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# Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 22-Apr-2026 | Report No: PIDIA01482



**BASIC INFORMATION**

**A. Basic Project Data**

Project Beneficiary(ies)	Region	Operation ID	Operation Name
Benin, Central African Republic, Liberia, Sierra Leone	WESTERN AND CENTRAL AFRICA	P507938	Regional Program for Distributed Access Through Renewable Energy Solutions
Financing Instrument	Estimated Appraisal Date	Estimated Approval Date	Practice Area (Lead)
Investment Project Financing (IPF)	20-Apr-2026	27-May-2026	Energy & Extractives
Borrower(s)	Implementing Agency		
Republic of Benin, Republic of Liberia, Republic of Sierra Leone, Central African Republic	Direction Generale de la Planification Energetique et de l'Electricification Rurale, Ministère du Développement de l'Energie et des Ressources Hydrauliques, Ministry of Energy, Liberia Rural and Renewable Energy Agency		

Proposed Development Objective(s)

The PDO is to increase access to renewable electricity for households, businesses and public institutions in participating countries.

**Components**

- Connecting People
- Powering Economic Transformation
- Powering Critical Public Services
- Implementation support, technical assistance, and capacity building

**PROJECT FINANCING DATA (US\$, Millions)**

**Maximizing Finance for Development**

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	No

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**SUMMARY**

<b>Total Operation Cost</b>	<b>379.05</b>
<b>Total Financing</b>	<b>379.05</b>
<b>of which IBRD/IDA</b>	<b>200.00</b>
<b>Financing Gap</b>	<b>0.00</b>

**DETAILS**

**World Bank Group Financing**

International Development Association (IDA)	200.00
IDA Credit	85.00
IDA Grant	115.00

**Non-World Bank Group Financing**

Commercial Financing	179.05
Unguaranteed Commercial Financing	179.05

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Environmental And Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

**B. Introduction and Context**

Regional Context

1. **The Western and Central African region (AFW) faces severe human development challenges.** AFW is home to 509.4 million people across 22 countries, representing 41 percent of the population in Sub-Saharan Africa (SSA)<sup>1</sup>. About 33.9 percent of the population in AFW lives below the international extreme poverty line<sup>2</sup>. There is, however, a wide

<sup>1</sup> World Bank. 2026. World Development Indicators, Population, total (<https://data.worldbank.org/indicator/SP.POP.TOTL>)

<sup>2</sup> The World Bank uses the international extreme poverty line of US\$3.00 a day in 2021 Purchasing Power Parity terms.



socioeconomic disparity across countries in the region. For example, in the Central African Republic (CAR) and Niger, the extreme poverty rate is 71.6 percent and 60.5 percent respectively, while in Mauritania and Gabon, it is 10.2 percent and 3.8 percent respectively<sup>3</sup>. In terms of the Human Development Index, the region comprises 12 of the world's 26 countries falling into the "low human development" category in 2023, with life expectancy at birth ranging between 54.5 years in Nigeria and 68.5 years in Mauritania, and mean years of schooling varying between 1.4 years in Niger and 9.7 years in Gabon<sup>4</sup>. The region registers the highest gender inequality values (in the Gender Inequality Index) which is also higher than the average for the low-income countries group<sup>5</sup>.

2. **AFW's human development challenges are exacerbated by challenging macroeconomic conditions.** The region's Gross Domestic Product (GDP) was US\$814.7 billion in 2024, with Nigeria representing 45 percent of economic activity<sup>6</sup>. GDP per capita varies substantially between countries, ranging from US\$496 in Central African Republic to more than US\$2,000 in countries like Ghana, Cote d'Ivoire, Mauritania and Congo. Ten countries in the region are resource-rich<sup>7</sup> and export commodities such as oil (Chad, Equatorial Guinea, Gabon, Nigeria, and Republic of Congo), as well as metals and minerals (Guinea, Liberia, Mauritania, Niger, Sierra Leone)<sup>8</sup>. However, with agriculture providing 42 percent employment<sup>9</sup>, most AFW countries are also struggling to diversify their economies towards more productive sectors (manufacturing and services). Agricultural productivity remains low, with cereal production for the 2023-2024 agricultural season showing a deficit of 12 million tons, and heavy dependence on imports to meet the population's food needs<sup>10</sup>. Job creation in the formal economy of most countries remains relatively limited, and there is a lack of education and skills required for higher value-added economic activities. Finally, AFW's political instability and the constant threat of civil conflict impede economic growth, good governance, and high living standards. About 70 percent of the region's population lives in fragility, conflict, and violence (FCV) affected countries<sup>11</sup>.

3. **AFW is particularly vulnerable to climate change, as its effects will have lasting impacts on the region and could threaten the goal of universal access to electricity.** As highlighted by the Intergovernmental Panel on Climate Change (IPCC), West Africa is one of the world's most vulnerable regions to climate variability and change, warming at a greater rate than the global annual mean, with more severe heatwaves and droughts and with a greater number of extremely dry and wet years in the Sahel region throughout this century<sup>12</sup>. Climate change can adversely impact the power sector by damaging generation, transmission and distribution assets, while also affecting the agricultural sector by lowering yields, impoverishing vulnerable farmers as well as families. In this context, access to clean, affordable and reliable electricity

<sup>3</sup> World Bank, Poverty and Inequality Platform.

