



AFRICAN DEVELOPMENT BANK

ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA)

FOR THE

MOZAMBIQUE ENERGY FOR ALL PROJECT – PHASE 2

Results-based financing (RBF) Operation

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COUNTRY: REPUBLIC OF MOZAMBIQUE

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LIST OF ACRONYMS

ADRM	Alternate Dispute Resolution Mechanism
AIDS	Acquired Immune Deficiency Syndrome
APA	Annual Performance Assessment
CCD	Climate Change Directorate
CDM	County Director of Meteorology
CESMP	Contractor Environment and Social Management Plan
CIS	Climate Information Services
CLB	Community Land Board
CRM	Climate Risk Management
DLI	Disbursement-Linked Indicator
DPF	Development Project Financing
E&S	Environmental and Social
EA	Environmental Audit
EIA	Environmental Impact Assessment
EPA	Environment Protection Authority
ESC	Economic, Social and Cultural
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and Social Management Systems
ESSA	Environmental and Social Systems Assessment
FPIC	Free Prior and Informed Consent
GBV	Gender-Based Violence
GRM	Grievance Redress Mechanisms
HIV	Human Immune Virus
IPF	Investment Project Finance
RBF	Results-Based Financing
PIU	Program Implementation Unit
PMU	Program Management Unit
VMG	Vulnerable and Marginalized Group

EXECUTIVE SUMMARY

A. Introduction

The current document constitutes an Environmental and Social System Assessment (ESSA) report and aims at evaluating the capacity of existing Mozambique country systems including legal, regulatory, and institutional frameworks to manage environmental and social (E&S) risks associated with the Mozambique Energy for All Program – Phase II (MEFA II), and to identify any gaps in relation to the African Development Bank’s (AfDB) Integrated Safeguards System (ISS) 2023 and the 2023 Results Based Financing Policy (RBF) for RBF operations. The ESSA further provides recommendations to strengthen system, ensures that Program activities are aligned with AfDB’s ISS requirements and Operational Safeguards (OS1–OS10), and develops an E&S Action Plan that will form part of the overall Program Action Plan (PAP).

The project development objective of the Mozambique Energy for All (MEFA) Program Phase II is to increase access to sustainable, reliable, and affordable electricity for households, businesses, and public institutions in Provinces of Zambezia, Nampula and Niassa, with a focus on vulnerable communities. This objective is fully aligned with Mozambique’s national strategies and international commitments. At the national level, it responds directly to the National Electrification Strategy (2018–2030), which sets the government’s vision of achieving universal access to electricity by 2030. It is also consistent with the Energy Transition Strategy of 2022, which calls for diversification of the energy mix, greater integration of renewable sources, and the modernization of public lighting systems. In addition, the program contributes to the Government’s Five-Year Plan (2025–2029), which emphasizes expanding access to basic services, reducing social inequalities, and building climate resilience.

The program investments will target the expansion of electricity access through an interconnected solution. The investments will focus on the installation meters, and connection materials required to provide new household and business connections. Particular emphasis will be placed on peri-urban and rural areas where electrification rates remain below the national average, especially in the central and northern provinces such as Zambezia, Nampula and Niassa.

B. Program Description

The proposed program aims to support Mozambique in accelerating universal access to sustainable, reliable, and affordable electricity by 2030, in line with the Government’s Energy for All Strategy (Energia para Todos) and international commitments under SDG 7. Through a Result-Based Financing approach, the program will provide incentives for verified new household connections in underserved areas. At the same time, it will strengthen institutional systems within EDM, FUNAE, and district governments, ensuring that environmental, social, and occupational health and safety safeguards are fully integrated into the electrification scale-up.

The program further aims to enhance social inclusion by prioritizing low-access central and northern provinces—such as Zambezia, Nampula and Niassa—where electrification rates remain far below the national average. By investing in both infrastructure and institutional capacity, the initiative will reduce dependence on biomass and kerosene, improve public services such as education and health through reliable energy supply, foster local economic opportunities, and build climate resilience in vulnerable communities.

The geographic focus will be northern and central provinces—Nampula, Zambezia and Niassa — which combine high demand with low electrification rates, significant poverty levels, and heightened environmental and social sensitivities.

