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Monrovia, Liberia



RURAL AND RENEWABLE ENERGY AGENCY 2024 ANNUAL REPORT



HIS EXCELLENCY

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PRESIDENT OF THE REPUBLIC OF LIBERIA



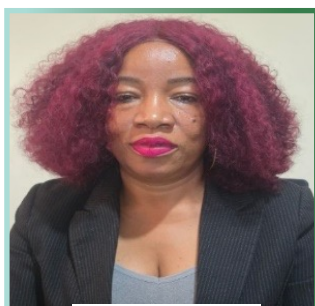
HIS EXCELLENCY

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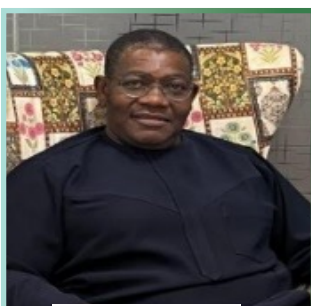
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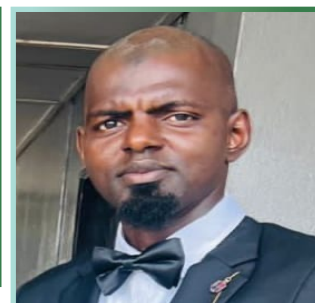
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FOR FINANCE AND ADMINISTRATION



HON. STEPHEN V. POTTERS, SR.
DEPUTY EXECUTIVE DIRECTOR
FOR PROGRAM



MESSAGE FROM THE BOARD CHAIRMAN

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It is with great pride that I present this message on behalf of the Board of Directors of the Rural and Renewable Energy Agency (RREA). The year 2024 was one of measurable progress and resilience as we worked collectively toward our national goal of universal access to affordable and sustainable energy.

Key rural electrification projects - including the World Bank funded projects - Liberia Renewable Energy Access Project (LIRENAP) and Liberia Energy Sector Strengthening and Assessment Project (LESSAP), the African Development Bank funded project - Renewable Energy for Electrification in Liberia (REEL), and the EU supported Rural



HON. MOHAMED S. KROMAH
BOARD CHAIRMAN

Electrification Program Prioritizing the Southeast, are delivering critical infrastructure, with thousands of households, schools, clinics, and businesses now benefitting from modern energy products and services. These achievements reflect RREA's continued alignment with national energy goals and international commitments like the Sustainable Development Goals (SDG 7).

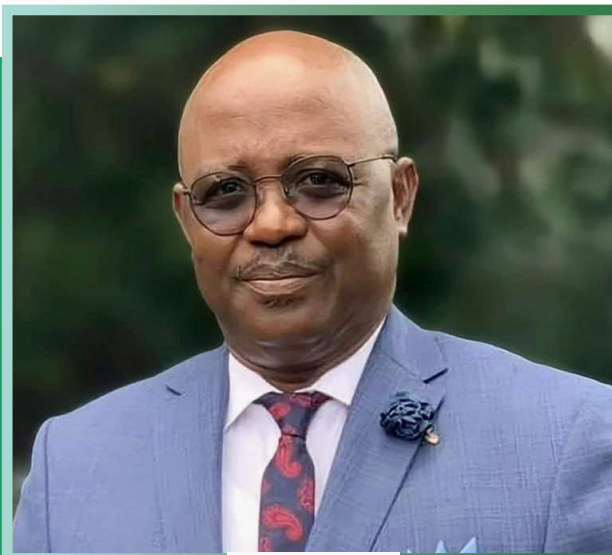
While challenges such as infrastructure delays, cost escalations and access constraints did arise, the Agency demonstrated adaptability, transparency, and effective management of the Rural Energy Fund (REFUND).

The Board remains committed to providing strong oversight and strategic guidance to support RREA's efforts in overcoming obstacles and accelerating progress.

As we move forward, our collective focus remains on deepening partnerships, increasing investments, and ensuring inclusive energy access that empowers rural communities across Liberia.

On behalf of the Board, I extend sincere appreciation to the Government of Liberia, our development partners, and the hardworking RREA team. Together, we are illuminating lives and advancing national development aimed at achieving universal access by 2030.

Hon. Samuel B. Nagbe, Jr.



It is with great pride and profound gratitude that I present the Annual Report of the Rural and Renewable Energy Agency (RREA) for the Fiscal Year 2024. It is a year now since the Board of Directors of the Rural and Renewable Energy Agency confirmed me in the Executive Director role with a mandate to lead the institution, with support from other members of the Senior Management Team, in achieving the institution's statutory mandate to the people of Liberia. The period in review was a mixture of opportunities and challenges, as well as fond nostalgic memories, since in fact this period marked my return to the RREA. On my return, I witnessed opportunities for growth in our program portfolio and challenges in qualitative delivery of our ongoing programs.

These qualitative program issues were bordered around compliance issues, cost overruns, and or descopeing of critical activities agreed on some of the projects.

This report captures the significant strides we have made in advancing energy access and promoting the use of renewable energy across Liberia, in fulfillment of our mandate and in support of the Government's national development agenda, the ARREST Agenda for Inclusive Development (AAID).

The report also provides an opportunity to provide feedback to the President of the Republic of Liberia, the National Legislature, the RREA Board of Directors, our major development partners, specifically, the World Bank Group, the European Union, the African Development Bank, the Government of Sweden, and other members of the Executive and Senior Management Team., and as well as other Ministries, Agencies and Commissions of Government.

Finally, the Annual report will be a glorious opportunity to let Citizens know what their government is doing for them.

Throughout the year 2024, the RREA has remained steadfast in its mission to facilitate and accelerate the economic transformation of rural Liberia by promoting the development and supply of modern energy products and services to rural areas with an emphasis on locally available renewable energy sources, and expand affordable, reliable, and sustainable energy to rural and peri-urban communities.

The vision we have is to become the primary torch bearers for promoting renewable energy technologies and services in Liberia. Our actions are anchored in quality assurances, transparent and accountable service provision.

We continue to make steady progress in the delivery of some of our flagship projects and at the same time, made efforts to launch new 100% Solarization of Health Centers across Liberia and the commissioning of several solar mini grids in Gbarpolu County, expanded distribution facilities in 30 communities in Nimba and Bong Counties.

Our work during the reporting period would not have been possible without the continued support of our national leadership, development partners, and most importantly, the communities we serve.

Despite these notable achievements, the Agency also faced significant challenges, including logistical delays, global supply chain disruptions, and financial constraints. Nevertheless, through resilience, strategic planning, and collaboration, RREA was able to overcome these hurdles, ensuring that project delivery remained on course.

These experiences have not only strengthened our institutional capacity but have also provided valuable lessons that will guide our future interventions.

Transparency, accountability, and efficient resource management remained at the heart of our operations. RREA continues to uphold the highest standards of governance and stewardship of public and donor funds, building confidence among our stakeholders and partners.

As we look ahead to the coming fiscal year, we are energized by the opportunities that lie before us. We will continue to pursue the expansion of renewable energy projects, scale up rural electrification programs, deepen community engagement, and strengthen partnerships both locally and internationally. Our focus will remain on creating sustainable energy solutions that foster socio-economic growth, improve livelihoods, and contribute meaningfully to Liberia's climate resilience and green transition.

On behalf of the RREA family, I wish to express my sincere appreciation to our Board of Directors, the Ministry of Mines and Energy, the Ministry of Finance and Development Planning, our development partners, and our dedicated staff for their unwavering support and commitment. Together, we will continue to light the way toward a brighter, more inclusive, and sustainable Liberia. Think Liberia, Love Liberia, and Build Liberia.

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LIST OF ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
AfT	Agenda for Transformation
ECOWAS	Economic Community of West African States
EDF	European Development Fund
ESIA	Environmental and Social Impact Assessment
EU	European Union
GoL	Government of Liberia
HPP	Hydro Power Plant
kWh	kilo-Watt-hour
LEAP	Liberia Energy Access Practitioner Network
LEC	Liberia Electricity Corporation
LIRENAP	Liberia Renewable Energy Access Project
LRPs	Local Retail Partners
LUSE	Light Up South East
MCA	Millennium Challenge Account
MFDP	Ministry of Finance and Development Planning
MME	Ministry of Mines and Energy
NES	National Electrification Strategy
PV	Photovoltaic
REEL	Renewable Energy for Electrification in Liberia
REFUND	Rural Energy Fund
REPSE	Rural Electrification Programme Prioritizing the South-East
RGHP	River Gee Hydropower Project
RESMP	Rural Energy Strategy and Master Plan
RREA	Rural and Renewable Energy Agency
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy for All
SHS	Solar Home System

MISSION

To facilitate and accelerate the economic transformation of rural Liberia by promoting the development and supply of modern energy products and services to rural areas with emphasis on locally available renewable energy resources.

VISION

To become the primary torch bearer for promoting renewable energy technologies and services in Liberia.

CORE VALUES

Quality, transparency, and accountable service with integrity.

EXECUTIVE SUMMARY

In an effort to attaining the targets set in the aforementioned plans, the Agency is currently implementing the following projects – (i) Liberia Renewable Energy Access Project (LIRENA) (ii) Renewable Energy for Electrification in Liberia Project (REEL) (iii) Liberia Electricity Sector Strengthening and Access Project (LESSAP-I) (iv) Rural Electrification Programme Prioritizing the South-East (LUSE), and (v) River Gee Hydropower Project (RGHP).

These projects are jointly funded by the Government of Liberia and development partners. The projects are under implementation and at various stages of development and are expected to achieve the following results – LIRENA (approx. 75% completed) - Decentralized electrification in Lofa County 2.5 MW hydropower plant, 1.8 MW diesel power plant, 136.4 km/MV + 211.4km/LV distribution network and 10,317 connections and market development of stand-alone solar systems; REEL (approx. 20% completed) - 9.34MW hydropower plant including 15km of 33kV evacuation line & 2 substations, 15km Access road, 124km 33/0.4kV distribution lines connecting 6,650 new connections in Nimba & Bong counties. The project is expected to provide improved electricity access to at least 60,000 people; LESSAP-I (Approx. 75% completed) – 90 health facilities electrified from stand-alone solar systems, 15,600 homes electrified with stand-alone solar system, 468 solar streetlights installed in Barclayville, Karweaken, Zorzor and Harper, covering 13.4km.

The project targets approximately 150,000 people; RGHP (Approx. 12% completed), targeting 30,000 people - Construction of 2.13 MW hydropower plant on the River Gee in River Gee County, Construction of 100km of 33kV transmission network from Pleebo, Maryland County to Fishtown, River Gee County; LUSE (Approx. 15% completed) - construction of the following assets - i) Buchanan (12,054 service connections): about 6km 33kV sub-transmission MV line from CLSG substation, 32 km of 33kV MV distribution lines, 85.5km of 33kV/0.4kV LV distribution lines & streetlighting; ii) Greenville (4,344 service connections): 65 km -33kV MV distribution lines, 30km – 33kV/0.4kV LV lines,

streetlighting and hybrid 850kWp solar + 540kVA diesel generator for initial energy generation in the first stage (until the hydro is operational) & 2MW hydropower plant at final stage; iii) Barclayville (5,249 service connections): 4 km of 11kV MV distribution lines, 11 km of 33kV/0.4kV LV distribution lines, a hybrid of 200kWp solar coupled with 400 kWh storage + 225kVA diesel generator and a further 70 service connection through standalone Solar Home System products.

The successful implementation of the aforementioned projects being implemented by the Rural and Renewable Energy Agency will essentially improve electricity access and affordability in Nimba, Bong, River Gee, Maryland, Grand Bassa, Sinoe, Grand Kru and Lofa Counties. An estimated 120,000 people in these regions will have access to improved electricity. However, implementation of these projects requires GoL counterpart funding.

For example, the EU funded Rural Electrification Programme Prioritizing the South-East (LUSE) requires GoL support to the RREA to successfully implement the project.

The same can be said for the River Gee Hydropower Project as well as the other donors' funded projects. To ensure a effective and successful implementation of these projects, the RREA will require US\$1.5 million annually, as project implementation support over the period 2025 to 2028. Overall, accelerating the delivery of energy access as per our plans has been hindered mostly as a result of the lack of innovations in financing & delivery models required to mobilize resources from other public sources including multilateral banks, development finance institutions, philanthropic/impact institutions as well as private sources; while challenges affecting implementation of ongoing initiatives border around insufficiency in project preparation (feasibility report data) which has led to significant variations in final designs thereby negatively impacting execution timelines and significant cost overruns, exacerbated by absence of relevant innovative measures to mitigate or address these risks.

1.0 INTRODUCTION

1.1 Corporate Profile

The Rural and Renewable Energy Agency (RREA) (www.rrealiberia.org) is an autonomous Agency of the Government of Liberia, initially established by Executive Order (No. 23) in January 2010. The RREA's Act was passed into law by the National Legislature on June 18, 2015, approved by the President Ellen Johnson-Sirleaf on July 6, 2015, and subsequently printed into handbill on July 15, 2015, thus establishing the RREA as a full-fledged entity of the Government of Liberia.



The mandate of the RREA is to facilitate and accelerate the economic transformation of rural Liberia, by promoting the development and supply of modern energy products and services to rural areas with an emphasis on locally available renewable energy resources.

One of the RREA's principal functions includes the planning and financing of rural energy projects for implementation by public, private, and community developers, including educating the general public about renewable energy options and opportunities.

The RREA is also mandated to manage the Rural Energy Fund (REFUND), a financial management system through which domestic and international resources intended for rural energy programs shall be managed to achieve

universal energy access in Liberia.

The Board of Directors ("the Board") is the governing body of the Agency. Its primary function is to oversee and monitor the management and performance of the Agency, its staff and its financial performance and the management of the Rural Energy Fund.

The Executive Director, the Deputy Executive Director for Program and the Deputy Executive for Administration and Finance constitute the Senior Management Team (SMT) of the Agency. The Executive Director is the Chief Executive Officer and Principal Administrator of the Agency and has oversight jurisdiction and operational responsibility for implementing the policies and programs of the RREA.

The Deputy Executive Director for Program oversees RREA's program planning, implementation and monitoring functions, whereas the Deputy Executive for Administration and Finance manages RREA's administrative, procurement and financial management functions. The SMT is assisted by a core of staff including the Directors of Administration & Operations, Program, Finance and Procurement that constitute the Management of the RREA.

In an attempt to ensure its full functionality, the Agency has developed major institutional policy and procedure manual and controls that guide its overall administrative and program management.

The RREA manages the Rural Energy Fund (REFUND), which facilitates and provides for the coordinated and sustainable financing of projects and programs for the delivery of modern energy services for rural development. The REFUND is the channel through which domestic and international financial resources intended for rural and renewable energy delivery in Liberia are managed.

The REFUND is a transparent institutional and financial management mechanism for promoting public and private sector partnership in rural energy development. The REFUND provides financial and technical assistance grants, subsidies, loans and loan guarantees to the private sector and rural community project developers.

The REFUND enables communities and private sector developers to provide new electrical services and improved energy technologies to households and small businesses. These services and technologies include renewable energy systems such as solar home systems and lanterns, mini/micro grids based on hydro, Solar photovoltaic (PV), and biomass for electricity. They also include non-electrical energy system such as improved cook stoves. The Fund Management Committee, a sub-committee of the Board has oversight responsibilities for the management of the REFUND and its programs.

1.2 Structure of the Report

This is the 2024 Annual Report of the Rural and Renewable Energy Agency (RREA). The Report present a comprehensive overview of key activities, achievements, and challenges encountered during the year. The report opens with messages from the Board Chairman and Executive Director, offering strategic and operational insights into the Agency's governance, project delivery, and institutional growth.

It then outlines the governance framework, introducing the Board of Directors and Senior Management Team, followed by a restatement of RREA's Vision, Mission, and Core Values that guide its work.

An Executive Summary section highlights major accomplishments, project progress, and financial management updates, setting the context for detailed programmatic reporting.

The institutional profile of RREA is presented next, covering its establishment, mandate, management of the Rural Energy Fund (REFUND).

The report further details Liberia's rural electrification strategies through the Rural Energy Strategy and Master Plan (RESMP) and the National Electrification Strategy (NES), establishing RREA's targets for universal energy access by 2030. A major part of the report is



dedicated to current programs and projects, including LIRENAP, REEL, LESSAP, Southeast Electrification, and River Gee Hydropower. Each project's objectives, financing structures, performance status, and challenges are discussed.

The report concludes with a consolidated financial overview, highlighting resource mobilization efforts, funding gaps, and the Agency's commitment to transparency and efficiency in the management of donor and government resources.

Overall, the 2024 Annual Report reflects RREA's continued leadership in expanding rural energy access, fostering sustainable development, and strengthening institutional governance for the benefit of the Liberian people.