<sup>4</sup> UNDP, 2025. Human Development Report. United Nations Development Programme, New York, USA.

<sup>5</sup> Ibid.

<sup>6</sup> World Bank. 2026. World Development Indicators, GDP (current US\$) (<https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>).

<sup>7</sup> Resource-rich countries are those with rents from natural resources (excluding forests) that exceed 10 percent of GDP.

<sup>8</sup> World Bank. 2025. Improving Governance and Delivering for People in Africa. Africa's Pulse, No. 31 (April 2025). World Bank, Washington, DC.

<sup>9</sup> World Bank. 2023. Advancing Gender Equality: A Regional Gender Action Plan for Western and Central Africa 2023-2027. Washington, D.C.: World Bank Group.

<sup>10</sup> <https://wfp.org/news/worsening-hunger-grips-west-and-central-africa-amid-persistent-conflict-and-economic-turmoil>

<sup>11</sup> Namely Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Guinea-Bissau, Mali, Niger, and Nigeria (World Bank, 2025. FY26 Classification of Fragile and Conflict-Affected Situations).

<sup>12</sup> Trisos, C.H., I.O. Adelekan, E. Totin, A. Ayanlade, J. Efitre, A. Gameda, K. Kalaba, C. Lennard, C. Masao, Y. Mgya, G. Ngaruiya, D. Olago, N.P. Simpson, and S. Zakieldean, 2022: Africa. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1285–1455.



through Distributed Renewable Energy (DRE)<sup>13</sup> solutions will be crucial to withstand the effects of climate change by increasing resilience of key sectors and households.

4. **AFW is at a pivotal moment in its slow recovery, with recent global crises increasing the risks and uncertainty.** Even before the COVID-19 pandemic, SSA's GDP growth rate was sluggish<sup>14</sup> and progress in reducing extreme poverty had stalled<sup>15</sup> because of a global slowdown in growth and trade<sup>16</sup>. Starting in 2020, the poly-crises of the COVID-19 pandemic, Russia's invasion of Ukraine, and associated disruptions in supply chains, economic activity and commodity prices resulted in economic contraction, and a large reversal of progress made in poverty reduction in the region over the previous two decades. While a recovery emerged over the past two years, its momentum has been weakened by the ongoing Middle East crisis, which has driven renewed increases in fuel, food, and fertilizer prices. Excluding Nigeria, growth in Western and Central Africa is projected to reach 4.7 percent in 2026, and to further increase to 5.4 percent in 2027-28<sup>17</sup>.

5. **Increased investment in infrastructure and expanded access to public services will be critical to drive sustainable, resilient and inclusive regional economic development.** It is estimated that the SSA region needs to spend 7.2 percent of GDP annually between 2015 and 2030 to close its infrastructure gap and achieve the Sustainable Development Goals (SDGs), including investments in electricity, transport, water supply and sanitation, irrigation, flood protection and digital connectivity<sup>18</sup>. However, thus far, the region has only been spending slightly more than half that amount, or about 4 percent of GDP<sup>19</sup>. This infrastructure gap acts as a major barrier toward increasing productivity in the agricultural sector, economic diversification, job creation, and delivery of basic social services including in public health and education.

6. **Across the four countries participating in Phase 1 of the Regional Program for Distributed Access Through Renewable Energy Solutions (Regional DARES) – that is, Benin, the Central African Republic (CAR), Liberia, and Sierra Leone – recent macroeconomic stabilization and reform efforts coexist with deep structural fragility, widespread poverty, and severe human-development deficits that continue to constrain inclusive growth.** While Liberia and Benin have made progress on fiscal consolidation, inflation management, and growth, per capita incomes remain low, poverty is heavily concentrated in rural areas, and access to basic services—education, health, sanitation, and energy—remains limited, with climate shocks and governance constraints further exacerbating vulnerability. In Sierra Leone and CAR, fragility is more acute, reflected in very low Human Development Index (HDI) rankings, high food insecurity, weak human capital outcomes, macroeconomic and fiscal stress, and—particularly in CAR—persistent insecurity and institutional erosion following years of conflict and displacement. Across all Phase 1 countries, high informality, low agricultural productivity, gender disparities, rapid population growth, and exposure to climate risks reinforce cycles of poverty and exclusion, underscoring the need for scalable investments that strengthen resilience, service delivery, and private-sector participation.

#### Sectoral and Institutional Context

<sup>13</sup> DRE solutions include a range of technologies and equipment, including stand-alone solar lanterns, solar home systems, stand-alone wind systems, small hydro systems, renewable energy powered mini grids, and mesh grids that aim to benefit households, agricultural users, public institutions, as well as commercial and industrial users.

<sup>14</sup> About 2.8 percent in 2018-2019 (World Bank national accounts data, and OECD National Accounts data files).

<sup>15</sup> The absolute number of people falling below the US\$2.15 poverty line increased from 369 million in 2014 to 397 million in 2019 (World Bank Blogs, 2024. "Accelerating poverty reduction in Sub-Saharan Africa requires stability").

<sup>16</sup> Africa's Pulse, No. 20, October 2019: An Analysis of Issues Shaping Africa's Economic Future.

<sup>17</sup> World Bank. 2026. Making Industrial Policy Work in Africa, Africa Economic Update (April 2026). World Bank, Washington, DC.

<sup>18</sup> World Bank (2019), 'Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet,' Washington DC.