The project is designed as a Results-Based Financing (RBF) operation, structured around Key Result Areas (KRAs) that directly link financial disbursements to the achievement of measurable outcomes.

This modality ensures not only the delivery of infrastructure but also the strengthening of systems and safeguards that guarantee sustainability.

The Key Result Areas (KRAs) include:

Result Area 1: Increased Access to Electricity in Underserved Provinces

This result focuses on expanding access to modern electricity services in underserved provinces through on-grid solutions. The program will connect approximately 49,500 new households, of which at least 12 percent will be women-headed households, and 881 productive users of energy including schools, health centers, businesses, public institutions, and water supply systems.

Results Area 2: Expanded Off-Grid Electrification and Community Lighting

This result area will expand access in remote communities of Niassa and Zambézia through three solar mini-grids (410 kWp, 1767.2kWh storage) and construction of 24 km MV and 35.5 km LV networks, providing 1150new connections for households and social facilities. It will also finance 5 km of street lighting, enhancing safety and supporting local economic activities.

Result Area 3: Enhanced Sector Sustainability and Private Sector Participation

The program will strengthen sector sustainability and foster private-sector participation by supporting MIREME, ARENE, FUNAE and EDM to enhance financial, regulatory, and planning frameworks. It will finance the update of the National Electrification Strategy and the development of a National Off-Grid Master Plan, enable ARENE to update the cost-of-supply study and prepare a roadmap for cost-reflective tariffs, and support EDM to implement an IPP arrears clearance plan. These measures will improve the sector's creditworthiness, attract private investment, and reinforce the foundation for universal access.

Result Area 4: Governance, institutional strengthening and implementation support

The program will strengthen governance and institutional capacity across the energy sector, supporting MIREME, EDM, FUNAE and ARENE through targeted training, advisory services, and digitalization. It will finance an Independent Verification Agent for results verification, strengthen PIU management and audits, and build capacity in procurement, safeguards, gender, and M&E. The program will also support the development of concession evaluation guidelines, transaction advisory services, and digital tools for licensing and data management, enhancing transparency, efficiency, and results-based implementation.

The Disbursement Linked Indicator (DLI) include:

- i. DLI 1.1 - Additional number of households connected on grid of which 12% are women.
- ii. DLI 1.2 - Additional number of productive use customers connected
- iii. DLI 1.3 - Smart meters, ready boards, cables and accessories procured and installed

- iv. DLI 2.1 - Additional Mini-Grid Renewable Energy installed capacity
- v. DLI 2.2 - Additional number of households connected through Mini grid
- vi. DLI 2.3 - Additional km of MV and LV distribution lines

- vii. DLI 3.1 - Implementation of renewable energy IPP arrears clearance plan (full settlement of current invoices)
- viii. DLI 4.1 - Appointment of Independent Verification Agent (IVA)
- ix. DLI 4.2 - Implementation of the agreed Capacity Building Program
- x. DLI 5 - Implementation of the E&S Action Plan

C. Program E&S Categorization

The Project is classified Category 2 (medium risk), validated in ISTS and confirmed in SAP on 21st July 2025. The classification is based on the Mozambican Regulation for Environmental Impact Assessment and Licensing Procedure (Decree No. 54/2025 of December 31) Annex III e), which provides that the “Installation of transmission and distribution lines below 66kv” are Category B (medium risk) activities, this is aligned with the Bank’s Integrated Safeguards System (ISS). The potential risks and impacts resulting from the program activities, mainly Results Area 1 and 2, including installation of medium voltage (MV) and low voltage (LV) networks, solar mini-grids and household connects are expected to be localized, short-term, reversible and readily minimized by applying appropriate management and mitigation measures.

The program activities are not expected to require land acquisition. If activities or civil works require any land acquisition, the project E&S category shall be re-assessed and if it raises to Category 1 the operation are not eligible as per the ISS and the RBF policy - if remains under Category 2 then local laws and regulations (particularly Decree 31/2012), in combination with provisions under the African Development Bank’s Integrated Safeguards System (ISS) Operational Safeguard 2 (OS2): Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement, will be applied to adequately address compensation issues. Measures to address gender and vulnerability (language, geography, cultural barriers) will be built into the Program Action Plan (PAP).