2.0 OPERATIONAL PERFORMANCE AND KEY ACCOMPLISHMENT

2.1 Management

In 2024, the management of the Rural and Renewable Energy Agency (RREA) continued to provide strong leadership and operational oversight in the execution of the Agency's mandate. Under the overall guidance of the Board of Directors, the Senior Management Team, comprising the Executive Director and two Deputy Executive Directors for Programs and for Administration & Finance, coordinated the Agency's activities across all divisions.

RREA's management structure ensured clear lines of responsibility for key operational areas including Program Delivery, Finance, Procurement, Administration & Operations, and Technical Services. Strategic leadership was strengthened through the application of institutional policies and internal controls, ensuring compliance with both national regulations and donor requirements.

Management also prioritized transparency, accountability, and quality service delivery. Significant emphasis was placed on strengthening project implementation, improving financial management practices, enforcing procurement standards, and promoting inclusive access to energy services through gender-sensitive and community-driven approaches. Through coordinated management efforts, RREA maintained steady progress across major programs and projects, reinforcing its role as the lead institution for rural energy access in Liberia.

2.2 Key Activities and Achievements

2.2.1 Governance and Policy

During the reporting period, RREA made key strides in strengthening its governance framework and institutional policies to improve transparency, accountability, and performance.

Technical units supported the Executive Director in overseeing the implementation of the 2024 Annual Work Plan (AWP) and conducting regular assessments of operational progress.

The Board of Directors, chaired by Hon. Mohamed S. Kromah, provided strategic oversight through regular meetings to review project performance, financial management, and policy alignment. Oversight of the Rural Energy Fund (REFUND) continued under the Fund Management Committee, ensuring transparent and accountable resource utilization.

Governance structures were further reinforced with the reactivation of Steering Committees for major projects such as REEL and LESSAP, enabling inclusive decision-making and effective coordination. The Agency ensured that all interventions aligned with national policies, including the National Electrification Strategy (NES), the SDGs, and the ARREST Agenda.

Internal procedures were updated across key functions, and gender and social inclusion were mainstreamed, with a dedicated Gender Specialist ensuring equitable access to energy services. These efforts strengthened RREA's commitment to good governance and inclusive rural electrification.

The Agency also embarked on a policy reformed process that focused on institutional strengthening which resulted to fostering of good governance. Key policy instruments initiated by the management and approved by the Board of Directors included:

- a) Human Resource Policy
- b) Financial Management Policy
- c) Petty Cash Policy
- d) Transport Policy
- e) Procurement Policy
- f) Standard Operating Procedure
- g) IT Policy

As part of its mandate, the Internal Audit unit led by its director Ms. Elizabeth Samolah, conducted a comprehensive risk assessment that identified fifteen key risks out of which eight were satisfactorily addressed during the reporting period. Furthermore, as part of efforts to improve corporate governance, Management commissioned an audit of the Agency covering the period from July 1, 2018 to December 31, 2023. The GAC commenced the audit before the end of the reporting year. These interventions have helped minimize financial, operational, and compliance risks, thereby contributing to improved transparency and accountability at RREA.

2.2.2 Administration

2.2.2.1 Administrative Reforms

RREA's new leadership initiated sweeping administrative reforms in early 2024 to address systemic issues and instill a culture of accountability.

A thorough review of administrative operations uncovered several critical gaps. For instance, the Agency discovered that some individuals had been on the payroll without formal appointment letters or evidence of Board approval – a clear violation of RREA's HR policy. Additionally, inconsistencies were found in the payment of leave allowances, affecting dozens of staff across both government and project payrolls. Basic administrative controls had been neglected in the past: the Vehicle/Transport Policy was routinely disregarded, leading to misuse of RREA vehicles and excessive, undocumented maintenance costs that strained project budgets.

Compounding these issues, RREA had been operating outside of the national Integrated Financial Management Information System (IFMIS), and no internal or external audits had been conducted for several years due. These lapses undermined oversight and contradicted Government of Liberia requirements, necessitating urgent reform. During the year 2024, RREA implemented

a series of structured reforms to rectify these administrative failings and strengthen institutional governance:



a) Human Resources Cleanup:

The Agency moved swiftly to regularize its human resource management. In collaboration with the Civil Service Agency (CSA), every staff member's employment status is being verified and formalized, ensuring that no employee remains on the payroll without proper documentation and appointment authority. By June, RREA had updated all personnel files for its government-paid staff with complete data and credentials, eliminating "ghost employees" and reinforcing merit-based employment. Management also enforced compliance with the Decent Work Act and internal HR policies, standardizing entitlements such as annual leave so that all staff receive their correct benefits. Together, these actions improve workforce accountability and morale, and they safeguard the Agency against liability or payroll fraud.

b) Policy and Organizational Reforms:

Recognizing that outdated or unenforced policies contributed to past misconduct, RREA undertook a comprehensive update of its administrative manuals. Key institutional guides including the Financial Management Manual, Human Resource Manual, ICT Manual, and the Vehicle & Transport Policy were reviewed and revised to align with the Agency's current structure and best practices. Updated manuals have been forwarded to the Board of Directors for approval, after which they will

set a clear standard for procedures and ethical conduct. Moreover, management reactivated critical governance bodies as mandated by RREA's establishing legislation.

It was found that the Renewable Energy Fund (REFund) Committee, which should oversee RREA's donor-funded renewable energy fund, had never been formally constituted. The Board of Directors was promptly informed of this oversight, and steps are now being taken to establish and activate the REFund Committee. Similarly, the organizational structure was refined to include a dedicated legal function a new Legal Director position was identified in the organogram to ensure the Agency has in-house counsel. While budget constraints have delayed filling this post, RREA has engaged donor partners about supporting a Legal Consultant through project funds as an interim solution. These reforms to the Agency's structure and policies enhance institutional integrity and ensure RREA operates in full accordance with its founding Act and government regulations.



c) **Asset Management and Controls:**

To address the misuse of agency assets (vehicles, fuel, etc.), RREA instituted tighter controls and audit processes. All vehicle service records from 2021 to 2024 were scrutinized, revealing patterns of maintenance expenditures that did not follow proper procurement processes.

In response, management reviewed each service invoice and has begun rectifying improper charges. The Agency reinforced

adherence to the Vehicles Policy: staff usage of vehicles now strictly requires authorization, and a log of vehicle deployment and fuel consumption is maintained for accountability. Procurement requests (PRs) are raised for any significant repair work, and multiple quotes are obtained to prevent overcharging.

These measures have already led to more disciplined use of RREA's fleet and budget. For example, by mid-year, several discrepancies in prior vehicle servicing costs had been identified and addressed, saving the Agency money. Furthermore, RREA's Administration has introduced regular asset status reporting (covering vehicles, generators, and other equipment) to the senior management, ensuring transparency in how corporate assets are utilized and maintained.

d) **Financial Systems and Oversight:**

A cornerstone of the administrative reform was restoring RREA's financial oversight mechanisms. The Agency's previous operation outside of IFMIS meant transactions were not flowing through the government's centralized financial management system. In the first half of 2024, RREA, with support from the Ministry of Finance and Development Planning, successfully reactivated its IFMIS account and trained relevant staff on its use.

This integration means all RREA expenditures and allotments are now recorded and monitored through the national system, greatly enhancing financial transparency. In addition, RREA addressed the lack of audits by collaborating with oversight bodies: the General Auditing Commission completed audits of all ongoing projects and commenced a management audit of the Agency's operations from 2018 onward. Although financing the audit itself remains a challenge (as donors consider it an ineligible expense and government budget is limited, RREA's leadership has demonstrated initiative by seeking solutions, including setting up an internal Audit Committee.

The Audit Committee, alongside a reconstituted Procurement Committee, was established to provide continuous monitoring of compliance and to develop an Agency-wide Audit Plan. These committees bring together cross-departmental expertise to advise the Executive Director and Deputies, creating internal checks and balances on financial and operational decisions. As a result of these efforts, by mid-2024 RREA had substantially improved its compliance posture it was operating within the IFMIS system, preparing for formal audits, and actively resolving past financial irregularities.

This turn-around in administrative discipline is reinforcing donor and stakeholder confidence in RREA as a transparent steward of funds. In sum, the administrative reforms undertaken in early 2024 have tackled the root causes

of RREA's prior operational weaknesses. By enforcing proper HR practices, updating governance frameworks, and re-establishing financial controls, RREA has significantly enhanced its institutional accountability.

These reforms not only resolve immediate issues (such as unverified staff and unmanaged assets) but also set the stage for sustainable management going forward.

The Agency's emphasis on accountability is evident in every aspect of its administration, ensuring that resources are used judiciously and objectives are met in line with government policies. Management will continue to monitor these reforms through the second half of the year, making adjustments as needed to maintain the momentum of improvement.



3.0 WORKFORCE AND CAPACITY DEVELOPMENT

As of mid-2024, RREA's workforce is composed of a dedicated team of professionals whose expertise underpins the Agency's operational success.

The staff headcount stands at 42 core personnel 30 civil servants on the Government of Liberia payroll and 12 project-based consultants under the Project Implementation Unit (PIU) framework.

This blend of government supported staff and donor-funded specialists enables RREA to carry out its mandate effectively, combining public sector commitment with specialized technical skills.



Classification of Workforce per Sex and Year :1 Table

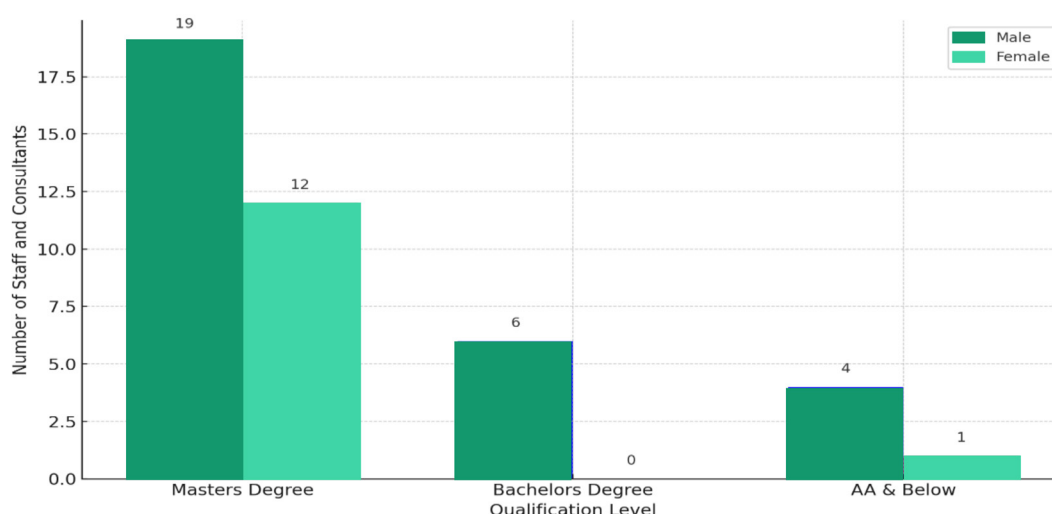
Year	M	%	F	%	Total
2024	34	74.47	13	25.53	47

2024 Source: RREA Human Resource Department

Staff Strength Disaggregated by Division and Sex :2 Table

Division	Male	Female	Total
Administration	10	7	17
Program	22	2	24
Finance	2	4	6
Total number of staff	34	13	47

2024 Source: RREA Human Resource Department



Disaggregation of staff qualification :2 Figure

4.0 KNOWLEDGE TRANSFER

4.1 Knowledge Transfer and Training

Continuous learning and knowledge exchange are central to RREA's strategy for institutional growth. During the reporting year 2024, the Agency implemented several training, workshop, and mentoring initiatives to enhance the skills of its staff and to instill best practices across the organization. These efforts ensure that RREA's professionals remain abreast of modern techniques in renewable energy deployment, administration, and project management, while also fostering a culture of internal mentorship.

4.1.1 Formal Training Programs

RREA facilitated formal training opportunities for its employees to strengthen technical and administrative competencies. Notably, a member of the finance team participated in a one-week intensive training course at the Liberia Institute of Public Administration (LIPA).

This course provided advanced instruction in public sector financial management and administration, which the staff member has brought back to improve RREA's internal processes. Alongside external training, internal capacity building was emphasized: the Agency's IT Officer conducted in-house training sessions to address everyday technology use and to build digital skills among staff. By leveraging internal expertise for training on software tools, data management, and IT security, RREA ensured that staff across various departments could enhance their productivity and maintain information systems more effectively.

4.1.2 Financial Management Systems Workshop

A critical knowledge transfer achievement in early 2024 was the successful onboarding of RREA staff to the government's financial management platform. The Ministry of Finance and Development Planning (MFDP) organized

a special training workshop on the Integrated Financial Management Information System (IFMIS) for RREA's finance and procurement personnel. Through this hands-on training, RREA staff learned to navigate IFMIS for budgeting, expenditure recording, and financial reporting. The immediate outcome was the reactivation of RREA's IFMIS access and the resumption of all transactions through this system.



This not only improved the staff's technical proficiency in government financial procedures but also ingrained a discipline of real-time financial tracking and reporting. The knowledge gained from MFDP's experts is being institutionalized standard operating procedures for IFMIS use have been documented internally, and trained staff are mentoring their peers to ensure the entire finance team is proficient. This capacity upgrade is directly tied to improved financial accountability and is a prime example of inter-agency knowledge transfer strengthening RREA's operations.

4.1.3 Internal Workshops and Knowledge Sharing

Within RREA, departments held regular coordination meetings that doubled as knowledge-sharing forums. In the first two quarters of 2024, senior management encouraged each unit (Administration, Operations, Programs, etc.) to present monthly updates and lessons learned in implementation. These internal workshops allowed staff to discuss challenges faced in project sites, share solutions, and harmonize approaches.

For instance, the Programs unit shared community engagement techniques that proved successful in one rural solar project, enabling other project teams to adopt similar approaches. The Operations/Administration unit disseminated findings from the vehicle maintenance audit, educating project drivers and managers on the new vehicle usage protocols and preventive maintenance schedules derived from that audit. Such cross-departmental exchanges, though informal, played a significant role in breaking down silos and ensuring that institutional knowledge – whether it be technical know-how or procedural wisdom – is spread throughout the Agency. Junior staff are encouraged to ask questions and senior experts often take on a coaching role, exemplifying a healthy internal mentoring culture.



4.1.4 Mentorship Initiatives

RREA's commitment to knowledge transfer is also evident in its mentorship and partnership programs. The planned onboarding of a President's Young Professionals Program (PYPP) fellow in mid-2024 is a strategic move to both contribute to national capacity building and benefit from fresh talent. Experienced RREA managers have prepared a mentorship plan for the PYPP mentee that will rotate her through key departments (Administration, Projects, and Finance) over a period of months.

This will expose the mentee to RREA's work in rural energy and allow her to contribute to

ongoing tasks under supervision. The reciprocal benefit is that RREA staff get to refine their leadership and teaching skills by mentoring a young professional.

Similarly, the inclusion of an engineering intern in the Programs team is structured as a mentorship: the intern is paired with a project engineer who provides guidance on project design reviews, site surveys, and community training sessions. Early reports indicate that this has been mutually beneficial: the intern gains field experience while the project engineer gets support in handling workload, and through explaining concepts, deepens his own understanding. By cultivating these mentor-mentee relationships, RREA ensures that knowledge and organizational culture are transmitted to the next generation of sector professionals.

4.1.5 Donor-Supported Capacity Building

It's worth noting that RREA's staff capacity has also been bolstered over time by various donor-supported programs, and these continued to have ripple effects in 2024. Many RREA employees have previously attended international workshops, exchange visits, or formal education programs funded by partners (e.g., training in solar photovoltaic system design, project management certification courses, gender mainstreaming workshops, etc.).

In the first half of 2024, staff applied this accumulated knowledge to improve agency operations. For example, project managers applied risk management techniques learned from past training to proactively identify and mitigate delays in ongoing projects (sharing this expertise in the internal meetings mentioned above).

The Agency's solid project planning and execution capabilities frequently noted by stakeholders are a direct outcome of these long-term capacity investments. RREA continues to engage with its donors for new training opportunities (such as advanced courses in procurement and monitoring & evaluation),



aligning staff development plans with the evolving needs of its renewable energy projects.

Through these various knowledge transfer avenues formal training, system-specific workshops, internal knowledge sharing, and structured mentoring – RREA substantially enhanced its institutional capacity during the year of 2024. The focus was not merely on individual training events, but on creating feedback loops where new knowledge is retained and passed along within the Agency.

This approach ensures continuity: even as

specific staff move on or new staff join, the documented practices and shared experiences remain part of RREA's collective competence. By fostering an environment of continuous learning, RREA is better prepared to implement complex projects, adapt to technological advancements in the energy sector, and ultimately deliver on its mandate more effectively.

These efforts also signal to partners and donors that RREA is a learning organization committed to professional excellence and sustainability of results.