<sup>19</sup> <https://www.afdb.org/en/topics-and-sectors/sectors/infrastructure>



7. **With 216 million people lacking electricity access, the AFW region will be critical to reaching SDG7 target.** In 2023, 47 percent of the region’s population did not have access to electricity services<sup>20</sup>. Although this represented a significant improvement from 66 percent in 2000, AFW’s unelectrified population represents 32 percent of the 666 million people lacking access globally<sup>21</sup>. Within the region, there are large variations in electricity access rates across countries, between rural and urban areas, and across income levels. Gender-based disparities are also very prevalent in several countries, with male-headed households having higher access rates than female-headed households. In absolute terms, AFW’s electricity access gap is highly concentrated, with Nigeria alone comprising 40 percent of the total access deficit, and Niger, Burkina Faso, and Chad comprising another 24 percent. Seven countries in the region – Guinea-Bissau, Liberia, Niger, Sierra Leone, Burkina Faso, CAR, and Chad – have electricity access rates of less than 50 percent, while only three – Cabo Verde, Ghana, and Gabon – have access rates exceeding 80 percent. About 84 percent of the population without electricity access, almost 180 million people, live in rural areas. Five countries – Burkina Faso, CAR, Equatorial Guinea, Chad, and Mauritania – have rural electricity access rates of less than 5 percent<sup>22</sup>.

8. **The World Bank’s Global Electrification Platform (GEP)<sup>23</sup> indicates that achieving universal access in SSA will require a complementary mix of grid extension and DRE solutions.** Using high level geospatial analysis to identify least-cost pathways and climate risks, GEP’s data suggest that approximately 52 percent of unserved people are most economically connected through national grid expansion and densification, while the remaining 48 percent are best served by DRE solutions. This mixed approach minimizes system costs, accelerates service provision in remote and peri-urban areas, and supports progression toward higher service tiers. Regional DARES intends to address the electricity needs of the latter group in AFW by accelerating the scale-up of DRE solutions while country specific operations target grid connections.

9. **In SSA, DRE market growth has remained concentrated in a handful of larger markets—primarily in East Africa and Nigeria—which have successfully tested and scaled a diverse range of high-impact business models, financing instruments, and regulatory innovations<sup>24</sup>.** These new approaches include pay-as-you-go models, leasing, energy as a service (EaaS), and asset aggregation and securitization<sup>25</sup>. Many of these innovations have been enabled by information and communication technologies (ICTs) and have contributed to greater private sector participation (PSP) in the financing and delivery of electricity access, unlocking additional resources to rapidly scale up DRE technologies and reaching additional beneficiaries. Finally, a few governments in SSA have developed policy and regulatory frameworks recognizing DRE as part of their formal electrification plans and have created certainty for delivery models for DRE-based electrification (including private sector participation).

10. **In AFW, Nigeria recently championed a number of Bank-supported innovative, high-impact approaches to drive DRE market growth** including the adoption of streamlined regulations and approval processes for both mini grid and off-grid solutions, paving the way for aggressive DRE scale-up. Under the Nigeria Electrification Project (NEP, P161885) and the Nigeria Distributed Access Through Renewable Energy Scale-up Project (Nigeria DARES, P179687), these reforms have been complemented with Results-Based Financing (RBF), reverse auctions, a strong emphasis on productive use of energy (PUE), and increasingly developer-driven and flexible, technology-neutral market expansion frameworks. While NEP has

<sup>20</sup> SDG 7.1.1 Electrification Dataset, World Bank ([trackingsdg7.esmap.org/downloads](https://trackingsdg7.esmap.org/downloads))

<sup>21</sup> <https://www.worldbank.org/en/results/2023/11/17/scaling-up-energy-access-for-green-resilient-and-inclusive-development-in-western-and-central-africa>

<sup>22</sup> International Energy Agency (IEA); International Renewable Energy Agency (IRENA); United Nations Statistics Division (UNSD); World Bank; World Health Organization (WHO). 2025. Tracking SDG 7: The Energy Progress Report 2025. <http://hdl.handle.net/10986/43577>.

<sup>23</sup> World Bank Energy Sector Management Assistance Program (ESMAP). Global Electrification Platform (GEP). <https://electrifynow.energydata.info/>.

<sup>24</sup> Falchetta, G., Michoud, B., Hafner, M. and Rother, M., 2022. Harnessing finance for a new era of decentralised electricity access: A review of private investment patterns and emerging business models. *Energy Research & Social Science*, 90, 102587.

<sup>25</sup> UNDP, 2024. Climate Aggregation Platform: Financial Innovations for Clean Energy in Africa.



provided over 6 million Nigerians with access to DRE-based electricity services within an unprecedentedly short timeframe, Nigeria DARES is expected to add another 17 million over the next 3 years. Consequently, the Nigerian experience provides valuable lessons for developing scalable and replicable approaches to electrification across the region. Yet beyond Nigeria—where 82 percent of regional DRE sales were concentrated in 2023<sup>26</sup>—the broader West African market remains underserved, underscoring the urgent need for targeted policies and incentives to attract operators and investors.

