrower: Republic of Liberia

Borrower: Republic of Sierra Leone

Borrower: Republic of Togo

Implementing Agency(ies)

Implementing Agency: Liberia Electricity Corporation

Implementing Agency: Electricity Distribution and Supply Authority (EDSA)

Implementing Agency: Liberia Electricity Corporation (LEC)

Implementing Agency: Societe Nationale d'Electricite du Tchad (SNE)

Implementing Agency: West African Power Pool (WAPP) Secretariat

Implementing Agency: Togolese Rural Electrification and Renewable Energy Agency (AT2ER)

V. FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: <http://www.worldbank.org/projects>

VI. APPROVAL

Task Team Leader(s): Rhonda Lenai Jordan Antoine

Practice Manager (ENR/Social) Sanjay Srivastava Cleared on 18-Nov-2022 at 08:30:49 GMT-05:00

Safeguards Advisor ESSA Nathalie S. Munzberg (SAESSA) Concurred on 18-Nov-2022 at 09:06:18 GMT-05:00