5.0 CORPORATE REAL PROPERTY

In support of its expanding operations and aligned with best practices in corporate governance, the Rural and Renewable Energy Agency (RREA) placed strong emphasis in early 2024 on managing and upgrading its corporate real property portfolio.

This included facilities, vehicle fleet, and critical utility infrastructure. Efficient stewardship of these physical assets remains essential to enabling effective field operations in rural areas and ensuring a safe, functional workspace for staff.

Several key improvements were implemented during the reporting period:



5.1 Facilities and Office Infrastructure

5.1.1 Headquarters Refurbishment

RREA's main office, located at the LEC Sub-Station on Newport Street in Monrovia, underwent essential maintenance to enhance safety, aesthetics, and functionality:

- a) **Roof Repairs:** Leaks in the office roof were professionally sealed, eliminating a risk to equipment and documents.
- b) **Exterior Refurbishment:** The front facade was partially repainted to preserve structural integrity and improve the building's appearance.

5.1.2 Utility Upgrades

To secure reliable utilities for daily operations:

- a) **Water Supply:** A formal application for a direct water connection was submitted to the Liberia Water & Sewer Corporation (LWSC). Initial fees were paid and processing was underway by mid-2024.
- b) **Electricity Backup:** Despite access to grid power via the LEC compound, RREA tracked backup generator use closely. In Q2 alone, approximately 230 gallons of fuel were used, prompting plans to install a voltage stabilizer and explore solar energy options to reduce dependency on fossil fuels.

5.1.3 Parking and Spatial Optimization

Growth in fleet size and staff numbers led to a critical need for expanded parking:

- a) **Overflow Parking Efforts:** RREA engaged with the General Services Agency (GSA) and Newport Junior High School to negotiate use of nearby space for overflow parking.

These discussions, supported by official communications and site visits, were ongoing as of mid-year.

- b) **Street Parking Arrangement:** A parallel effort with the Monrovia City Corporation led to tentative approval for designated curbside parking along Newport Street. Final terms and account registration were pending.
- c) **Onsite Optimization:** Meanwhile, the existing compound space was reorganized, with clearly marked bays and signage installed to manage limited parking effectively.

6.0 OFFICE AMENITIES AND COMMUNICATIONS

RREA took steps to improve the overall office environment and public engagement:

- a) **Basic Amenities:** A dedicated landline was requested for the reception area to improve communications, and selective furniture replacements were initiated based on inventory assessments.
- b) **Digital Presence:** RREA's IT Officer began updating the official website with current project and organizational data. The Agency also made increased use of its Facebook page to share news and field activity photos, enhancing transparency and public awareness.

7.0 PROCUREMENT

The Rural and Renewable Energy Agency (RREA) continued to support Liberia's rural electrification goals through robust procurement activities in 2024. RREA's procurement unit managed acquisitions across multiple major projects, ensuring the timely

delivery of goods, works, and services essential for expanding renewable energy access. All procurements were conducted with a strong emphasis on competitive bidding, transparency, and compliance with both national laws and donor requirements.

Despite some external challenges, the Agency maintained agility by adjusting schedules and reinforcing communication with stakeholders to keep projects on track. Notably, RREA utilized the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) platform to enhance transparency and accountability in its processes. The following is an overview of key procurement projects, achievements, challenges, and recommended improvements for 2024.

7.1 Major Procurement Projects

a) Liberia Renewable Energy Access Project (LIRENAP):

A World Bank-funded initiative focusing on off-grid electrification in Lofa County. In 2024, LIRENAP's scope pivoted from a mini-hydro system to a 5.7 MWp solar PV plant with a 10.5 MWh battery storage system, deemed more viable after optimization studies. Procurement under LIRENAP advanced significantly, with 25 contracts completed and several others ongoing by year-end. These contracts covered everything from feasibility studies and site preparation to the supply of solar equipment, laying the groundwork for expanded clean energy access to approximately 50,000 rural beneficiaries.



b) Renewable Energy for Electrification in Liberia (REEL) Project:

An African Development Bank-funded project targeting a 9.38 MW hydropower plant at Gbedin Falls in Nimba County, plus associated transmission lines and distribution networks. Major procurement milestones in 2024 included the award of the main civil works contract for the hydropower plant and 33 kV transmission line (contract signed in December 2023). Construction was mobilized in 2024 and is ongoing. RREA also completed supporting procurements such as consultancy services for design/supervision and the purchase of project vehicles and equipment. These steps ensure that the REEL project, which will ultimately connect approximately 60,000 people to sustainable power, is firmly underway.

c) Liberia Electricity Sector Strengthening and Access Project (LESSAP – Off-Grid Component):

A World Bank-funded project implemented jointly with the Liberia Electricity Corporation, where RREA leads off-grid solar electrification for health facilities and remote communities. In 2024, RREA executed contracts (Lot 1 and Lot 2) to supply and install solar PV systems for hundreds of rural clinics and households. Many of these solar installations were completed and commissioned during the year, delivering reliable electricity to health centers for the first time. After completing the initial batches, RREA reallocated remaining funds to additional needs (e.g. solar streetlights) to maximize impact within the available budget. This adaptive procurement approach ensured that project goals were met efficiently despite budget adjustments.

d) River Gee Hydropower Project:

A 2.13 MW mini-hydropower development in River Gee County, funded by an US\$8 million Abu Dhabi Fund for Development (ADFD) loan plus US\$2.2 million from the Government of Liberia. In 2024, RREA focused on preparatory procurements for this remote project. Environmental and social impact studies

and an Owner's Engineer consultancy were completed to pave the way for construction. The procurement for the main design-build contract was launched – a Notice of Award for the construction of the mini-hydro plant and substation (valued at ~US\$13.67 million) was issued by year-end. With funding secured and key planning activities done, the River Gee project is positioned to commence physical works, bringing clean, reliable power to roughly 30,000 people in Liberia's south-eastern region.

e) **Government of Liberia-Funded Procurements:**

RREA also managed several operational procurements financed directly by the national budget. These included items like vehicles, facility maintenance, and services necessary for RREA's day-to-day functions. However, the approval of the national budget was delayed until May 2024, which in turn delayed these procurement activities. By the end of 2024, only one out of six planned packages – the supply of a project vehicle – had been fully tendered and delivered to RREA. The Agency's procurement plan was approved in June 2024, and the remaining procurements (e.g. additional vehicles, building repairs, insurance, travel and catering services) were initiated late in the year for completion in early 2025.

7.2 Procurement Achievements in 2024

RREA achieved substantial procurement progress across its portfolio in 2024. Dozens of contracts were awarded or executed during the year, ranging from large infrastructure works to equipment supplies and consulting services. For example, under the LIRENAP project alone 25 contracts were successfully completed by year-end. Similarly, the flagship REEL project saw its primary construction contract (worth nearly US\$29 million) commence, and multiple supporting contracts (for design, supervision, vehicles, etc.) were finalized, ensuring that all critical project components are in motion.

In the off-grid sector, RREA's procurement efforts led to the installation of solar power systems in remote clinics and communities, tangibly improving services in those areas. Throughout all projects, the Agency adhered to best practices of efficiency and fairness, delivering high-quality outcomes while staying within budgetary limits.

A notable highlight was RREA's effective use of digital procurement tools. The Agency fully utilized the World Bank's STEP electronic procurement platform for its donor-funded projects, streamlining the tracking of procurement plans, approvals, and contract execution. This resulted in enhanced transparency and accountability at each stage of the procurement process, as every transaction and milestone was systematically recorded and monitored. RREA also maintained compliance with the Public Procurement and Concessions Act and international procurement standards, reflecting a strong commitment to good governance.

Overall, the 2024 procurement program enabled RREA to advance rural electrification objectives on multiple fronts, with tangible deliverables (like commissioned solar installations and on-schedule construction starts) and no major audit issues or cost overruns reported.



7.3 Key Challenges

While 2024 saw many successes, RREA's procurement activities faced several challenges that impacted timelines and required strategic management:



a) **Funding Delays and Budget Constraints:**

The late approval of the national budget by the legislature significantly delayed government-funded procurements, as RREA had to wait until mid-year to receive spending authority. This compressed the timeframe for tendering local projects and pushed some deliveries into 2025. In donor-funded projects, budget shortfalls and reallocations also posed challenges – for instance, under LESSAP, certain planned activities (such as independent verification services and software tools) had to be canceled or scaled back when costs exceeded available funds. These financial hurdles required reprioritizing procurement plans to fit the actual resources and caused adjustments in project scope.

b) **Contractor Performance and Timeline Issues:**

A few procurement packages encountered implementation delays due to contractor performance. For example, in the REEL project an access road construction contract exceeded its timeline and had to be addressed when the contractor's term expired. Generally, across projects, some suppliers and contractors requested extensions or experienced slow mobilization, which threatened project schedules. RREA mitigated these issues by intensifying supervision, but the need for adjusted work schedules and contract modifications was a

recurring challenge.

The remote location of certain project sites (e.g. River Gee) also presented logistical difficulties, occasionally affecting delivery times for materials and requiring extra coordination efforts.

c) Insufficiency in project preparation (including detailed feasibilities and sites access) prior to tendering and contracting has led to significant variations in final designs, resulting to delays in execution timelines as well as cost overruns for major engineering, procurement and construction contracts especially for those with hydropower source of generation, exacerbated by lack of innovative measures to mitigate/manage such risks.

8.0 RURAL ELECTRIFICATION STRATEGIES

8.1 Rural Energy Strategy and Master Plan for Liberia (RESMP)

8.1.1 RREA's Targets Until 2030

In fulfillment of Section 2.1 (a) of the RREA's Act, and consistent with global, regional and sub-regional initiatives, and the Government Agenda for Transformation (AFT), the RREA, in 2016, developed Liberia's first-ever Rural Energy Strategy and Master Plan (RESMP) (www.liberiaruralenergy.org), which aims to achieve rural electrification rates of 10% in 2020, 20% in 2025 and 35% in 2030, for the population outside of Monrovia, through the following five programs:

- a) **Growing the Grid (GTG)** – Expand National Grid outside of Monrovia;
- b) **Decentralized Grids (DG)** - Build large decentralized grids supported by renewable generation;
- c) **Beyond the Grid (BTG)** - Electrify community services, households and public buildings where the grid is not expected before 2025;

- d) **Other than Power (OTP)**- Promoting efficiency in buildings, appliances and cooking;
- e) **Building Capacity (BC)** - Creating the capacity, the institutional framework, the organization, the information and management systems and the infrastructure.

8.2 Structure of RREA's Program

The Program is structured in three main phases. Phase one runs from 2016 to 2020, with a strong emphasis on the setup of the rural energy master plan and the implementation of ongoing and planned projects. Phase two is from 2020 to 2025 and seeks to accelerate and roll out the main initiatives, and Phase three, from 2025 to 2030, the consolidation phase, when the balance of the targeted population will be electrified.

Figure 4 below highlights the five programs and their respective initiatives and projects targeted under the RESMP.

I. GTG Growing the National Grid	II. DG Decentralized Grids	III. BTG Beyond the Grid	IV. OTP Other than Power	V. BC Building Capacity
National Grid extension	Solar/Diesel transitional mini-grids, decentralized grids and renewable energy	Small scale off-grid initiatives in non-grid and rural areas	LPG and efficient cook stoves. Energy Efficiency	Building capacity and systems for implementatio n and operation
4 initiatives • 15 projects	4 initiatives • 24 projects	3 initiatives • 9 projects	4 initiatives • 12 projects	6 initiatives • 32 projects



Figure 4: Five Program for Electrification of Rural Liberia.

In line with the Sustainable Energy 4 All initiative and the Sustainable Development Goals, to which Government's Pro-poor Agenda for Prosperity and Development (PAPD) subscribes, the RREA aims to achieve the following, in terms of rural electricity access:

- a) Electrification rate outside of Monrovia of more than 65,000 customers by 2020, 140,000 by 2025 and 265,000 by 2035;
- b) Electrify at least 2,000 settlements with grid infrastructure (national, decentralized or mini grids), connecting at least 50% of those settlement's population by 2030;
- c) All County capitals to be electrified before 2025. Electrification of County Capitals either through the National Grid, Decentralized Grids or Transitional Mini-Grids will be a priority;
- d) All Health facilities and Secondary schools to be electrified before 2025. All health facilities and all secondary schools in rural Liberia electrified either through grid-based electrification or through 100% solar based individual solutions;
- e) 10 largest settlements in every county to be electrified and no county with less than 15% electrification rate by 2030;
- f) Establish a credit/subsidy mechanism for connection of the poor and woman-led households through the Rural Energy Fund (REFUND) and promote active participation of women in the jobs that will be created for electrifying rural Liberia. Energy access will to be inclusive, offering opportunities for women and poorer settlements.

The rural electrification rates vary per county according to the level of concentration of the rural population and their proximity to existing and planned grid infrastructures.

Figure 5 below shows the planned minimum rural electrification rate per county, with no county having less than 15% of its population electrified by 2030.

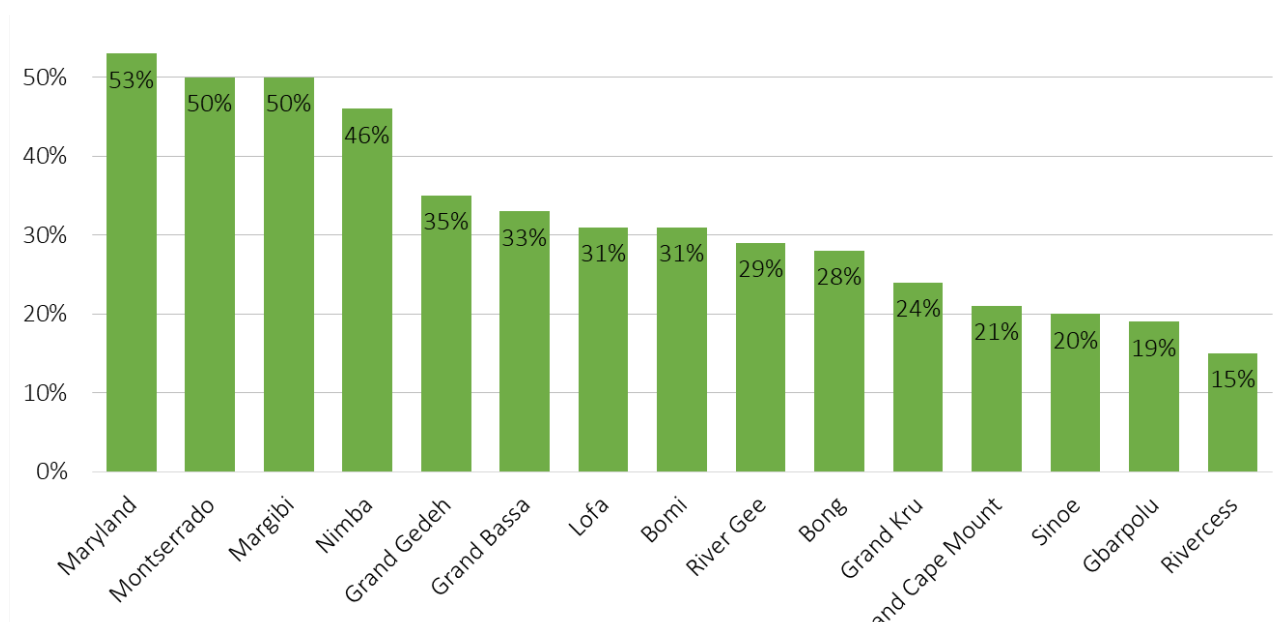


Figure 5: Minimum rural electrification rate per county by 2030.

9.0 FUNDING REQUIREMENTS

Achieving 35% rural electrification by 2030 will require \$935 Million. The Growing the Grid (GTG) and Decentralized Grid (DG) Programs represent around 90% of the total investment, with significant investments both in generation and distribution. The GTG Program by itself represents more than 50% of the Rural Energy strategy and Master Plan investments. About

\$185 Million are already committed, mostly from the donors and development partners – World Bank, African Development Bank, European Union, United States Agency for International Development (USAID), as well as the Swedish Embassy and other international non-governmental organizations.

Figure 3 below shows the investment per program and type of investment (Generation, High Voltage Transmission, Distribution, etc.) and investment per phase and funding gap.