11. **Regional DARES will replicate and scale the innovations piloted in Nigeria throughout AFW following a Multi-phased Programmatic Approach (MPA).** More specifically, the MPA is designed to drive DRE market growth in the smaller and more fragile countries which have thus far been overlooked by the private sector. The program is designed to fully capitalize on private sector-led DRE innovations, and the emerging paradigm shift in access planning and investment, enabling faster, more adaptive, demand and developer-driven electrification. The first Phase of this MPA will focus on four countries – Benin, CAR, Liberia, and Sierra Leone.

12. **Electricity access levels across Benin, CAR, Liberia, and Sierra Leone remain low, requiring a complementary mix of grid expansion and DRE solutions to achieve rapid, inclusive access.** Despite recent progress under World Bank-supported programs, low energy access levels continue to constrain human development, service delivery, and economic competitiveness, particularly in rural and peri-urban areas. National electrification efforts in all four countries have thus far remained predominantly grid-anchored, prioritizing rehabilitation and extension of transmission and distribution networks, but least-cost geospatial analysis consistently shows that a substantial share of the unserved population—ranging from roughly 25–30 percent in Benin and Sierra Leone to over 35 percent in Liberia and close to 60 percent in CAR—can be most efficiently reached through DRE solutions. While national electricity access programs have begun to pilot or selectively deploy such approaches, they are not sufficient on their own to deliver access at the required speed and scale. Regional DARES therefore complements national electricity access programs by introducing regionally harmonized, technology-neutral tendering, multi-operator participation, cross-country aggregation, and performance-based financing to crowd in private investment and accelerate DRE deployment in areas unlikely to be reached by the grid.

### C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

13. **The Program Development Objective (PrDO) is to increase access to renewable electricity for households, businesses and public institutions in participating countries.** The Project Development Objective (PDO) of Phase 1 is identical to the PrDO, with the scope of work focusing on the initial four participating countries.

#### Key Results

14. **The progress toward the PDO will be measured by using the following indicators:**

- (a) People provided with direct access to electricity through new connections (CRI, number)  
*Baseline: 0; target: 3,440,000*
- (b) Businesses provided with access to electricity (number)  
*Baseline: 0; target: 66,800*
- (c) Public institutions (schools and healthcare facilities) provided with access to electricity (number)  
*Baseline: 0; target: 1,750*
- (d) Net GHG emissions (CRI, Metric Ton)  
*Baseline: 0; target: (2,026,741)*

<sup>26</sup> Global Off-Grid Lighting Association (GOGLA), 2024. Global Off-Grid Solar Market Report Semi-Annual Sales and Impact Data.



## D. Project Description

### Component 1: Connecting People: US\$306 million (*IDA US\$153 million, and US\$153 million from private sector*)

15. **Activities under this component will support the development of privately-owned and operated climate resilient DRE solutions to deliver electricity access in unserved areas.** This component includes the following two complementary mutually reinforcing approaches:

(a) **Developer-Driven Market Expansion:** Under this approach, RBF will be provided to DRE companies for developer-led proposals and disbursed upon achievement of pre-agreed performance milestones, without the use of competitive tenders. RBF mechanisms will be designed to bridge the viability gap for DRE technologies by allowing market demand and developer initiative—rather than centrally defined tender rounds—to drive allocation, thereby supporting a flexible, scalable, and developer-led expansion model. A regional RBF Facility managed by a Regional Fund Manager (RFM) will be set up to support the scale up of DRE technologies for households and MSMEs that are co-located with households. The Facility will provide RBF to eligible DRE companies for the deployment of DRE solutions. The approach is technology-agnostic, enabling pre-qualified companies to submit USPs and to propose the most appropriate solutions for local contexts. The grant amount will be differentiated based on location and service level (in line with the Multi-Tier Framework<sup>27</sup>). The IDA funds will cover the RBF provided, while the private sector will mobilize the balance of the costs for DRE solutions (including by accessing equity, debt, and guarantees made available through the DARES Toolkit – see Paragraph 34 for details). Some countries may use geographically delimited “DRE Freezones,” a variant of the developer-driven model developed specifically for francophone civil-law jurisdictions. This variant will allow governments to test new developer driven delivery models within the controlled environment of a localized “regulatory sandbox” without requiring immediate, system and country wide legal reforms while generating evidence to inform future regulatory refinement and replication.

(b) **Competitive Bidding for Large-Scale DRE Deployment:** In areas less attractive to private sector (due to location, climate risks, security, economic activity etc.) countries may deploy RBF using technology agnostic, Minimum Subsidy Tenders (MSTs) or other centrally managed competitive tenders—coordinated by the Regional Coordination Unit (RCU)—to select DRE companies and to discover the level of subsidy to be provided to them. This approach will benefit from cross-country aggregation, centralized implementation arrangements, and streamlined regulatory processes, while preserving national jurisdictional authority. The market-based subsidy levels discovered by the MST can also help inform subsidy levels for the RBF facility. Where tendering approaches are used to attract investment into more remote or commercially marginal areas, the program will apply a set of guardrails (e.g., subsidy caps, viability zoning, and minimum developer co-financing) to ensure that market segmentation and sequencing promote organic, sustainable market growth rather than undermining commercial fundamentals. Climate-impacted locations—where infrastructure and vulnerable populations face the highest exposure—will be prioritized to enhance community resilience and adaptive capacity.