National environmental and social laws and regulations (mainly the Mozambican Environmental Impact Assessment Regulation Decree 54/2015) are in general considered robust and adequate for most of the activities financed under this Program. The regulatory framework is also consistent with international standards, including the African Development Bank’s Integrated Safeguards System (ISS), with some minor differences.

D. Methodology and Scope of the ESSA

The Environment and Social Systems Assessment (ESSA) for the MEFA II Program has been undertaken to ensure consistency with six “core principles,” outlined in the African Development Bank’s Policy including ISS on Results-Based Financing – The Policy set out core principles and planning elements used to ensure RBF operations are designed and implemented in a manner that maximizes potential environmental and social benefits while avoiding, minimizing or mitigating adverse environmental and social impacts and promote the environment and social sustainability of the Program. The ESSA has been undertaken by the African Development Bank and examines existing legal, regulatory, and institutional framework guiding the Program’s environmental and social management systems. It also defines measures to strengthen the systems and integrates these measures into the overall Program.

- i. *Stakeholder Engagement and Consultations*: The ESSA process included extensive stakeholder consultations, data collection from host Governments, and will be disclosed following the Guidance Note of the African Development Bank’s Access to Information Policy.
- ii. *Institutional Analysis*: An institutional analysis was carried out to identify the roles, responsibilities, structure and relations of the relevant institutions responsible for implementing the RBF funded activities, including coordination between different entities at the national, regional and local levels. Analysis included assessments of key institutions that will be involved in the management of the Program, focusing on environmental and social assessment and management processes within these institutions.
- iii. *Desk Review of policies, legal framework, regulations, and Program documents*; The review examined the set of policies and legal requirements related to environment and social management at the national level. The review also examined technical and implementation support documents from previous and ongoing African Development Bank RBF Programs. The African Development Bank Related Documents reviewed included: Program Concept Note;

Draft Program Appraisal Document; Relevant reports and ESSA reports for other RBF projects in Mozambique; and other ESSAs under African Development Bank financing.

E. Consultation and Disclosure

Meetings were held with the EDM and FUNAE coordination and safeguards teams, where the objectives and scope of ESSA were explained and information gathered on the procedures, standards, and approach that the institution follows for environmental and social management. Additional ESSA consultations meetings will the Ministry of Mineral Resources and Energy (MIREME), the Energy Regulatory Authority (ARENE), and the Ministry of Agriculture and Rural Development (MAAP), etc. The mapping of the main stakeholders were completed, and the consultation process carried out during the preparation of the Program.

Consultations Conducted with EDM

As the lead implementing agency, Electricidade de Moçambique (EDM) was a central stakeholder in the consultation process. Several meetings and a technical workshop were held in EDM's headquarters in Maputo and with selected provincial delegations to capture both corporate-level perspectives and operational realities on the ground.

Objectives of EDM Consultations

- To understand EDM's institutional arrangements for safeguards management under the MEFA II Program.
- To assess existing practices for environmental, social, and occupational health and safety (OHS) risk management.
- To discuss lessons learned from previous electrification programs, including MEFA I and World Bank-supported connections project, and their relevance for the AfDB-financed RBF operation.
- To identify E&S capacity gaps and technical support needs for effective program delivery.

Key Issues Raised by EDM

- **Safeguards Capacity:** EDM highlighted that while it has a dedicated Environmental and Social Management Unit (UGAS), staffing remains limited compared to the scale of electrification. Provincial focal points often lack specialized training.
- **Occupational Health and Safety:** Contractor compliance with OHS standards was identified as inconsistent. EDM stressed the need for systematic audits, training, and enforcement mechanisms.
- **Waste Management:** EDM confirmed the urgent need for a standardized approach to handling hazardous materials, and requested alignment with Basel and Minamata Conventions.
- **Community Engagement:** EDM representatives noted that grievance redress mechanisms (GRMs) are functional but underutilized, often due to limited awareness at community level.
- **Result-Based Financing (RBF):** EDM expressed support for the RBF modality, highlighting that linking disbursements to verified safeguards performance could strengthen internal accountability.

Integration into the ESSA and Program Action Plan. The consultations with EDM directly informed the design of the Program Action Plan (PAP), including:

- Provision of additional safeguards training for EDM provincial staff.
- Establishment of a systematic OHS audit and reporting mechanism.
- Inclusion of a Waste Management Plan for lighting and grid materials.
- Enhanced communication campaigns to increase GRM awareness and accessibility.