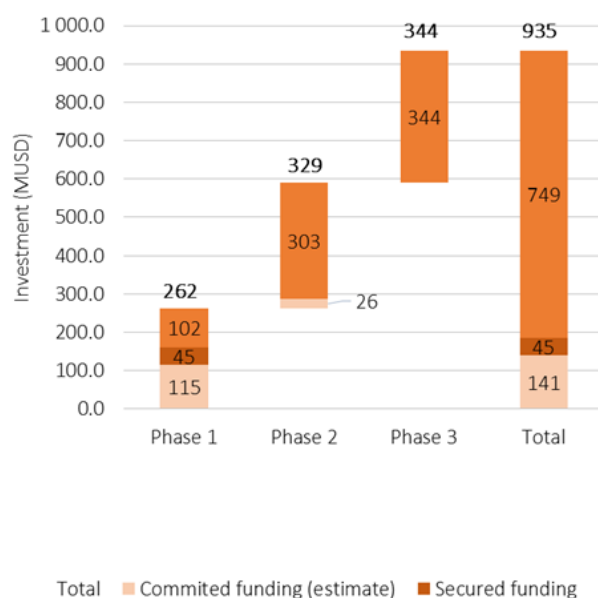
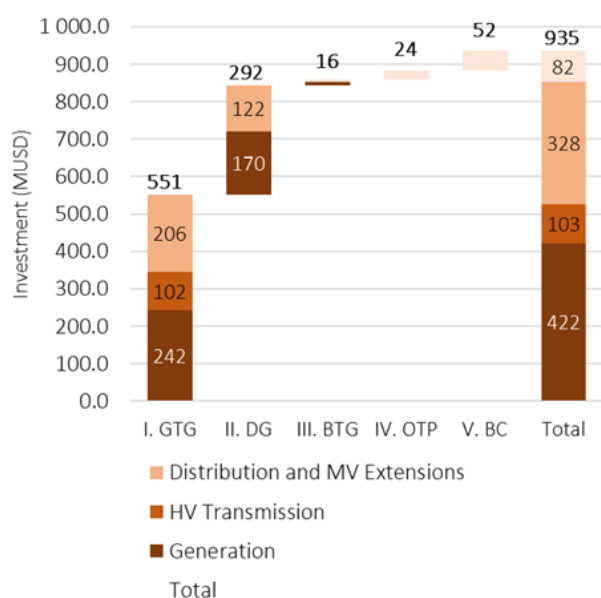


Figure 6: Investment per program and Investment per phase and funding gap

10. NATIONAL ELECTRIFICATION STRATEGY

In alignment with the 2009 National Energy Policy and UN Sustainable Development Goals # 7, the Government of Liberia adopted a least-cost geospatial electrification plan to increase access to electricity by accelerating the pace, lowering the cost, and increasing the impact of investment, infrastructure construction, and connections to achieve universal access by 2030 through various technology options (on-grid and off-grid).

Geospatial analyses of the strategy reveal that grid expansion and densification will be the least-cost options for reaching 70 percent of households by 2030, while the remaining 30 percent of households could be served by three large-capacity mini grids (5 percent of the households), smaller-size community mini-grids each serving between 99 and 337 households with an average of 140 consumers (6 percent of the households), and stand-alone solar systems (for the remaining 19 percent of households). As part of the least-cost integrated approach through off-grid solutions, the NES targets electrifying 1,726 public institutions (schools & health facilities).

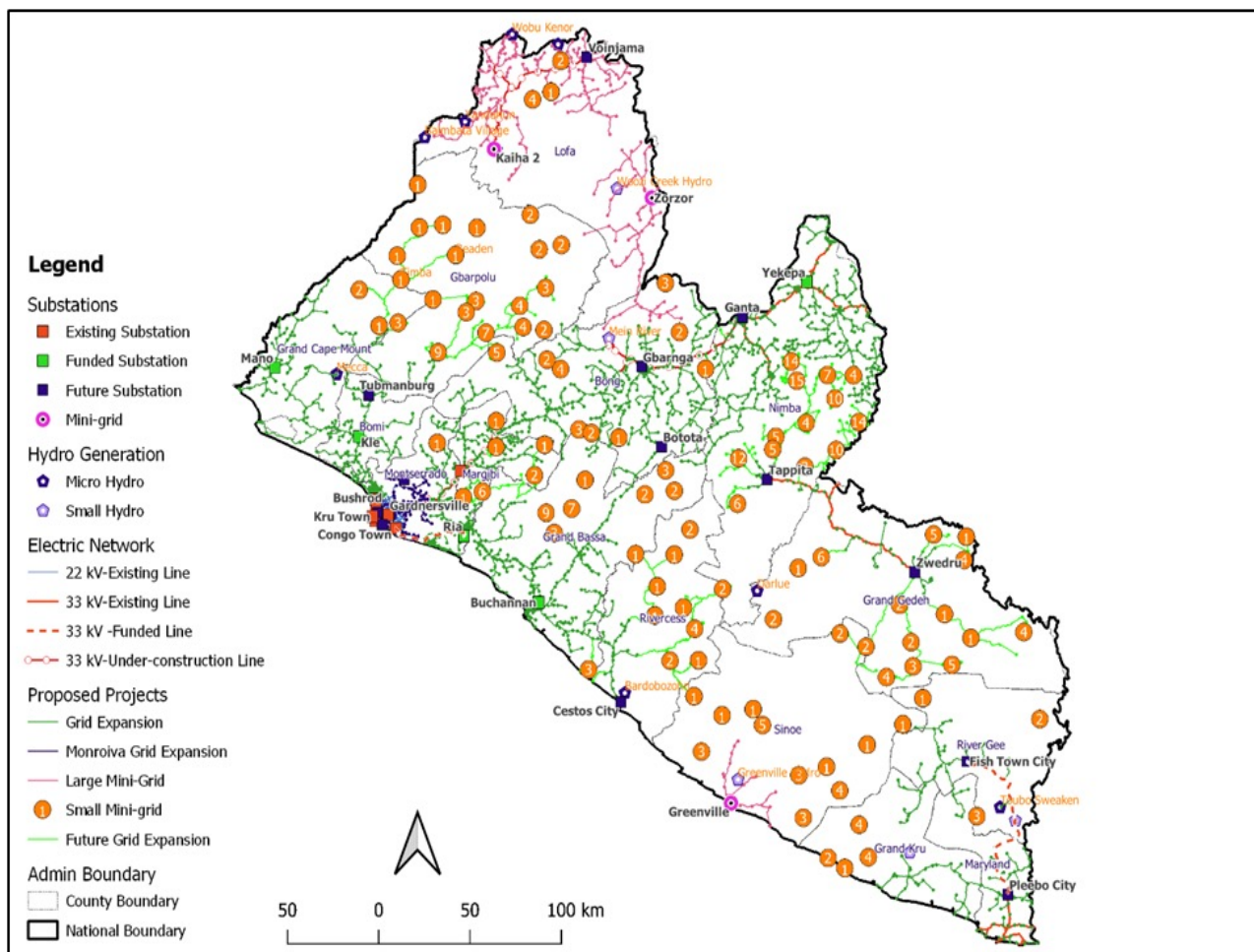


Figure 7: Least-cost geospatial 2030 target map

b) Least-cost households electrification targets by 2030 through various technology options

Table 3: Least cost household electrification targets by 2030 through various technology options

Households	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Potential households	907,031	926,079	945,527	965,383	985,656	1,006,354	1,027,488	1,049,065	1,071,096	1,093,589
Densification	10,427	27,125	45,449	65,478	87,293	110,983	136,636	164,347	194,215	226,343
Grid Expansion	109,163	130,002	167,173	210,151	265,981	330,637	412,621	454,359	497,519	540,629
Large Mini-grid	11,572	29,338	33,626	48,593	50,051	51,553	53,099	54,692	56,333	58,023
Standalone solar systems	5,603	20,963	36,767	53,417	76,666	108,285	123,867	152,763	181,403	200,481
Mini-grid	-	9,794	15,045	42,608	56,247	62,422	64,065	65,473	66,777	68,112
Total access	136,766	217,223	298,060	420,247	536,239	663,879	790,288	891,634	996,248	1,093,589
Annual households	34,778	73,241	77,519	95,341	99,861	121,565	124,866	100,040	103,411	96,109
Access percentage	-	15%	23%	32%	44%	54%	66%	77%	85%	93%

c) Funding requirements for the National Electrification Strategy

Table 4: Funding requirements for the National Electrification Strategy

Electrification Option	Financed	Financing required	Total
Densification	\$ 25,000,000	\$ 29,865,639	\$ 54,865,639
Grid expansion	\$ 182,200,000	\$ 164,126,119	\$ 346,326,119
Large mini-grids	\$ 28,819,000	\$ 58,282,417	\$ 87,101,417
Smaller mini-grids	\$ 35,181,000	\$ 45,997,680	\$ 81,178,680
Stand-alone solar	\$ 5,000,000	\$ 33,342,397	\$ 38,342,397
Total	\$ 276,200,000	\$ 331,614,253	\$ 607,814,253

d) Detailed off-grid electrification targets and costs

Table 5: Minigrids

County	Number of Mini-Grids	Total Connections	Total Cost (\$USD)	Average Cost per Connection (\$USD)
Bong	20	2,110	\$ 2,502,478	\$ 1,244
Gbarpolu	51	8,150	\$ 8,567,884	\$ 1,140
Grand Bassa	33	2,886	\$ 3,783,756	\$ 1,336
Grand Cape Mount	4	418	\$ 497,911	\$ 1,260
Grand Gedeh	42	5,670	\$ 6,325,657	\$ 1,203
Grand Kru	11	1,141	\$ 1,469,159	\$ 1,296
Lofa	7	584	\$ 731,346	\$ 1,254
Margibi	11	849	\$ 1,283,401	\$ 1,518
Montserrado	1	66	\$ 98,814	\$ 1,497
Nimba	111	17,969	\$20,318,869	\$ 1,226
River Gee	5	429	\$ 606,051	\$ 1,409
Rivercess	15	1,356	\$ 1,747,698	\$ 1,317
Sinoe	27	2,907	\$ 3,662,177	\$ 1,328
Maryland	2	241	\$ 280,788	\$ 1,165
Grand Total	340	44,776	\$51,875,987	\$ 1,250

Table 6: Standalone solar systems

Year	Total Households	Electrified Households	Annual Connected HH	Unelectrified Households
2021	907,031	136,766	34,778	770,265
2022	926,079	217,223	73,241	708,855
2023	945,527	298,060	77,519	647,466
2024	965,383	420,247	95,341	545,135
2025	985,656	536,239	99,861	449,416
2026	1,006,354	663,879	121,565	342,475
2027	1,027,488	790,288	124,866	237,200
2028	1,049,065	891,634	100,040	157,430
2029	1,071,096	996,248	103,411	74,847
2030	1,093,589	1,093,589	96,109	-

11. CURRENT PROGRAMS AND PROJECTS

11.1 Liberia Renewable Energy Access Project (LIRENAP)

11.1.1 Project Description

The Liberia Renewable Energy Access Project (LIRENAP) is a partnership between the Government of Liberia (GoL) and the World Bank that originally (and to date) funds the below components outlined in the project scope



11.1.2 Project Scope

A. Component 1.

Decentralized electrification in Lofa County (US\$22million to US\$21.54 million) – Basically, the construction of a mini-grid with the following characteristics: 2.5MW hydropower plant plus 1.8MW diesel power facility (as backup during the dry season when the availability of the hydropower plant is low); 337.8 km of 33/0.4kV distribution network; 10,317 service connections to provide access to electricity for about 50,000 people, including small businesses, associations, and public institutions in Lofa County. The beneficiaries of this decentralized electricity include the towns of Voinjama, Foya, Kolahun, Massambolahun, Bolahun & surrounding areas, Lofa County. The component also supports Owner's Engineering services and operations & management (O&M) for the mini-grid.



B. Component 2.

Technical assistance to strengthen rural electrification institutions and regulations US\$2 million) – mainly supports project Implementation support & capacity building.

C. Component 3.

Market development of stand-alone solar systems and lanterns (US\$3 million) to benefit an additional 100,000 people nationwide who would gain access to stand-alone solar systems and lanterns.

D. Component 4.

Implementation of RAP (new as of December 2021) (US\$0.46 million). The main/critical work package of LIRENAP is the construction of the 2.5MW hydropower plant, which constitutes about 50% of the project resources.

There is a restructuring of the project's main scope. The Government of Liberia has decided to substitute the hydropower plant with a 4.0 MWp Solar plant with a 9.4 MWh Battery Energy Storage System (BESS) in the immediate term.

11.1.3 Project Development Objective

LIRENAP's development objective (unchanged) is to increase access to electricity and foster the use of renewable energy sources, with main targets of 150,000 direct project beneficiaries (50,000 - access to electricity; 100,000 - access to modern energy services via stand-alone solar PV systems), 5.8GWh annual electricity output from renewable energy as a result of SREP interventions (cumulative over the project period) and 58km of distribution line constructed. LIRENAP is aligned with the National Electricity targets and Development Plans of GoL.

11.1.4 Project Financing Structure

The total project funding (unchanged) is US\$ 27 million, which consists of US\$25 million – SREP financing (grant -TF A1646) and US\$2 million – IDA financing (Loan-IDA 57590). The IDA amount is officially committed to the diesel generation and implementation of RAP for the project.

11.1.5 Project Timeline

LIRENAP was approved on January 11, 2016, and became effective on May 18, 2016. The IDA financing was made effective on October 3, 2017, after ratification by the Parliament of Liberia. LIRENAP's closing date is June 30, 2025, revised from June 30, 2024, due to the project's prevailing situation and performance trend. Historically, the project closing date has been amended – from June 30, 2021 (the original completion date) to June 30, 2023, from June

30, 2023, to December 31, 2023, and from December 31, 2023, to June 30, 2024.

11.1.6 Project Organization Structure

The Project is managed by the RREA's Project Management Unit (headed by the Deputy Executive Director for Programs), with fiduciary support from the Finance and Procurement Departments of RREA. The Project structure does not require a Project Steering Committee per the Financing Agreement. Project governance is provided by RREA's senior management team.

11.1.7 Project Performance Outlook

Overall Project Completion: 71.66% (as of December 31, 2024) Total Disbursement: US\$17.2 million (63.7% of the US\$27 million budget)

11.1.8 Key Achievements

- a) **Distribution Network:**
342.5 km of 33/0.4kV lines installed; 112 transformers deployed. 5,569 service connections completed.
- b) **Solar Systems:**
49,441 solar home systems distributed, benefitting 192,412 people.
- c) **Diesel Plant:**
1.8MW and storage facilities is ~70% complete. Commissioning is expected by June 2025.
- d) **Hydropower Plant:**
Construction halted due to cost overruns and technical issues; site to be temporarily decommissioned

11.1.9 Challenges

- a) Despite considerable progress, several challenges impacted the project in 2024:

Hydropower Dispute: Development was halted due to unexpected hydrological conditions and cost escalation (US\$7.5M overrun). Contract closure is complicated by disputes between RREA and the contractor.

- b) **Service Connection Delays:**
Only ~54% of the planned connections were completed. Readiness of end-users remains low due to internal wiring issues.
- c) **Safety Concerns:**
Some distribution lines run above metal roofed buildings, and transformers are located too close to homes.
- d) **Generation Capacity Shortfall:**
The initial energy mix could not meet demand. Optimization studies have called for an expansion in solar capacity to 5.7MWp with 10.5MWh BESS.
- e) **Operational Model Uncertainty:**
O&M operator onboarding delayed due to lack of consensus on scope and implementation model.

11.2 Renewable Energy for Electrification in Liberia (REEL)

11.2.1 Project Description

The Renewable Energy for Electrification in Liberia (REEL) Project is a partnership between the Government of Liberia (GoL) and the African Development Bank that originally (and to date) funds the below components.

11.2.2 Project Scope

A. Component 1. Construction of Infrastructures (UA 20.98 million to UA 26.98 million) – Basically, the construction of i) 9.38MW (original – 9.34MW) hydropower plant on the Gbedin Falls in Nimba County, and 15km (8km -original) of 33kV evacuation line including two 33kV substations to connect to the existing cross-border line; ii) complete rehabilitation of 9.4km of the existing access road, and construction of 5.6km of a new access road to the project site (8km –original); iii) 120km (original – 50km) – new 33/0.4kV distribution lines and 7,000 (original – 6,650) new connections in Nimba & Bong County (Gbassalonoh, towns along the route from Ganta to Gbarnga, & Gbarnga); all geared

towards providing improved electricity access to at least 60,000 people in Nimba County.

B. Component 2.

Project Implementation Support (UA 1.78 million) – mainly supports the following: consultancy services for design, preparation of bidding documents, tendering and Supervision of construction works; implementation of the Environmental and Social Management Plan (ESMP), Resettlement Action Plan (RAP), Livelihood Restoration Program and Gender Action Plan (GAP); acquisition of two project vehicles and office equipment; provision for purchase of hydrological data acquisition system and data collection equipment; support to the PCU, consumables, fuel, vehicle maintenance, etc.; audit services.

C. Component 3.

Technical assistance to strengthen rural electrification institutions (UA 1.69 million) to support the project management team and provision of external training.

The main/critical work package of the REEL project is the construction of the 9.38MW hydropower plant, evacuation line, and associated substations, which constitute about 77% of the project resources.