16. **Component 1 will pilot Integrated Energy and Digital Service Provisioning for rural households,** ensuring that new electricity access is systematically paired with foundational digital connectivity where commercially and technically feasible. To amplify the socio-economic impact of rural electrification, the MPA will pilot an RBF-linked “connectivity top-up” mechanism that will incentivize the combined delivery of energy and digital connectivity services in newly electrified communities. Under this approach, eligible DRE companies and digital connectivity providers may receive additional RBF for extending last-mile broadband or providing shared access points (e.g., community hotspots) within their service areas.

<sup>27</sup> The Multi-Tier Framework (MTF) is a comprehensive method for measuring access to modern energy services, that goes beyond simple “yes/no” access and considers the quality, affordability, and reliability of energy services.



The integrated RBF window will be designed together with the joint Energy–Digital Transformation Global Practices Taskforce, which will guide the design of harmonized verification metrics and eligibility criteria to ensure that both energy and digital service outcomes are measurable and sustainable. By linking incremental RBF payments to verified connectivity provision, these pilots will demonstrate scalable models for co-delivering energy and digital access, reinforcing inclusion, market development, and the transformational impact of the MPA in remote rural areas.

17. **Component 1 will also pilot the provision of EaaS to remote households:** Under this approach, governments will pilot the provision of monthly energy service subsidies to support energy companies’ operating expenses (OPEX) for sustained electricity service to eligible households in geofenced last-mile areas. The government’s monthly OPEX subsidy commitments would be incorporated in a license, concession or project agreement with a commitment duration of around 8 to 10 years to ensure bankability and long-term sustainability. The WBG Guarantee Platform will explore a de-risking solution through complementary guarantee products to backstop related subsidy payments, enabling operators to raise private capital against a stable and insured revenue stream, complementing affordable service fees paid by end-use customers. The model will rely on long-term, KPI-based service concessions for clusters of remote households and is designed to prevent early operator exit and ensure sustained, high-quality electricity service in high-cost, low-income areas while maximizing private capital mobilization.

18. **Component 2: Powering Economic Transformation: US\$13.8 million (IDA US\$8.25 million, and US\$5.55 million from private sector)**

19. **Component 2 will drive economic transformation by expanding the productive use of electricity in agriculture, rural businesses, and emerging digital-enabled enterprises.** The component focuses on deploying DRE technologies that increase agricultural productivity, strengthen rural value chains, create income-generating opportunities, and enhance climate resilience in locations heavily dependent on rain-fed agriculture and impacted by climate hazards such as droughts or heatwaves. It supports both climate-resilient standalone photovoltaic (PV) as well as mini grid (generating at least 90% renewable energy) and mesh-grid powered equipment and appliances, ensuring that farmers, cooperatives, microenterprises, and rural service providers can convert electricity access into tangible economic gains. By anchoring electricity access in market-relevant productive activities, the component aims to enable rural economies to move beyond subsistence and toward higher-value commercial activity. The component will include the following two approaches to driving productive use of electricity:

(a) **Enhancing Agri-Productivity:** This approach will promote core agricultural productive use technologies that have the highest and most immediate economic impact. RBF will be provided to technology providers and distributors for rollout of solar water pumps for irrigation and a defined set of cooling solutions that improve post-harvest management and reduce food losses. Supported cooling equipment will include solar refrigerators and freezers for households and microenterprises, as well as small to medium walk-in cold rooms for farmer groups, cooperatives, and rural markets<sup>28</sup>. In addition, a targeted grant top-up will support market linkages, including connecting farmers and cooperatives to buyers, offtakers, and contract-farming schemes, to strengthen demand certainty and income impacts. The RBF will be disbursed following independent verification of installation, operational status, and compliance with technical and service-level requirements. Grant levels will reflect differences in technology type, size, geographic conditions, and the viability gaps identified through geospatial and market analyses. In combination, these measures will help stimulate early market uptake in priority agricultural zones where the economic impact of electrification is strongest.

<sup>28</sup> All equipment will lead to 100% GHG emission reductions compared to a fossil fuel baseline and will be designed with a low global warming potential while being the best available technology



**(b) Unlocking Rural Enterprise:** This window will allow energy service providers and entrepreneurs to apply for RBF for eligible equipment that meets pre-defined technical, commercial, and quality criteria, including income-generation potential, compatibility with DRE systems, and minimum efficiency and warranty standards. This window will be developed via market engagement and pilots as there is not a lot of experience of PUE focused RBF outside of solar pumps and cooling systems. Eligible technologies will include agri-processing, tailoring, carpentry and welding equipment, ICT equipment, and other appliances that enable small business growth. Within this window, the program will particularly encourage proposals from rural enterprises whose service delivery depends on electricity to operate digital tools or platforms such as digital payment agents, device-charging businesses, or small local internet operators. In these cases, the RBF would support the energy systems required for such enterprises to function, with disbursement tied to verified operational use of electricity for productive activity. By keeping the window open and competitive, the approach fosters innovation and adapts to evolving market opportunities.

**Component 3: Energy as a Service (EaaS): US\$29.25 million (IDA US\$8.75 million, and US\$20.5 million from private sector)**

20. **This component will focus on scaling up the EaaS model for electrification of critical public facilities as well as remote households.** Electrification, especially of remote health centers and public schools using solar home systems has proven to be unsustainable due to an operations and maintenance gap that undermined system reliability. This is directly impacting not only occupants' wellbeing but also their capacity to withstand climate hazards (heatwaves or floods).