11.2.3 Project Development Objective

The REEL Project's development objective (unchanged) is to increase access to electricity and foster the use of renewable energy sources, with a target of providing improved electricity access to at least 60,000 people including a subset of 37,880 direct beneficiaries (men-18,561; women -19,319), etc. The expected outcomes of the project are summarized below.

- a) The electricity access rate increased from 19.3% to 30% at the national level, benefiting at least 60,000 people
- b) 37,880 people (men- 18,561; women -19,319) with improved access to electricity via new connections
- c) 6,650 households and businesses with access to electricity in the project area

- d) 56.5 GWh/y annual electricity generated, and GHG emission avoided by 44,804/1,344,120 tCO₂eq. (annual lifetime) The REEL Project is aligned with GoL's Development Agenda, the AAID.

11.2.4 Project Financing Structure

The total project funding envelope is UA 30.45 million (changed from UA 24.45 million), which consists of UA 17.06 million SREP financing (grant), UA 0.8 million ADF grant, UA 1.2 million TSF grant, UA 4.59 million ADF loan, UA 0.8 million as GOL in-kind towards project management, UA 6 million as GOL commitment for the hydropower construction. The change in the project funding envelope is due to the required cost for the construction of the hydropower plant, evacuation line, and associated substations. However, only UA 24.45 million (including GOL in-kind) is guaranteed as of the data date.

11.2.5 Project Timeline

The REEL project was approved on October 31, 2019, signed on January 20, 2020, and became effective in February 2021. The project closing date is June 30, 2027, officially revised from June 30, 2025 (original completion date) to cope with the prevailing situation and performance trend of the project.

11.2.6 Project Organization Structure

The Project is managed by the RREA's Project Management Unit (headed by the Deputy Executive Director for Programs), with fiduciary support from the Finance and Procurement Departments of RREA. Per the Financing Agreement, the Project structure does require a Project Steering Committee to ensure governance for the project. The organization of the Project Steering Committee is presented in the table below. To date, the Project Steering Committee has been reinstituted, and its second meeting was on March 11, 2025.

Table 7: Organization of Project Steering Committee of REEL

Item	Description
Organogram	• Ministry of Mines and Energy (MME) – Chair • Rural and Renewable Energy Agency/REFUND Committee - Secretariat • Ministry of Finance and Development Planning • Ministry of Foreign Affairs • Ministry of Public Works • Liberia Electricity Corporation • Liberia Electricity Regulatory Commission • Environmental Protection Agency • Forestry Development Authority • Office of the Superintendent of Nimba County • Civil Society Organizations (CSOs)
Scope	Provide oversight guidance and strategic direction – overseeing the full execution of the REEL project, including review & approval of the project's budget, work plan & procurement plan before submission to AfDB for No Objection
Meeting Frequency	At least once per quarter per year
Duration of Steering Committee	Until the project closing date, June 30, 2027

11.2.7 Project Performance Outlook

The table below provides a summary of the overall performance of the project.

Table 8: Summary of the overall performance of the REEL Project

No	Summary	Reference value (cumulative)		Notes
		Previous (as of March 31, 2024)	Current (as of June 30, 2024)	
1	Implementation performance rating	Moderately Satisfactory	Moderately Satisfactory	Relatively slow progress on the front of the hydropower plant & access road construction. Access road construction has been paused (since 12 months ago) due to issues of appreciable variation & lack of budget appropriation to cater to anticipated cost variation. Procurement for the hydropower plant, evacuation lines & associated substations recently concluded (contract signed in November 2023) after being paused for > 12 months due to funding issues and became effective on June 4, 2024.
2	% achievement - Project Development Objectives (PDO) (core)	* 90.48% (new connections) * 0% (Other PDOs)	* 86.78% (new connections) – downgraded given final records * 0% (Other PDOs)	Rated satisfactory – people with access to electricity due to new connections (32,872/37,880); number of households and businesses with access to electricity access (5,771/6,650). Achievement of the other PDOs is 0%. See Annexure D.
3	% Complete ¹	<15%	<20%	No significant progress was yielded, signaling slow implementation. Mainly, as aforesaid hinted, procurement for the hydropower plant and associated facilities started in July 2022 and was paused for more than 12 months due to funding issues (all offers exceeded the project budget). Additional funding was committed (by GoL) only in September 2023 allowing the continuation & conclusion of the procurement – contract recently signed (in November 2023) for the hydropower plant & associated facilities. The hydropower contract only became effective on June 4, 2024, given delays in full advance payment to the Contractor. Besides, there is no motorable access to the hydropower site yet. Construction of access road to hydropower site paused (since 12 months ago) due to considerable cost variation (+\$US3.5 million). The rehabilitation part of the road is almost complete (> 94% pending remedial works) but there is minor progress on the new road

No	Summary	Reference value (cumulative)		Notes
		Previous (as of March 31, 2024)	Current (as of June 30, 2024)	
				(only 2.6km of mechanical clearing done). Motorable access to the hydropower site is expected no later than Mach 2025 if the variation is settled in due time. Procurement for technical audit (survey & design of the access road) is underway (at the contracting stage) to inform on the variation quantum before restart of the access road works. Consequently, site mobilization of the hydropower contractor is not expected before March 2025. In this case, the hydropower contractor will start EM & HM designs and other preparatory works in the interim. Additionally, the execution of the project's Livelihood Restoration Plan (LRP) is pending. Notwithstanding, the new 33/0.4kV distribution network is completed – 119.86km of distribution network, 45 transformers, and 5,771 service connections commissioned, electrifying 30 towns in Nimba & Bong (14nos. & 16nos. respectively). Dedication of the network was done February 21,2025. Furthermore, the preliminary design (bidding level) for the hydropower plant is completed. Detailed site Investigation/survey substantially complete (topography, geological & bathymetric surveys & Geotech investigation by trial pits concluded but drilling is pending due to site access condition), project layout and hydraulic & basic infrastructure design finalized. Detailed design is progressive, with expected completion during the construction stage. Moreover, the Consultant for the supervision and civil design of the hydropower plant is onboarded, and critically, compensation to project-affected persons is completed.
4	Duration elapsed (months) – from the effective date	37 months	40 months	% of Time elapsed is about 53% (40/76 months), which indicates significant schedule lag given the % complete of the project to date, < 20%.
5	Payment/ Budget Utilization (US\$) ¹	UA4,719,902.04 / US\$ 6,513,464.81 (15.50% revised project	UA7,862,142.21 / US\$10,849,756.25 (25.82% revised project	The same is 32.16% of the original project amount, mostly towards the new distribution network, project management, owner's engineering services, access road, hydropower plant (advance payment), etc. The rate of disbursement is projected to increase by June 2025 given the payments of the hydropower contract.

No	Summary	Reference value (cumulative)		Notes
		Previous (as of March 31, 2024)	Current (as of June 30, 2024)	
		amount OR (19.30% of guaranteed project amount/ original allocation)	amount OR (32.16% of guaranteed project amount/ original allocation)	
6	Committed Amounts (US\$)/ based on contracts	US\$35,494,202.33 or UA25,720,436.47	US\$35,494,202.33 or UA25,720,436.47	The committed amount is 5.20% more than the original project allocation but less than the current project funding envelope (-15.53 %).
6	Milestones Achieved	<u>Current</u> (i) New 33/0.4kV network commissioned. Cumulatively, 119.86km of distribution lines (19.9km – 33kV & 99.96km – LV/ 0.4kV), 45 transformers & 5,771 service connections were completed for the new distribution network, electrifying 30 towns in the project area (Nimba – 14 towns; Bong – 16 towns). By disaggregation, there are 2134 & 3637 new connections in Nimba & Bong respectively. (ii) 5,771 households and businesses (5,751 households & 50 businesses/clinics) electrified in Nimba & Bong through the new connections. By disaggregation, 3590 households & 47 businesses/clinics were electrified in Bong and 2,131 households & 3 businesses/clinics in Nimba. (iii) 32,872 people in the project area (12,155 in Nimba & 20,717 in Bong) provided access to electricity through the new connections (iv) Contract for the hydropower plant & associated facilities effective (in early June 2024). (viii) Procurement for technical audit (survey & design) of the access road is 80% complete, at the contracting stage. <u>Previous</u> (ii) Owner's Engineer for the design & supervision of the hydropower plant package onboarded. (iii) Compensation to project-affected persons completed. (v) Detailed design of the hydropower plant by the Owner's Engineer started (at inception) – basically, preliminary design (bidding level) completed, plant layout and hydraulic & basic infrastructure design finalized, & plant parameters defined. (vi) Detailed site survey & investigations substantially complete – topography, geological & bathymetric surveys & geotech investigation by trial pits concluded. Construction materials survey & sedimentation study are concluded pending report finalization. Geotech investigation by drilling is also pending given no motorable access to the hydropower site. (vii) The rehabilitation part of the access road (9.6km) is > 94% complete pending remedial works as may be determined.		

No	Summary	Reference value (cumulative)		Notes
		Previous (as of March 31, 2024)	Current (as of June 30, 2024)	
				(only 2.6km of mechanical clearing done). Motorable access to the hydropower site is expected no later than March 2025 if the variation is settled in due time. Procurement for technical audit (survey & design of the access road) is underway (at the contracting stage) to inform on the variation quantum before restart of the access road works. Consequently, site mobilization of the hydropower contractor is not expected before March 2025. In this case, the hydropower contractor will start EM & HM designs and other preparatory works in the interim. Additionally, the execution of the project's Livelihood Restoration Plan (LRP) is pending. Notwithstanding, the new 33/0.4kV distribution network is completed – 119.86km of distribution network, 45 transformers, and 5,771 service connections commissioned, electrifying 30 towns in Nimba & Bong (14nos. & 16nos. respectively). Dedication of the network was done February 21, 2025. Furthermore, the preliminary design (bidding level) for the hydropower plant is completed. Detailed site Investigation/survey substantially complete (topography, geological & bathymetric surveys & Geotech investigation by trial pits concluded but drilling is pending due to site access condition), project layout and hydraulic & basic infrastructure design finalized. Detailed design is progressive, with expected completion during the construction stage. Moreover, the Consultant for the supervision and civil design of the hydropower plant is onboarded, and critically, compensation to project-affected persons is completed.
4	Duration elapsed (months) – from the effective date	37 months	40 months	% of Time elapsed is about 53% (40/76 months), which indicates significant schedule lag given the % complete of the project to date, < 20%.
5	Payment/ Budget Utilization (US\$) ¹	UA4,719,902.04 / US\$ 6,513,464.81 (15.50% revised project	UA7,862,142.21 / US\$10,849,756.25 (25.82% revised project	The same is 32.16% of the original project amount, mostly towards the new distribution network, project management, owner's engineering services, access road, hydropower plant (advance payment), etc. The rate of disbursement is projected to increase by June 2025 given the payments of the hydropower contract.

No	Summary	Reference value (cumulative)		Notes
		Previous (as of March 31, 2024)	Current (as of June 30, 2024)	
		(ix) Project closing date revised from June 30, 2025, to June 30, 2027. (x) GoL commits UA6 million /US\$8.28 million (equivalent) to bridge the funding gap of the hydropower plant contract. This increased the project funding envelope to UA30.45 million / US\$42.02 million (from UA30.45 million or US\$33.74 million).		
5	Issues/ Risks	(i) Appreciable variations in bidding & design data for the access road, thus resulting in cost variation of a large margin (> 100%), about US\$3.5 million or UA2.54 million. This is a possible financing gap given the project-constrained funding. (ii) No motorable access to the hydropower site yet. Motorable access to the site is only possible by February 2025 given current implementation modalities. This will grossly delay the start of the main site works, geotech investigations by drilling, and completion of civil designs for the hydropower plant! (iii) Footprint of hydropower plant being 15km in Guinea. This is unavoidable and has the propensity to greatly delay the main works for the hydropower plant and the project. GoL has formally notified the Government of Guinea on the above, premised on the existing MoU between the GoL & Government of Guinea for the Gbedin Fall hydropower development. Response from the Government of Guinea is pending.		
Disbursement under the project is not prorated but rather susceptible to an instantaneous increase at a particular time due to the terms & conditions of the supply scope for the hydropower plant, and the other infrastructure contracts				

11.2.8 Key Achievements

a) New 33/0.4kV network commissioned. Cumulatively, 119.86km of distribution lines (19.9km 33kV & 99.96km – LV/ 0.4kV), 45 transformers & 5,771 service connections were completed for the new distribution network, electrifying

30 towns in the project area (Nimba – 14 towns; Bong – 16 towns).

By disaggregation, there are 2134 & 3637 new connections in Nimba & Bong respectively.

b) 5,771 households and businesses (5,751 households & 50 businesses/clinics) electrified in Nimba & Bong



Installed Pole Mounted Transformer



Transformer Installation Ongoing



Completed MV Line



MV Top Arrangement Installation

- c) through the new connections. By disaggregation, 3590 households & 47 businesses/clinics were electrified in Bong and 2,131 households & 3 businesses/clinics in Nimba.
- d) 32,872 people in the project area (12,155 in Nimba & 20,717 in Bong) provided access to electricity through the new connections
- e) Contract for the hydropower plant & associated facilities effective (in early June 2024).
- f) Procurement for technical audit (survey & design) of the access road is 80% complete, at the contracting stage.
- g) Owner's Engineer for the design & supervision of the hydropower plant package onboarded.
- h) Compensation to project-affected persons completed.
- i) Detailed design of the hydropower plant by the Owner's Engineer started (at inception) – basically, preliminary design (bidding level) completed, plant layout and hydraulic & basic infrastructure design finalized, & plant parameters defined.
- j) Detailed site survey & investigations substantially complete – topography, geological & bathymetric surveys & geotech investigation by trial pits concluded. Construction materials survey & sedimentation study are concluded pending report finalization. Geotech investigation by drilling is also pending given no motorable access to the hydropower site.
- k) The rehabilitation part of the access road (9.6km) is > 94% complete pending remedial works as may be determined.
- l) Project closing date revised from June 30, 2025, to June 30, 2027. GoL commits UA6 million (US\$8.28 million equivalent) to bridge the funding gap of the hydropower plant contract. This increased the project funding envelope to UA30.45 million / US\$42.02 million (from UA30.45m or US\$33.74 million).

11.2.9 Challenges

- a) Appreciable variations in bidding & design data for the access road, thus resulting in cost variation of a large margin (> 100%), about US\$3.5million or UA2.54million.
This is a possible financing gap given the project constrained funding.
- b) No motorable access to the hydropower site yet. Motorable access to the site is only possible by February 2025 given current implementation modalities. This will grossly delay the start of the main site works, geotech investigations by drilling, and completion of civil designs for the hydropower plant!
- c) Footprint of hydropower plant being 15km in Guinea. This is unavoidable and has the propensity to greatly delay the main works for the hydropower plant and the project. GoL has formally notified the Government of Guinea on the above, premised on the existing MoU between the GoL & Government of Guinea for the Gbedin Fall hydropower development. Response from the Government of Guinea is pending.
- d)



11.3 Liberia Energy Sector Strengthening and Assessment Project (LESSAP)

11.3.1 Project Description

Liberia Energy Sector Strengthening and Access Project (LESSAP) is the first phase of a multiphase program approved by the World Bank to support the Government of Liberia (GOL) in its efforts to increase access to sustainable, reliable, and affordable energy, and overall, help achieve universal electricity access in Liberia by 2030. LESSAP is effective (since July 21, 2021), currently being administered by the World Bank in partnership with the GoL, with a funding envelope of US\$ 64.2 million (unchanged) and a closing date of June 30, 2026 (unchanged). LESSAP is jointly executed by the Liberia Electricity Corporation (LEC) and the Rural and Renewable Energy Agency (RREA).



11.3.2 Project Scope

LESSAP's development objective is to increase access to electricity and improve the operational efficiency of LEC, with targets of 345,000 people with new and improved electricity services (revised), 90 health facilities provided with electricity service from stand-alone solar systems (revised), 40,000 regularized connections in the project area, and optimal organization structure developed and implemented at LEC. The project originally (and to date) funds the components below.

- A. Component 1. Rehabilitation and Expansion of Electricity Infrastructure and Systems and Access Expansion (US\$45 million to US\$31.2 million), implemented by LEC.
- B. Component 2. Electrification of Health Centers and Households in Off-grid Rural Areas (US\$9.2 million to US\$10.3 million), executed by RREA.
- C. Component 3. Technical Assistance for Institutional Reform, Capacity

Building of Sector Institutions, and Implementation Support to LEC (US\$10 million to US\$14.5 million), implemented by LEC.

- D. Component 4. Emergency Sustainable Generation Support (new as of March 2023) (US\$8.2 million), implemented by LEC.

This report focuses only on the off-grid component of LESSAP (Component 2), which supports (i) the electrification of health facilities through stand-alone solar systems; (ii) a pilot for electrification of households in off-grid areas through privately delivered solar PV/battery (with diesel if needed) mini-grids, and solar home systems (SHS) via a result based financing approach; (iii) deployment of standalone solar street lighting systems in selected rural cities; (iv) support to the supply and installation of a diesel generator for the hybrid hydro-diesel mini-grid in Lofa county.

Key aspects of the Work Breakdown Structure are summarized in Table 3.

Table 9: Work Breakdown Structure of LESSAP Component 2

No.	Component	Description
2a	Electrification of health facilities through stand-alone solar systems	US\$5.2 million (ESMAP Grant/TF-B5153: US\$2.5 million, PHRD Grant/TF-B5412: US\$2.7 million)
2a.1	Supply, installation, and O&M of "smart" stand-alone solar systems for healthcare facilities	Supports the provision of solar PV electricity services (supply, installation, and maintenance & warranty services) to 88 remotely located health facilities to enhance the delivery of healthcare services and improve their resilience during epidemics, and support for vaccine cold chain as needed.
2a.2	Pilot remote monitoring of installed stand-alone solar systems at selected health facilities	Supports pilot for the remote monitoring of installed stand-alone solar systems at selected health facilities using Odyssey solution, thereby shaping a rationale scale-up of the initiative under the ESMAP program.
2a.3	Project Management (Staffs)	Supports the services of delegated project staff from the RREA PIU
2a.4	On-demand specialists /tasks for health facilities & households electrification	Supports the provision for ad-hoc individual Consultancy (short term) under the component
2a.5	Development of a National Electrification Platform	Supports the development & maintenance of a National Electrification Platform (NEP), a comprehensive national geospatial energy access platform that will enable effective planning, coordination, and monitoring of energy access initiatives in Liberia.
2b	Electrification of Households in Off-grid Areas	US\$4.0 million (IDA Grant/IDA-D7850: US\$2 million, IDA Credit/IDA-68510: US\$2 million)
2b.1	Pilot for privately delivered mini-grids (single-community) (Canceled)	Supports pilot deployment of private sector-led, sustainably operated solar PV/battery (with diesel as needed) mini-grids for the selected sites under the least cost generation plan, enabling the electrification of at least 500 households.
2b.2	Electrification of households via solar home systems	Supports the design and implementation of a pilot for reaching dispersed communities through solar home systems, providing electricity access for 15,600 households.
2b.3	Program on productive uses of energy (women-focused) (Canceled)	Supports a pilot to improve outcomes for women by enhancing female-focused productive-use activities.
2b.4	Streetlighting of selected communities	Supports the supply, installation, and operation & maintenance of 13.4km (total) off-grid integrated solar street lighting for 4 selected communities in rural Liberia: (Barclayville, Grand Kru; Karweaken, River Gee; Zorzor, Lofa; Harper, Maryland)

2b.5	Hosting an Off-Grid Investment forum	Supports the conduct of an investment forum to mobilize off-grid developers to participate in LESSAP partial grant initiatives on mini-grid and solar home systems.
2b.6	Institutional and Staff Capacity Building	Supports activities geared towards the enhancement of the institutional & staff capacity of the RREA
2b.7	Project Management (Monitoring & Supervision, and Operations)	Supports project monitoring and supervision and RREA operations relative to the execution of the component
2c	Support the provision of a backup diesel generation set	US\$1.1 million (IDA Non-concessional Credit/IDA-68500: US\$0.682 million, IDA Grant/IDA-D7850: US\$0.209 million, IDA Credit/IDA-68510: US\$0.209 million) Supports the supply of spares, and installation & commissioning of the diesel plant for the hybrid hydro-diesel mini-grid in Lofa.
Work packages 2a.2 – 2a.5 are categorized as Technical Assistance activities under component 2a for budgeting purpose.		

11.3.3 Project Outlook (Status to Date)

As of December 30, 2024, LESSAP Component 2 has made significant progress, achieving over 50% physical completion and 59.4 % budget utilization. Key achievements include:

- 1.0 Health facility solar installations: Lot 1 (50 % complete), Lot 2 (50% complete)
- 2.0 Remote monitoring is operational in 10 of 13 sites using the Odyssey platform
- 3.0 National Electrification Platform developed, and operational - 22,013 household solar system connections contracted via RBF, targeting 110,065 people
- 4.0 100 % of solar streetlighting installation completed and commissioned
- 5.0 Diesel generator installation in Lofa is >70 % complete, with commissioning planned for June 2025.

11.3.4 Project Organization Structure

The Project is managed by the RREA's Project Management Unit (headed by the Deputy Executive Director for Programs), with fiduciary support from the Finance and Procurement Departments of RREA. The Project structure does not require a Project Steering Committee per the Financing Agreement. Project governance is provided by RREA's senior management team.

11.3.5 Challenges

Several challenges have impacted project implementation:

- a) Logistical issues due to poor road conditions and remote site locations.
- b) Budget constraints limiting achievement of certain original targets
- c) Incompatibility and connectivity issues with remote monitoring systems
- d) Delays in finalizing BoQs for health center installations
- e) Cancellation of mini-grid components due to limited funding, deferred to LESSAP Phase II.
- f) Risk of double counting in SHS distribution across subsidy programs - Need for accelerated disbursement and enhanced coordination among private sector grantees.
- g) Insufficient commitment from public institutions to cover lifecycle costs for operation & maintenance (corrective & replacement of parts) beyond grant funding period.
- h) limitation in technical and financial capacities for participating local companies,
- i) Weak evaluation & due diligence requirements, followed by insufficient business development, investment readiness, facilitation and matchmaking with

manufacturers
supplies and investors/financiers and
resource mobilization support to
participating companies which has led
to low success rate for participating
companies,

j) Lack of dedicated affordable (low
interest); risk tolerance; patient debt,
equity and guarantee financing products
to cover working capital and initial
investments for solar companies
available.

11.4 Rural Electrification Prioritizing the Southeast of Liberia – Light Up South East (LUSE)

11.4.1 Project Description

The Rural Electrification Program Prioritizing the South-East Project is a partnership between the Government of Liberia (GoL) and the European Union (EU) that originally funds the below sub-projects.

11.4.2 Project Scope

A. Sub-project 1.

Construction of the distribution network in Buchanan Construction of a 5 km transmission line to supply Buchanan, drawing power from a 225 kV substation as part



of the Cote d'Ivoire, Liberia, Sierra Leone, Guinea (CLSG) transmission line project, a 25 km distribution line, divided into two circuit (approximately 10 km and 15 km); Low voltage networks constructed alongside the two feeders of the distribution networks spanning 85.5 km in total length. Customers connections of 12,054 connections divided into single and three phases as follows: Single phase connection: 10,254 Three phase connection: 1,800 for 11,000 households; 917



small and medium enterprises (SMEs); 42 large consumers; 80 business consumers; and 18 large administration and community buildings. This also includes the installation of 500 units of street lighting along the main street

B. Sub-project 2.

Construction of the distribution network, solar power plant, and mini-hydro power plant including the rehabilitation of the feeder road in Greenville –construction of hybrid 850kWp

solar + 540kVA diesel for initial demand in the first stage (until the hydro will be operational) & 2MW hydro at final stage. Construction of transmission lines - 33 kV single circuit overhead line (OHL) in length of 40 km, from the hydro to Greenville City and transmission lines - 33 kV single circuit overhead line (OHL) in length 7 km from the site of the 850 kW solar power plant (SPP); Construction of distribution sub-station and three feeders of 33 kV single circuit in length of 15 km to the potential customers from the substation, construction of LV networks with a total length of 30km. Customer connections of 4,084 households and 260 commercials/administrative establishments as follows: 3,910 single phase connections and 434 three phase connections.

C. Sub-Project 3.

Construction and installation of a solar PV plant and mini-grid network with consideration of solar home systems for areas on the outskirts of Barclayville - construction of a 200 kWp solar PV plant located 1 km northwest of the city, coupled to a battery bank with 400 kWh storage and a 225 kVA diesel generator: construction of small substation with 500 kVA capacity connecting to a 4 km long MV transmission line of 11 kV. Construction of an 11 km mini-grid using 400-volt AC cables for customers to the system with four strategically placed transformers to electrify seven zones. Installation of 1,072 single-phase and 58 three-phase connections complete with pre-payment meters 70 solar home systems for households in the identified outer lying areas.

D. Long Time Technical Assistance (LTTA) to RREA -

This component entails providing long-term technical assistance to RREA to enhance prosperity and development in the rural South-East through capacity building and institutional support.

The consultant will offer technical advisory support to RREA staff in daily operations within the renewable energy sector and support the implementation of EU-funded Rural Electrification projects/programs. A key objective is to ensure RREA's establishment as a technically competent and independent body, with support in budget, management, staffing, and operational duties. The consultant will conduct capacity needs assessments and develop plans for the RREA Project Implementation Unit (PIU), focusing on strengthening renewable energy project management and rural electrification. Specific activities include conducting and reviewing feasibility and site-specific studies; supporting engineering design, construction, operation, and maintenance; and launching a study on a financial mechanism for asset replacements and network expansion. Furthermore, the contractor will strengthen RREA PIU in project management, covering planning, procurement, implementation, monitoring, and evaluation, including various rural electrification business models.

11.4.3 Project Development Objective

The objective of the program is to stimulate socio-economic development and improve the living conditions of the rural population living in Buchanan, Greenville and Barclayville by increasing access to reliable and affordable renewable energy. A total of 17,064 new homes, 1,442 businesses and public institutions will have access to electricity and 700 streetlights will be installed. The program will attempt to catalyze private sector investment in the development of electricity mini grids.

This program is part of Global Gateway, a new European strategy to boost smart, clean and secure links in digital, energy and transport sectors and to strengthen health, education and research systems across the world.

11.4.4 Project Financing Structure

The total project funding envelope is 42 million euros European Union grant finance under the 11th European Development Fund towards project management. The REPPS project was approved on May 22, 2020, and closes in August 2027.



11.4.5 Project Organization Structure

The Project is managed by the National Authorizing Office (NAO) and RREA. NAO is the contracting authority while RREA is the Implementing Agency. COLENCO Consultants Limited in JV with ATI and ENCO Italy led by COLENCO Consulting Limited has been awarded as the Consultant and Clients Representative with a contract valued at EUR 3,172,900.00. The Entire LUSE Project is Funded by the European Union (EU). Office of the European Union Delegation has been the long-term development partner to Liberia and is the largest grant donor to the country. Supervisory progress meetings are held between the EU delegation, NAO and RREA. Per the Financing Agreement, the Project high-level performance monitoring will be carried out by RREA, NAO and the Delegation through a Project Steering Committee which will meet at least twice a year. To date, the Project Steering Committee Meeting is scheduled to take place on the 17th date of every 3rd Month.

11.4.6 Project Performance Outlook

11.4.6.1 Sub-project 1.

Construction of the distribution network in Buchanan - Lot 1 Project

11.4.6.1.1 General Project Information

the contract for this component commenced on April 30, 2024, with a scheduled duration of 24 months. The contractor for this portion of the work is MBH Power Limited Nigeria. The contract amount is EUR 6,525,069.80. The sites have been officially turned over to the contractor, MBH Power Limited Nigeria, for the commencement of construction activities. An approved project implementation schedule is in place, with the project scheduled to be completed by April 29, 2026.

11.4.6.1.2 Key Activities and Progress

- a) The contractor submitted a revised survey design for 77 blocks.
- b) The review of the survey report was completed as of February 2025.
- c) The site office has been established and operational since October 2024.
- d) Construction activity for pole installation started on-site on March 22, 2025.
- e) Installation of 12-meter and 9-meter Reinforced Concrete Cement (RCC) poles has been carried out across various blocks communities.
- f) Construction of the Gas Insulated Substation (GIS) has not commenced as of March 2025. This is due to pending confirmation of land acquisition. The construction is expected to commence upon land acquisition confirmation from the Rural & Renewable Energy Agency (RREA) in April 2025.
- g) The geotechnical survey activity was not started as of the end of March 2025.

- h)** Production, inspection, and dispatch of 12-meter Medium Voltage (MV) Poles and 9-meter Low Voltage (LV) Poles at LCPC-Liberia commenced in March 2025 and are ongoing.
- i)** As of March 31, 2025, the total number of poles produced is 138, comprising 70 units of 9-meter/250 daN (LV) poles and 68 units of 12-meter 600daN (MV) poles.
- j)** The 1st inspection for Lot-1, Buchanan site, was conducted on March 18, 2025, for 20 pieces of 9-meter/250 daN (LV) Poles and 15 pieces of 12-meter/600daN (MV) Poles.
- k)** These poles have been delivered to the Buchanan site and installed.
- l)** The commencement of technical submissions began in May 2024. The status of the Technical Submission, Review, and Manufacturing approval is detailed in the attached annexure (Project Register).
- m)** Production of LV and MV Poles at LCPC Liberia is in progress. As of the end of March 2025, 70 units of 9-meter poles and 68 units of 12-meter poles have been cast (total poles cast: 138).
- n)** Inspection and dispatch of the LV and MV Poles at LCPC Liberia has been conducted, and 35 poles (15 units of 12-meter poles and 20 units of 9-meter poles) were dispatched to the Buchanan site during March 2025.
- o)** As of the end of March 2025, 20 units of 9-meter poles and 15 units of 12-meter poles have been installed at the Buchanan site.
- p)** The Factory Acceptance Test (FAT) for distribution transformers and other materials process is ongoing by MBH as the first FAT is expected to be conducted by the end of April 2025.
- q)** The review of the survey design was completed in the 1st week of March 2025 as the contractor was expected to submit the optimization report for

further review/approval by mid-March 2025.

- r)** A sample of prepaid electric meters has been submitted to Jungle Energy Power, the Operation and Maintenance (O&M) Contractor, for vendor matchmaking.

11.4.6.2 Sub-project 2.

Construction of the distribution network, solar power plant, and mini-hydro power plant including the rehabilitation of the feeder road in Greenville

11.4.6.2.1 Component 1

Construction of Distribution Network & associated facilities - Lot 2 Project



11.4.6.2.1.1 General Project Information

A contract was signed with MBH Power Limited Nigeria on March 5, 2024, for EUR 6,498,794.95. This contract outlines the terms and conditions for MBH Power Limited Nigeria to carry out the work. The project is scheduled to span 24 months from the kickoff meeting on April 30, 2024. The kickoff meeting marks the official start of the project. The contractor initiated site mobilization immediately after the kickoff meeting. This means that MBH Power Limited Nigeria began moving personnel, equipment, and resources to the site to prepare for construction. Official meetings with local authorities have taken place. An approved project implementation schedule is in place, with the project scheduled to be completed by April 29, 2026.

This schedule provides a detailed timeline of the various stages of the project.

11.4.6.2.1.2 Key Activities and Progress

- a) Key milestones are being closely monitored to maintain project timelines.
- b) The site has been officially turned over to the contractor.
- c) The contractor has proceeded with the necessary site survey, and designs for MV (Medium Voltage) and LV (Low Voltage) are currently underway.
- d) The equipment manufacturing process has commenced, covering essential components such as electrical, digital, electronic, substations, and power line-related materials.
- e) The contractor submitted a sample of prepaid electric meters to Quality Group of Construction, the Operation and Maintenance (O&M) Contractor. This is for testing and approval of the meters that will be used to measure electricity consumption by customers. Operation and Maintenance (O&M) Contractor will be responsible for the long-term running and upkeep of the power network.
- f) April 30, 2024 (24 Months) - This is the date when the project officially started, and the project duration is 24 months.
- g) Revised Survey design for MV Line (From Solar to GIS station & Hydro Plant to GIS station), LV of 51 blocks – Survey design review & Approved with Comments. This indicates that the initial survey design for the power lines was reviewed, and while it was approved, some comments or feedback were provided. A GIS station is a Gas Insulated Substation, which is a type of electrical substation.
- h) A total of 22 poles have been planted.
- i) From GIS to solar, 9 units of 12-meter poles have been erected. This specifies that 9 poles, each 12 meters in height, have been installed along the route from the GIS station to the solar power facility.
- j) In the Plank Side community, 13 units of 9-meter poles have been planted as service poles. This means that 13 poles, each 9 meters tall, have been installed in the Plank Side community to provide electrical service.
- k) The commencement of the technical submission started in May 2024. This means the process of submitting technical documents, which include designs, specifications, and other relevant information, began in May 2024.
- l) The site office establishment is in progress. Proper Internet facilities are yet to be provided at the site office.
- m) LV Pole & MV Poles Production at LCPC Liberia, is under progress. As of the end of March 2025, 57 pcs. of 9 mtr Poles & 55 pcs. of 12 mtr Poles has been casted (Total poles casted – 112 pcs.) for LOT-1 & 2.
- n) The Factory Acceptance Test (FAT) for distribution transformers and other materials process is ongoing by MBH as the first FAT is expected to be conducted by the end of April 2025.