21. **Under this component energy service companies (ESCOs) will engage in long-term service contracts with clients** with actual service delivery measured against predefined key performance indicators. End users will pay recurring service fees only upon verified achievement of these Key Performance Indicators (KPIs). This shifts performance risk to the private sector, incentivizes proper maintenance, and ensures reliable long-term energy access for public institutions without requiring upfront investments or technical expertise. RBF will be used to lower up-front Capital Expenditures (CAPEX) and reduce financing expenses thus strengthening commercial viability and encouraging private sector participation. Grants will be disbursed in tranches linked to contract milestones over the length of the project, ensuring that providers remain incentivized to deliver ongoing maintenance and high-quality service throughout the contract period. The component will include the following two activities:

**(a) EaaS for public institutions:** Under this approach, RBF will be provided for DRE solutions using the EaaS model to power remote health centers and public schools. In addition, partnerships will be established with Health and Education Ministries to support ongoing payments for energy services and attract private capital. Where appropriate, offtake and payment risks will be mitigated in collaboration with the WBG Guarantees Platform, including mechanisms such as protected budget lines and WBG-backed de-risking instruments (e.g., payment security mechanisms through IDA Payment Guarantees, revolving guarantees, or breach-of-contract coverage). Cross-sectoral collaboration will be promoted to ensure that electrification models are performance-oriented and enable "full facility" electrification, meeting the broader range of electricity needs in schools and healthcare facilities.

**(b) Combined provision of energy and digital connectivity services:** With support from the Energy–Digital GP Taskforce, Regional DARES will develop and test service-based delivery models that bundle reliable electricity supply with broadband or local internet connectivity under integrated contracts tailored for rural schools. The objective is to create digitally enabled learning environments that improve educational outcomes, facilitate access to e-learning resources, and strengthen school administration. The pilot will provide RBF to DRE companies and digital connectivity service providers, demonstrating how coordinated delivery of electricity and digital services can enhance the developmental impact and cost-effectiveness of rural public-facility electrification.



**Component 4: Regional Coordination, Institutional Strengthening and Implementation Support: US\$30.0 million (IDA US\$30 million)**

22. **This component will focus on capacity building of national Rural Electrification Agencies, Sector Regulators, and their governing Ministries, as well as creating an enabling environment for scaling up regional markets for DRE technologies in AFW.** The specific areas of focus are below.

23. **Subcomponent 4.1: Regional coordination and implementation support (IDA US\$14.6 million).** This Subcomponent will finance the establishment, strengthening and scale up of the RCU, as described in Section III on Implementation Arrangements. Specifically, it will provide financing for recruiting staff and consultants for technical, social and environmental, financial management, procurement, and legal functions; office equipment; transport equipment needed for project implementation and supervision; and recruitment of international experts, as needed. It will also finance the procurement of a Regional Fund Manager and Independent Verification Agency to support the RCU with operating the RBF Facility, including by setting up a digital platform, registering qualifying companies to the RBF facility, receiving, processing, and verifying grant applications, managing IDA funds, and disbursing grants. Finally, it will support the regional coordination function of the RCU by supporting the preparation of standardized procurement documents and institutional frameworks for scaling up DRE technologies; holding workshops and trainings to exchange and disseminate knowledge generated through project implementation across countries; developing guidelines for harmonization of DRE regulations, standards, and administrative procedures; operationalizing and strengthening the RCU Energy–Digital Taskforce, enabling joint planning and guidance on integrated delivery approaches. All activities under this Subcomponent will be managed by the RCU.

24. **Subcomponent 4.2: Strengthening national planning and implementation capacity (IDA US\$15.4 million).** This Subcomponent will support national PIUs in project implementation, as well as implementation of capacity building activities, advisory services and analytical work to help build up the ecosystem for PSP in the DRE sector for extending electricity access in the participating countries. Each country’s PIU will be responsible for managing activities under this Subcomponent, which include: (i) hiring of staff and procurement of goods and services necessary for functioning of the PIU; (ii) technical assistance and capacity building for national agencies to strengthen technical, commercial, and project management capacity; (iii) technical assistance to establish and operationalize Compact Delivery and Monitoring Units (CDMUs) to track and coordinate implementation of national energy compacts; (iv) geospatial and technical studies to update DRE regulatory frameworks to inform site selection (including climate risks), subsidy design, and updating national electrification plans; (v) systematic monitoring, verification, and evaluation of results; (vi) support for productive use of energy (PUE) through market assessments, development of technical and quality-assurance standards, geospatial mapping, matchmaking between DRE companies, appliance suppliers, and microfinance institutions, demand aggregation and stimulation, and consumer awareness campaigns; and (vii) targeted support for electrification of public institutions, including contract management, performance monitoring, data systems, and energy planning for health and education facilities; and (viii) the activities to reduce gender gaps in the sector in each country, such as scholarship or internship programs fostering women participation in DRE sector entities, both public and private.



Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50

Yes

Projects in Disputed Area OP 7.60

No

Summary of Screening of Environmental and Social Risks and Impacts

25. The overall E&S risk of the project is rated **Substantial**, reflecting its nationwide implementation in Benin, the Central African Republic, Liberia, and Sierra Leone, that could target remote and predominantly rural areas, some of which are affected by fragility, insecurity, poverty, and climate vulnerability. Activities include DRE deployment for households, businesses, agriculture, and public institutions (including EaaS models for schools and health facilities), with specific sites to be identified following feasibility studies by national PIUs.