11.4.6.2.2 Component 2&3: Construction of Solar PV Plant, mini-hydro plant and rehabilitation of feeder road

11.4.6.2.2.1 Mini-Hydro

The contract for this project was awarded to a joint venture, which is a partnership between two companies: Constar and RGF France. This contract was signed on June 26, 2024, officially giving the go-ahead for the project. The total value of the contract is EUR 10,797,096.00.

The project is expected to take 26 months to complete, with the clock starting from the kickoff meeting held on July 31, 2024. Before construction could begin, a detailed feasibility study was carried out.

This study examined whether the project was viable, considering factors such as the availability of water, the environmental impact, and the potential economic benefits. Preliminary designs for the hydropower plant were also developed during this early phase.



11.4.6.2.2.1.1 Current Status of the Project

As with any major construction project, the Greenville Hydropower Project involves careful planning and adherence to a schedule. Here's where the project stands:

- a) Some of the activities that were initially planned to be completed by March 2025 are currently behind schedule. This means that certain aspects of the project are taking longer than originally anticipated.
- b) The contractor has put in the necessary insurance for securing the project. The detailed work plan for how the work will be carried out (the program of work) and the specific method that will be used have been finalized.
- c) On Health, Safety, and Environment, the project places a high priority on the health and safety of workers, as well as the protection of the environment. A report outlining how these aspects will be managed (the Health, Safety, and Environment (HSE) report, along with the Construction Environmental and Social Management Plan (CESMP Report) has been approved by the Consultant. However, RREA and working with EPA for reviewing Project ESIA studies and issuance of construction permits as per national regulations and standards.
- d) Initially steps to provide this access began with the project. This includes clearing the site and building an access road so that workers and equipment can reach the location.
- e) Detailed surveys and mapping of the area where the hydropower plant will be located have been completed. This provides essential information for the design and construction phases.
- f) Geotechnical investigations, which involve studying the soil and rock conditions at the site, have also been

g)

carried out. The Consultant has approved of these investigations, but final approval from RREA is still needed. The design for the access road has been submitted. The Consultant has reviewed the design and provided recommendations. The contractor is now working on revising the drawings based on this feedback.

h)

The process of procuring (purchasing) the necessary materials and equipment for the hydropower plant has not yet started. The contractor has been directed to begin this process as quickly as possible.

i)

Mobilization refers to the process of getting everything ready at the site so that construction can begin. These activities have started. Completed tasks include building a chain-link fence around the compound area. Work on the site office and accommodation for workers is also finished, and Constar is continuing with its work on worker accommodation.

j)

On March 26, 2025, a site visit was conducted by representatives from several organizations involved in the project, including the European Union (EU), the National Authorizing Office (NAO), RREA, and COLENCO. These visits are important for monitoring progress and addressing any issues that may arise.

k)

The removal of topsoil at the site began on February 20, 2025. However, this process is currently on hold, awaiting approval from the Environmental Protection Agency (EPA). This is to ensure that the project complies with all environmental regulations.

l)

The topography and bathymetric survey of the hydro project have been submitted in the preliminary design.

11.4.6.2.2.2 Solar PV Plant

The project involves the supply, delivery, installation, testing, and commissioning of an 872 KW Solar Power Generating Plant. The JV of Tarhini and ASACO (TCC-ASACO) is the contractor responsible for carrying out this project.

11.4.6.2.2.2.1 Project Timeline and Contract Details

- The contract commenced on July 31, 2024.
- The project is expected to be completed by March 16, 2026.
- The contract was signed on June 25, 2024.
- The total contract amount is €2,569,572.00.
- The project duration is 16 months from the kickoff meeting held on July 31, 2024.

11.4.6.2.2.2.2 Current Status of the Project

- a) A topography survey of the site has been conducted by ASACO.
- b) The site location has been cleared.
- c) Material specifications have been approved.
- d) Fencing work is currently in progress.
- e) Site office construction work is completed, and further related work is ongoing.
- f) Construction of the technical/control room is in progress.
- g) Feasibility study and preliminary designs for the project are complete.
- h) Technical submissions of design and drawings for various Electromechanical equipment and Civil works for PV plant submitted.
- i) Insurance for the project is completed.
- j) Material submittals are 85% completed.

11.4.6.2.3 Sub-Project 3.

Construction of a solar PV plant and mini-grid network with consideration of solar home

systems for areas on the outskirts of Barclayville

Colenco Consultants Limited, ATI, and ENCO Italy are acting as the Owner's Representatives, ensuring everything is running smoothly. Constar JV is the contractor for the Solar Power and Mini-grid Project in Barclayville. The contract was signed on November 1st, 2024, and the project is expected to take 416 days, with a completion date set for March 21st, 2026. The contract is valued at EUR 1,868,540.00.

The contractor has completed the topographic survey and mapping, and the survey report has been officially submitted. Reports covering environmental and occupational health and safety (CESMP and OHS) have also been turned in. Currently, the overall work is completed 7%, and the contractors have used up 12.5% of the total project time. The Topography Survey is fully done, marked at 100%, Design is in progress, currently at 6%. Mobilization, Procurement & Delivery of material, Construction, Testing and Commissioning: These activities haven't started yet (0%).

Regarding Safety, Health, and the Environment, the OHS and CESMP plans have been submitted. The Contractor has taken on board the Consultant's feedback and made the necessary adjustments. On Contractual Guarantees and Insurance, a Performance Guarantee of EUR 186,854.00 is in place, which will remain valid for the entire duration of the contract. The insurance policies are in the final stages of preparation. An advance payment of EUR 747,416.00, representing 40% of the contract value, has been made. As of now, there are no delays in reporting.

The equipment needed for the work hasn't been moved to the site yet. The design work is moving forward. Lastly, this project component is progressing, with some foundational elements completed and others underway. RREA and the Consultants are keeping a close

eye on timelines and ensuring all the necessary safeguards and financial arrangements are in place.

11.4.6.2.3.1 Client's Representative

COLENCO Consultants Limited in JV with ATI, Spain and ENCO Italy led by COLENCO Consulting Limited has been contracted as the Client's Representative.

11.4.7 Challenges

11.4.7.1 Hydro Power Project – (Greenville)

The ITI bridge has been damaged and access via ITI has been totally inaccessible for vehicles movements.

The project is currently facing several critical challenges that are hindering effective implementation. A major concern is the lack of adequate financial and logistical support for RREA, which significantly affects the agency's ability to operate effectively. Without sufficient funding, RREA cannot recruit and maintain a fully staffed and skilled Project Implementation Unit (PIU). This undermines project supervision, slows down progress, and compromises the quality of work. The shortage of competent technical staff also limits the RREA's ability to review technical documents and ensure compliance with project standards, which could ultimately jeopardize the quality, safety, and sustainability of the project.

RREA lacks the necessary logistics to carry out routine field missions and technical site visits. The Government of Liberia has not provided vehicles or budgetary support for project supervision, forcing RREA to divert resources from other donor-funded projects to cover field mission costs. This includes using fuel and per-dem allocations meant for other initiatives, which are not sustainable and raises the risk of financial misappropriation. These logistical gaps make it difficult for the already overstretched RREA team to provide timely technical input and support during emergency site visits or collaborative missions with other

stakeholders. The inability to effectively mobilize staff in key project areas like Greenville and Barclayville is directly contributing to delays and risks in quality assurance.



Land acquisition is another pressing issue. Without dedicated funding, securing land for infrastructure development becomes a slow and uncertain process. This has already led to complications, such as the potential relocation of the Buchanan GIS substation due to unresolved land issues.

There are also significant challenges related to project design and cost management. A notable disparity has emerged between the feasibility studies and the detailed designs, particularly for the Buchanan distribution network and the Greenville hydropower project. These designs have shown cost increases of more than 50% in some instances, signaling possible flaws in the original feasibility assessments. These budget overruns pose a serious threat to the project's viability and may require adjustments to the project scope or even the elimination of some components.

Procurement is further complicated by restrictive rules of origin, which limit sourcing to specific markets. This has created supply chain bottlenecks, as manufacturers in those markets are unwilling to fulfill small orders. Despite the availability of required materials in other markets, the project is unable to access

them due to compliance requirements. This situation is placing contractors in a difficult position and could lead to significant delays if alternative sourcing solutions are not identified quickly.

Lastly, bureaucratic and institutional coordination issues are also affecting project efficiency. The overlapping responsibilities between RREA and the National Authorizing Office (NAO) have led to confusion, duplication of efforts, and inefficiencies. There is a clear need for better-defined roles and improved coordination between these two entities to ensure smooth project execution.

11.5 River Gee Hydropower Project

11.5.1 Project Description

The River Gee Hydropower Project is financed by a loan agreement between the Government of Liberia (GoL) and the Abu Dhabi Fund for Development (ADFD). This loan agreement aimed to support the construction of a 2.13MW hydropower plant on the Gee River in River Gee County. In addition, the project will reduce Liberia's reliance on electricity importation from neighboring Côte d'Ivoire, allow grid expansion to isolated localities and remote areas, and boost the connection of a larger number of households, businesses, institutions, and industries in the region. The River Gee Hydropower Project became effective on January 31, 2021, with total funding of US\$15.2 million (US\$8mil – ADFD loan, US\$3.6mil – AfDB indirect contribution for completion of a transmission line; US\$3.6mil – GoL Support).

The Project is managed by the RREA Project Implementation Unit (PIU), which is led by the Deputy Executive Director for Programs. The project steering committee comprised the Ministry of Finance and Development Planning, the Ministry of Mines and Energy and the Rural and Renewable Energy Agency.

The senior management team of RREA provides project governance.

11.5.2 Project Scope

The River Gee Hydropower project development objectives are: (i) to provide clean, reliable, sustainable, and affordable source of electricity to rural population in River Gee and Maryland counties, thereby securing power supply in the region; (ii) to reduce Liberia's reliance on electricity importation & enable grid expansion from Pleebo, Maryland County, to Fish Town, River Gee County; (iii) to increase energy access in the south-eastern region of Liberia. The project is also intended to provide improved energy access to about 30,000 people; reduce household income spent on fuel and other sources of energy.

The project consists of two components, namely, Infrastructure and Technical Assistance. The infrastructure component has three subcomponents that involve the construction of a) a 2.13MW hydropower plant, b) a 33kV substation c) a 33kV transmission line from Pleebo, Maryland County to Fish Town, River Gee County. The Technical Assistance component has two subcomponents: a) Engineering & Management, b) Environmental & Social Impact Assessment (ESIA).



WAB	Budget Code	Description	Amount (USD\$ Million)			
			GoL	ADFD	AfDB	Total
	1.0	COMPONENT 1: INFRASTRUCTURE				
1A	1.1	Hydropower generation				
1A-1	1.1.1	Development of Detailed Engineering Design Plant	0.10	0.30	-	0.40
1A-2	1.1.2	Preparatory Works for all construction	0.06	0.19	-	0.25
1A-3	1.1.3	D01: RiverGee HPP (2.13MW)	1.74	5.51	-	7.25
		Subtotal (1.1)	1.90	6.00	-	7.90
1B	1.2	Transmission network connection				
1B-1	1.2.1	Extension of 33kV cross-border Transmission line from Pleebo to Fishtown (100km) *E01- 100km 33kV line (*External deliverable by AfDB)	-	-	3.60	3.60
1B-2	1.2.2	D02- 33kV Substation & Connection	1.40	-	-	1.40
		Subtotal (1.2)	1.40	-	3.60	5.00
		SUBTOTAL (1.0 = 1.1 + 1.2)	3.30	6.00	3.60	12.90
	2.0	COMPONENT 2: TECHNICAL ASSISTANCE				
2A	2.1	Engineering & Management				
2A-1	2.1.1	D02- Owner's Engineer	-	0.90	-	0.90
2A-2	2.1.2	O&M arrangement for the HPP & substation *D05- Plant Operator	-	0.05	-	0.05
2A-3	2.1.3	Project Management				
2A 3.1	2.1.3.1	Project administration (** includes contracting of staff if needed and purchase/installation)	-	0.22	-	0.22
2A 3.2	2.1.3.2	Project Audit (external)	-	0.03	-	0.03
		Subtotal (2.1)	-	1.20	-	1.20
2B	2.2	Environmental & Social Impact Assessment (ESIA)				
2B-1	2.2.1	D04: Safe- Guard Instruments (ESIA report & RAP)				
2B 1.2	2.2.1.1	Preparation of safeguard instruments for the project	0.09	-	-	0.09
2B 1.3	2.2.1.2	Approval of safeguard instruments for the project (by EPA)	0.01	-	-	0.01
2B 1.4	2.2.1.3	RAP Implementation	0.20	-	-	0.20
		Subtotal (2.2)	0.30	-	-	0.30
A01	3.0	PROJECT CONTINGENCY	-	0.80	-	0.80
		GRAND TOTAL (1.0 +2.0 + 3.0)	3.60	8.00	3.60	15.20

5.3 Project Performance Outlook

Table 12: Project Performance Outlook

Item number	Description	Date completed	Status to Date
1.	Inception Reports	January 17, 2022	Completed
2.	Topography Survey	April 28, 2022	Completed
3.	Feasibility Studies	June 15, 2022	Completed
4.	Geotechnical Report	June 15, 2022	Completed
5.	Bid Evaluation Report	February 7, 2023	Completed
6.	Quality Assurance Manual	February 7, 2023	Completed
7.	Owners Engineer Consultancy	December 13, 2021	Completed
8.	Draft ESIA Report	January 11, 2022	Completed

11.5.4 Challenges

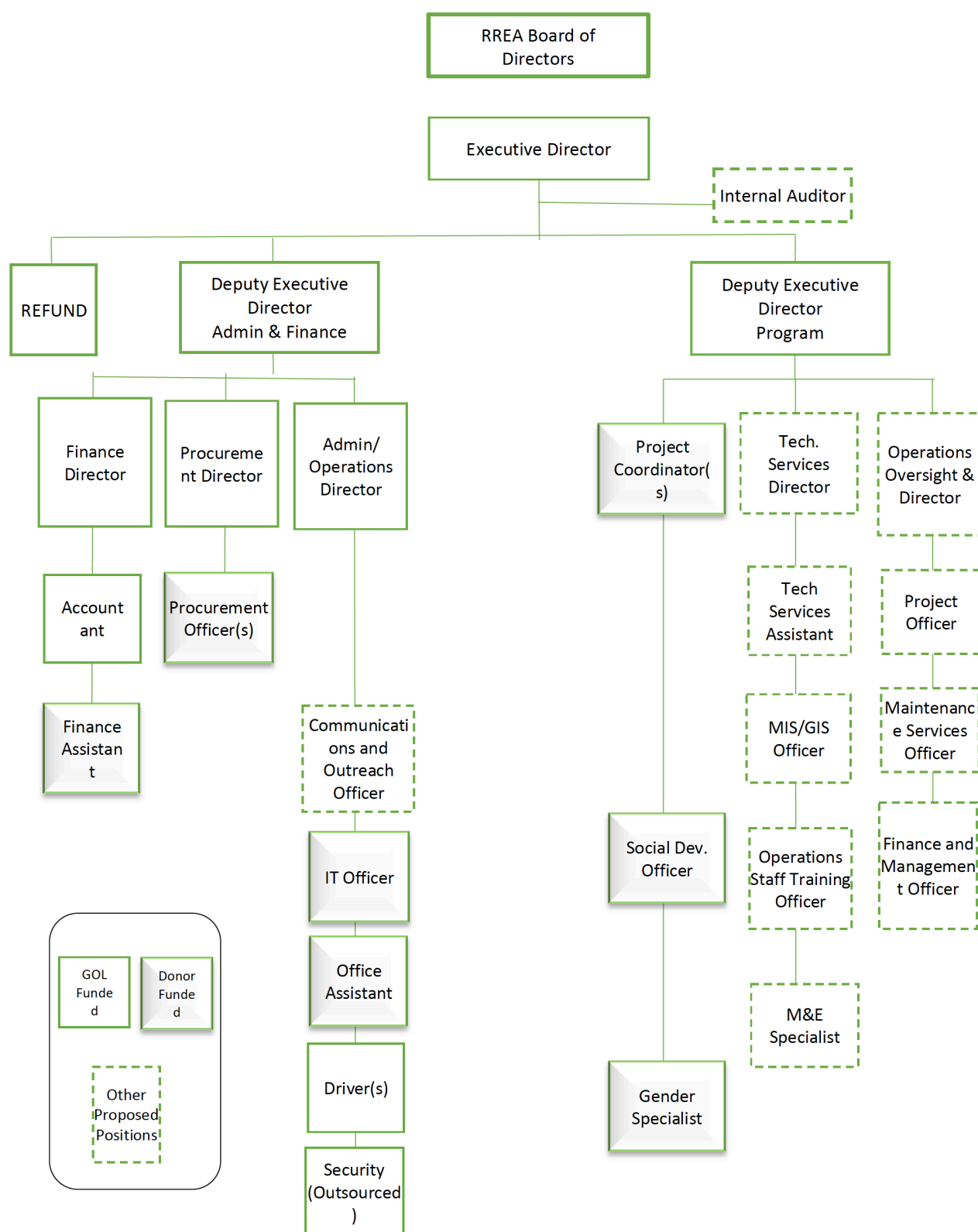
- a) Lack of past government commitment to its financial contribution to the project.
- b) Change in project design due to construction of motor road from Pleebo, Maryland County to Fish Town, River Gee County.
- c) Prolonged delay in payment of Owner's Engineer.