26. The Environmental Risk Rating is **Substantial**, due to the scope of solar-based interventions under Components 1–3, the environmental sensitivities of the beneficiary countries, and limited country capacity for E&S risk management. Key risks are associated with construction and operation of mini grids, standalone systems, irrigation, and cold-chain infrastructure. They include threats to biodiversity and sensitive ecosystems, air and water pollution issues from multiple solar interventions, elevated demand for water (from potentially limited sources) for irrigation. Of particular concern is the cumulative impact of generating hazardous e-waste, spent batteries (lead-acid and lithium-ion) and solar panels as countries move towards photovoltaics and other renewable energy sources, and the lack of local recycling or hazardous waste management facilities and infrastructure.

27. The Social Risk Rating is also **Substantial**, driven by potential minor land acquisition for mini grids, moderate to substantial Occupational and Community Health and Safety (OHS and CHS) risks (including installation and operationalization of rooftop solar systems for public institutions, handling of chemicals and heavy metals, battery fire hazards and hazardous materials), labor influx into vulnerable communities, substantial SEA/SH risks, FCV conditions (notably in CAR), potential impacts on Indigenous Peoples (IPs)/Sub-Saharan African Historically Underserved Traditional Local Communities (SSAHUTLC), risks of elite capture and nepotism linked to access to project benefits, and challenges in stakeholder engagement and monitoring in remote areas. The SEA/SH risk is rated Substantial.

28. The project will be prepared in compliance with the World Bank’s ESF and eight relevant standards (ESSs 1-4, 6-8, and 10). Prior to appraisal, each country has prepared a draft Environmental and Social Management Framework (ESMF), draft Stakeholder Engagement Plan (SEP), and Environmental and Social Commitment Plan (ESCP), with the ESMF including annexes on labor management, resettlement, SEA/SH risk mitigation and grievance redress, IPs/SSAHUTLC (as relevant), security management (as relevant), and the minimum requirements for Environmental and Social Agreements (ESAs) as well as a negative list (exclusion list). E&S screening will determine whether Codes of Practice or site-specific ESMPs (and, where required, Resettlement Plans) are needed. A project-level integrated e-waste management plan will be adopted, complemented by longer-term development of national e-waste policies through Technical Assistance. The draft ESMF shall be updated, consulted and disclosed no later than three (3) months after Project Effective Date. Additional stakeholder engagement consultations are planned for May 2026 and following these consultations the SEPs will be updated within 2 months of project effectiveness.

29. E&S risk management will follow a structured process led by national PIUs with support from the RCU. DRE companies will conduct E&S screening during prospecting, with ESAs and screening approved by PIUs prior to signing of grant agreements. Companies will need to address E&S criteria both before and during grant agreement execution. These criteria will be explicitly incorporated into the eligibility criteria for company selection, as well as the grant agreements by

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the RFM. Given weak institutional capacity, the national PIUs will strengthen E&S management through dedicated E&S specialists, some of whom have benefitted from E&S risk management training programs delivered by the Bank and support from experienced consultants. The RCU will also have dedicated international bilingual E&S staff and operate a database system.

## E. Implementation

### Institutional and Implementation Arrangements

30. **Regional DARES will take a regional approach towards project implementation, with the RCU centralizing, harmonizing and coordinating key functions across the participating countries.** This institutional framework will be anchored in each country's ratification of a Memorandum of Understanding (MoU) before the commencement of project negotiations, which defines the institutional arrangements and implementation framework and initiates countries' accession to the program. The framework laid out in the MOU has been discussed with the countries, who have expressed their support for it, and it will be further operationalized through the subsequent signature of a Service Agreement (an effectiveness condition) formally authorizing the RCU to carry out key procurement and project implementation functions on behalf of participating countries. The Service Agreement will also define the financial and fiduciary framework governing the RCU's operations, including each country's proportional contribution to the RCU budget based on its overall allocation and the corresponding cost-sharing percentages. It will specify the payment mechanism, under which the RCU will be financed through the Regional DARES project account, and clearly set out roles and responsibilities for funds management, disbursement, accounting, reporting, and auditing, as further detailed in the Regional DARES Project Implementation Manual (PIM).

31. **The countries' respective Rural Electrification Agencies (REAs) and Energy Ministries, as applicable, will be the national implementing agencies for Regional DARES.** For Phase 1 countries these are Directorate General of Energy Planning and Rural Electrification (*Direction Generale de la Planification Energetique et de l'Electricification Rurale*, DPER) in Benin, Ministry of Energy and Water Resource Development (*Ministère du Développement de l'Energie et des Ressources Hydrauliques*, MDERH) in CAR, the Rural and Renewable Energy Agency (RREA) in Liberia and the Ministry of Energy in Sierra Leone. Each implementing agency will designate a national Project Implementation Unit (PIU) for Regional DARES, which will be staffed with specialists in financial management, procurement, E&S safeguards, and technical project management. They will be responsible for fiduciary management, E&S compliance, and technical oversight. The national PIUs will sign standardized grant agreements with winning bidders and private sector developers, which have been selected following the launch of call for proposals, evaluation of applications, and selection of firms for award of contract by the RCU. The grant agreements will set out the terms and conditions for project implementation, including milestones, reporting requirements, and compliance with technical, service, and E&S obligations. In addition, the PIUs will ensure compliance with project requirements and provide quarterly reporting at the national level. The PIUs will also be responsible for implementing technical assistance at the national level to improve capacity and ensure sustainability of DRE markets in the participating countries. Over time, the PIUs will be strengthened through technical assistance to enable eventual direct management of rural electrification programs, supporting long-term sustainability.