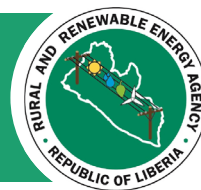
12. CONSOLIDATED FINANCIAL REPORT PER PROJECT

Consolidated Income & Expenditure Summary Report , and Closing Balances											
For the Period January 1, 2024 - December 31, 2024											
Project Title	Donor	B/F		Receipt		Fund Available		Expenditure		Variance	
		USD	LD	USD	LD	US	LD	USD	LD	USD	LD
Government of Liberia Subsidy	Government of Liberia	512.69	33,981.50	391,251.31	8,150,428.47	391,764.00	8,184,409.97	329,457.91	1,030,067.00	62,306.09	7,154,342.97
Liberia Energy Access Project	World Bank	2,121,460.13		-	-	2,121,460.13	-	876,101.56	-	1,245,358.57	-
Liberia Energy Access Project IDA	World Bank	132,986.05		955,641.50		1,088,627.55		955,971.50		132,656.05	
Renewable Energy for Electrification in Liberia	African Development Bank	24,341.50	-	6,631,567.62		6,655,909.12	-	6,502,652.42	-	153,256.70	-
Liberia Energy Sector Strengthening & Access Project	World Bank	580,566.67		4,702,958.27		5,283,524.94		4,309,212.42		974,312.52	
Total		2,859,867.04	33,981.50	12,681,418.70	8,150,428.47	15,541,285.74	8,184,409.97	12,973,395.81	1,030,067.00	2,567,889.93	7,154,342.97
Account Title	Date	Closing Balance									
		USD	LD								
Government of Liberia Subsidy	12/31/2024	62,306.09	7,154,342.97								
Liberia Energy Access Project	12/31/2024	1,245,358.57	-								
Liberia Energy Access Project IDA	12/31/2024	132,656.05	-								
Renewable Energy for Electrification in Liberia	12/31/2024	153,256.70	-								
Liberia Energy Sector Strengthening & Access Project	12/31/2024	974,312.52	-								
Total		2,567,889.93	7,154,342.97								

13. ANNEXES 1: RREA'S ORGANOGRAM



Relationship with development partners & strategies for resource mobilization to accelerate the delivery of energy access under 2030 to achieve universal access by 300 Mission



To accelerate the achievement of universal access for off-grid electrification and clean cooking by 2030 through the most efficient and effective way, about US\$167.965m of investment financing would be needed, with the private sector needed to contribute up to about 40% or close to US\$70m and the public sector (Government of Liberia with support of development partners-multilateral development banks, development finance institutions, impact & philanthropic financiers/investors) to contribute about 60% or up to US\$97.965m.

Between 2015 to date, about \$162.659m of financing has been committed(with up to \$103.839m being grants, US\$15.853m being GoL contribution and US\$42.967m being concessional loan to achieve the below energy access targets and delivery progress:

1. Energy generation: up to 12.04MW of hydropower generation and evacuation to main grid, with none being completely delivered,
2. Energy access:
 - Grid-tied distribution connections: 18,704; out of which 6,650 or 35% have been completely delivered,
 - Mini-grid connections: 24,565; out of which none have been completely delivered,
 - Stand-alone solar PV systems connections: 25,816 including households and public institutions & public lighting; out of which 49,879 or 193% have been completely delivered.

To achieve Mission 300 and universal access in an efficient(at lowest cost to the public sector and also for end-users), effective (accelerated execution timing of delivery), lowest or no risk mostly to the public sector, at the same time having significant economic and social impact on households/businesses & industries, but also in order to be able to attract the required private capital technological innovation and expertise, the Rural and Renewable Energy Agency envisages the design and implementation of innovative blended financing and delivery models with public funding to be used for catalytic or multiplier effect and as de-risking mechanism to be able to attract private sector participation and enhance public-private models through the following means:

Support/promote the enabling environments relevant to the institutional, legal, policy and regulatory frameworks to de-risk private investment attraction such as dedicated public-private partnership frameworks for the energy sector and eliminating bureaucratic bottlenecks in approving unsolicited and solicited investments through one-stop shop processing and setting definite approval/processing timings for such investments,

- Investment into project preparation with the use of digital tools to identify and visualize large pools of technical and financially viable, bankable and investment-ready projects with economy of scale for private investment decision-making and capital attraction,
- Enhance internal capacity for project facilitation on behalf of the private sector to meet relevant legal and regulatory requirements such as licenses/permits for environmental, social (land acquisition & resettlements) and operational approvals,
- Enhance internal capacity our source external capacity with possibility of knowledge

transfer for resource mobilization by modifying operational structure and relevant expertise & capacities including but not limited to technical & financial project preparation, investment & legal advisory, experts/specialists on design & implementation of innovative financing & delivery models, as well as advisory on enabling environment (institutional, legal, policy, regulatory) for the REFUND Committee as a “public fund manager” to attract and administer the needed public and private investments to achieve Mission 300 and universal access by 2030,

- Maximize economic and social impact of energy access initiatives by promoting productive use to power income-generation driven (poverty alleviation) and quality social services (health, education, public administration) through innovative public-private delivery models that will balance both social and commercial needs to increase the commercial and financial viability of initiatives to minimize risks relevant to end-users affordability for vulnerable/poor people in rural areas and mitigate risks relevant to accessing sovereign debts (non-payment),
- Design of blended financing mechanisms by leveraging existing concessional debt or guarantee facilities to facilitate private sector onward lending to low-cost (concessional), risk tolerant (project-backed rather than collateral-backed), patient (longer repayment period) capital and risk guarantee instruments as a way of passing repayment risks for concessional loans to the private sector.



RURAL AND RENEWABLE ENERGY AGENCY

SERVICE DELIVERY CHARTER

Four Mini hydro Power Plants under construction

Description	location	capacity	# of connections
Kaiha 2 hydropower Plant	Lofa County	2.5MW	Initial 10,000 household connections > Voinjama > Foya > Kolahun > Massambolahun > Bolahun
Gbedin hydropower Plant	Nimba & Bong	9.38MW	7,000 Household connections
River Gee HPP	River Gee	2.13MW	6,000 Household connections
Sinoe Rapid HPP	Sinoe County	2MW	4,344 Households service connections

Buchanan: About 6km 33kV sub-transmission line from CLSG substation & distribution network (32 km -33kV distribution lines, 85.5km – 0.4kV LV lines & streetlighting, 12,054 service connections)



ACKNOWLEDGMENT



VICTORIA WOLOBAH DUNCAN

SUPERINTENDENT MARGIBI COUNTY,
FORMER BOARD CHAIRWOMAN,
RURAL AND RENEWABLE ENERGY AGENCY

We, the members of the Rural and Renewable Energy Agency, hereby extend our sincere appreciation to Hon. Victoria Wolobah Duncan, Superintendent of Margibi County and former Chairperson of the Board of Directors of the Rural and Renewable Energy Agency for her dedicated leadership as of the Board of Directors.

Her guidance, insights, and commitment have significantly contributed to the agency's growth and success. Her innovative approach has left a lasting impact on us.

We are grateful for your contributions and leadership, which have paved the way for continued progress and development in our mission to promote sustainable energy. We commend her for her service and express our heartfelt gratitude for her efforts in steering the RREA Board towards a brighter and more sustainable future.

NECROLOGY



During the reporting period, we lost **Prof. David L. Wiles**, after a period of illness. Professor Wiles was a long term staff at the RREA that lead on all of our Environmental and Social Safeguard issues, all critical first requirements for the preparation, implementation and evaluation of our projects. Prof. Wiles brought to the RREA a wealth of knowledge and was critical to our knowledge transfer action plan nurturing and tutoring of your people that join our team as Environmentalists and Social Safeguard enthusiasts. We want to remember and honor the life of our dear colleague, Mr. David L. Wiles.

He was more than a coworker, he was a mentor, a guide and a father to many. His wisdom and kindness and quiet dedication left a lasting impact on our work and our lives. We are grateful for the time we shared with him and honor his memory as we mourn his loss. We pray for eternal rest on his soul. **Prof Wiles passed away on December 24, 2024.**

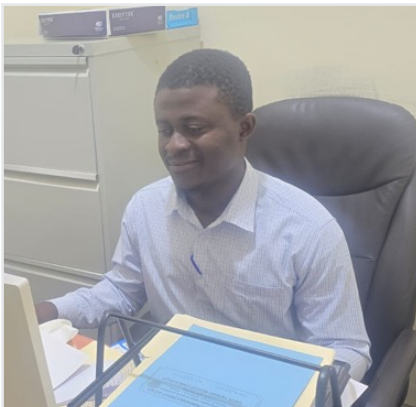
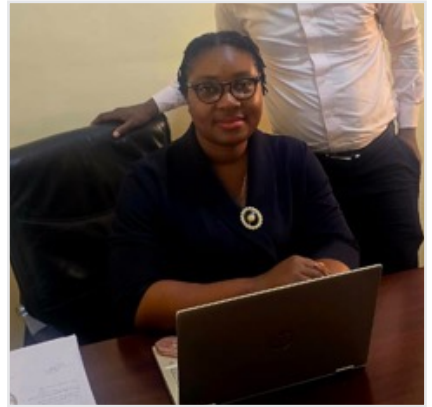
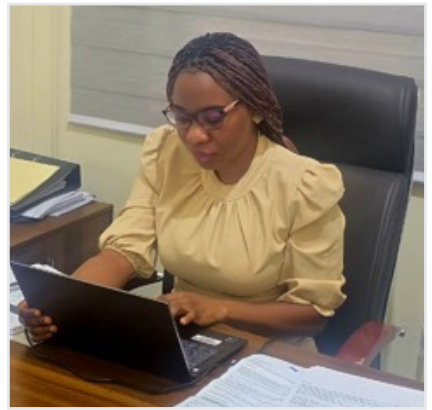
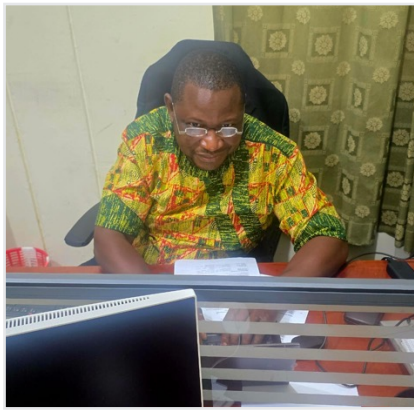
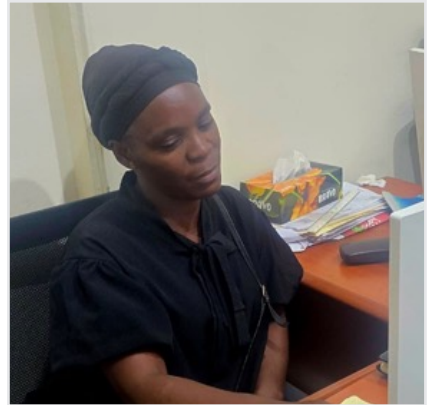
CONCLUSION AND NEXT PLANS

The Rural and Renewable Energy Agency, with lessons learnt from 2024, is strengthening internal capacity to address underperformance in accelerating energy access to achieve universal access by 2030 due to significant project execution delays linked to significant shortcomings in project preparation (detailed feasibilities) activities experienced mainly with hydropower generation projects and the rest linked to other risks relevant to resource mobilization.

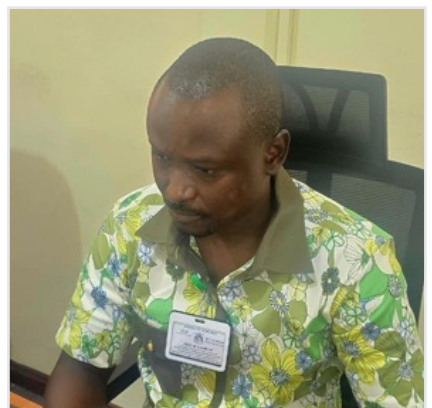
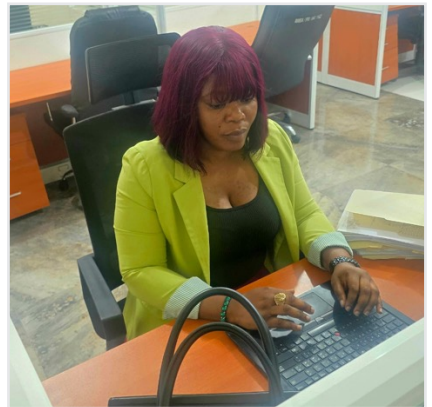
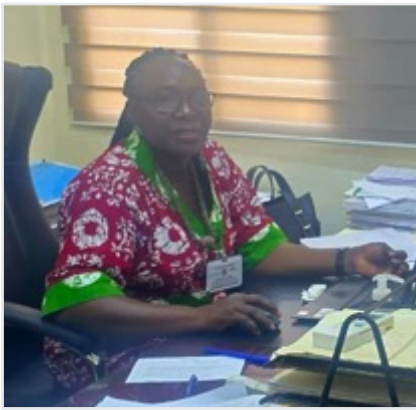
With 44% access being targeted for off-grid electrification as well as 25% access being targeted for clean cooking as per the Rural Energy Strategy & Masterplan by 2024; all falling short with approximately only $\leq 14\%$ and $\leq 1\%$ currently having access to off-grid electrification and clean cooking respectively; the project implementation unit has extensively undergone capacity building to strengthen risk-based engineering procurement & construction contracts management relevant to mitigating design & cost variations as well as construction and execution timelines by transfer of risks and liabilities to supervising engineering consultants and contractors.

To address other risks and challenges relevant to resource mobilization in achieving the ambitious targets of Mission 300 and universal access by 2030 targeting 200,000 off-grid electrification and 250,000 clean cooking access requiring up to \$140m of public and private investments by 2030, the Rural and Renewable Energy Agency is also strengthening internal capacity in promoting enabling policy, regulatory, legal and market enhancement environment by designing public-private led innovative blended finance and energy access delivery models by prioritizing productive use of energy targeting income-generating driven economic value chains as well as improvement in quality of social services through public institutions with public funding to be instrumental as catalytic investment subsidy funds to addressing affordability and other supply-side constraints

STAFFS' PHOTO GALLERY



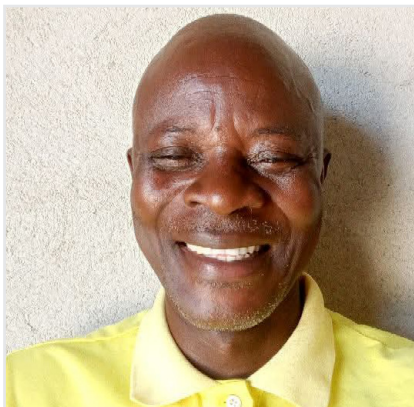
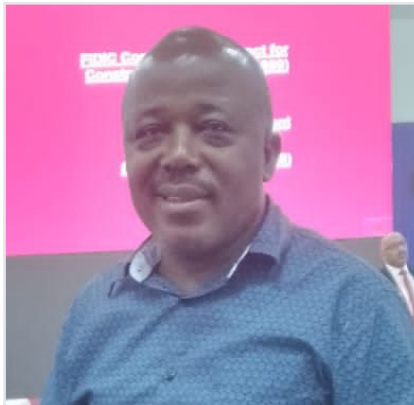
STAFFS' PHOTO GALLERY



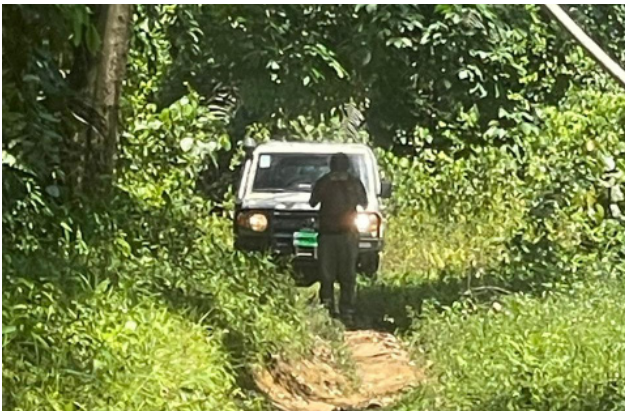
STAFFS' PHOTO GALLERY



STAFFS' PHOTO GALLERY



THE CHALLENGES WE OVERCAME TO DELIVER OUR PROJECTS





2024 ANNUAL REPORT