32. **A Regional Technical Committee (RTC) will be established with representatives from each country to provide overall guidance, supervision and where necessary, make any collective decisions during the project.** The RTC would consist of senior nominees (one from each country) from the Rural Electrification Agencies or Ministries responsible for Power from each country<sup>29</sup> and will be established before project effectiveness, scheduled to meet quarterly for the

<sup>29</sup> The nominees will be drawn from the Ministry of Energy, Water and Mines (*Ministère de l'Energie, de l'Eau et des Mines*, MEEM) and Directorate General of Energy Planning and Rural Electrification (*Direction Generale de la Planification Energetique et de l'Electricification Rurale*, DPER) in Benin; Ministry of Energy and Water Resource Development (*Ministère du Développement de l'Energie et des Ressources Hydrauliques*, MDERH) in CAR; Ministry of Energy (MoE) and Rural & Renewable Energy Agency (RREA) in Liberia; and MoE in Sierra Leone.



duration of the project. The RTC will be the body responsible for facilitating dialog, bringing alignment, and making key policy decisions for project implementation among the participating countries on all issues. It will also approve the annual budget for the RCU. The RTC will also serve as an important platform for knowledge sharing between the countries, and will ensure inter-agency coordination and cooperation, as well as reporting to line ministries in each country.

**33. The RCU will be responsible for overall project coordination and implementing key project activities on behalf of the PIUs.** Given Liberia's experience with establishing and operating the RCU for the RESPITE project, the Regional DARES RCU will also be established as an independent entity in Liberia via an executive order. Each participating country will enter into service agreements with the RCU, authorizing the RCU to provide a range of services for project implementation, including but not limited to i) overall project coordination; ii) establishing a single window RBF platform for all participating countries including interface for DRE companies with national regulators for issuing permits and licenses; iii) the operation and maintenance of the digital RBF platform to process grant applications and carry out all activities related to grant management; iv) harmonizing and managing tenders, grant application and disbursement processes; v) the technical and financial appraisal of proposals submitted by private sector operators for their DRE solutions; vi) centralized monitoring and evaluation (M&E) including coordination with the Independent verification agency (IVA) to verify the achievement of results by private operators against which grant will be provided; and vii) providing regional technical assistance, capacity-building, and facilitating knowledge exchange among the national agencies. The entire list of activities, roles for each stakeholder, their relationship with each other and the processes will be detailed in the service agreement and the Project Implementation Manual (PIM).

**34. The RCU will recruit a Regional Fund Manager (RFM) and an Independent Verification Agency (IVA) to administer the Regional DARES RBF facility that will be created for the project.** The RFM will be responsible for managing the RBF facility and ensuring transparent and efficient disbursement of funds to private sector developers. Major responsibilities of the RFM will include financial management and disbursement of grants including disbursement forecasting and reporting among others fiduciary responsibilities. While the RFM will be recruited through an international competitive process, it will sign individual contracts with each national PIU. The RFM's scope of works will be detailed in the Project Implementation Manual (PIM) and the RCU will begin the recruitment process of the RFM before the project is approved by the WB Board. The IVA will also be competitively procured by the RCU to independently assess and verify the results or outputs claimed by participating companies, based on which the grant payments will be authorized and disbursed. The RFM and IVA's roles are critical for ensuring transparent, efficient, and timely disbursement of grants. Over time, as national capacity increases, the need for an external RFM may diminish, with responsibilities transitioning to national agencies.

**35. The RCU will also recruit a Panel of Experts (PoE) to provide technical expertise to the countries and support project implementation.** The PoE will consist of experts on DRE technologies, regulation and procurement. The PoE will be in charge of assisting with all procurement activities to be carried out by RCU under the Program (assisted by WB HEIS, see paragraph 79), including the recruitment of key service providers (such as the IVE, RFM, the service providers in charge of establishing and maintaining the RBF Single Window Platform and service providers to assist in the delivery of Program-related technical assistance). The PoE will also assist the RCU with the selection process of RBF Beneficiaries, and, as appropriate, with the management of RBF agreements.

**CONTACT POINT**

**World Bank**

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Jan Friedrich Kappen  
Lead Energy Specialist

**Borrower/Client/Recipient**

**Republic of Benin**

**Republic of Liberia**

**Republic of Sierra Leone**

**Central African Republic**

**Implementing Agencies**

**Direction Generale de la Planification Energetique et de l'Electricification Rurale**

**Ministère du Développement de l'Energie et des Ressources Hydrauliques**

**Ministry of Energy**

**Liberia Rural and Renewable Energy Agency**

**FOR MORE INFORMATION CONTACT**

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

**APPROVAL**

Task Team Leader(s):	Jan Friedrich Kappen
Co- Team Leader(s):	Abhishek Malhotra, Anshul Rana, Omar V Al Sherif, Monyl Toga

**Approved By**

Practice Manager/Manager:	Anna Aghababyan	18-Feb-2026
Country/Division Director:	Victoria Gyllerup	22-Apr-2026

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