Findings

The consultations confirmed EDM's strong institutional commitment to safeguards but highlighted

capacity and enforcement gaps. Addressing these through the Program Action Plan and AfDB support will be critical to ensuring that environmental and social risks are effectively managed during program implementation.

Consultations with MIREME, ARENE, FUNAE and MAAP

As part of the ESSA process, targeted consultations were held with the Ministry of Mineral Resources and Energy (MIREME), the Energy Regulatory Authority (ARENE), and the Ministry of Agriculture and Rural Development (MAAP). These institutions play critical roles in energy policy, regulation, and land-use coordination, and their perspectives were essential to shaping the safeguards analysis.

MIREME – Policy Oversight and Sector Coordination

- Focus: MIREME emphasized the importance of aligning the MEFA II Program with the Energy Sector Strategic Plan (PESS 2024–2028), particularly the national electrification target of universal access by 2030.
- Key Issues Raised:
 - Need for stronger inter-institutional coordination between EDM, FUNAE, and environmental authorities.
 - Ensuring that safeguards compliance is integrated into sector planning and not treated as a separate process.
 - Reinforcement of monitoring and reporting systems to capture both physical results (connections, km of lines) and safeguards performance.

ARENE – Regulatory Oversight

- Focus: ARENE consultations centered on regulatory compliance, particularly on service quality, tariff structures, and customer protection in the context of rapid grid expansion.
- Key Issues Raised:
 - Risks of affordability barriers for poor households if tariff adjustments are not well-managed.
 - The need for stronger monitoring of service quality, especially in newly electrified districts.
 - ARENE underscored the importance of embedding consumer protection into the grievance redress framework.
- Integration: ARENE’s inputs informed the Program Action Plan that includes capacity building for ARENE to monitor safeguards-linked service obligations and aspects on affordability and quality of service.

MAAP – Ministry of Agriculture, Environment, and Fisheries

The Ministry of Agriculture, Environment, and Fisheries (MAAP) is the central authority responsible for environmental policy, licensing, and oversight in Mozambique. As such, its consultation was essential for ensuring that the MEFA II Program aligns with the national framework for environmental and social management. Discussions were held with the National Directorate for Environment and Climate Change and Climate Change (DINAMC) at central level, as well as selected representatives of the Provincial Environmental Services (SPA).

Key Issues Raised by MAAP/DINAMC:

- Environmental Licensing - MAAP emphasized that all electrification subprojects must comply with Decree 54/2015 (Environmental Impact Assessment Regulation), including screening and categorization into Category A, B, or C. Most low-voltage connections fall under Category B or C, requiring simplified ESIA or registration, respectively.
- Capacity Constraints: DINAMC and SPAs acknowledged limited staffing and technical resources to monitor a large number of small-scale projects across provinces. They noted the risk of delayed approvals and weak enforcement.

- Hazardous Waste Management: MAAP stressed the need for a comprehensive Waste Management Plan to address e-waste, in line with Mozambique’s Waste Regulation (Decree 13/2006), the Basel Convention, and the Minamata Convention.
- Biodiversity Protection: Special attention was requested for line routing in or near protected areas and Key Biodiversity Areas (KBAs), with mandatory E&S screening. However, the project is not expected to carry physical activities in those areas but instead within villages and side roads to distribute power locally.
- Climate Resilience: MAAP highlighted that climate risks such as cyclones and floods must be integrated into the design of electrification infrastructure.

Integration into the ESSA and PAP:

- EDM/FUNAE are required to obtain the appropriate environmental licenses before construction.
- Including capacity building for provincial SPAs as a Program Action Plan measure.
- Incorporating a Hazardous Waste Management Annex in ESIA’s to ensure traceability and compliance with international conventions.
- Establishing biodiversity-sensitive routing as part of the subproject screening process.
- Incorporate climate-resilient design standards to infrastructure subprojects.

Findings

The consultation with MAAP confirmed the strong legal and policy framework but also highlighted systemic implementation and monitoring constraints. Addressing these capacity gaps is critical to ensure that the MEFA II Program delivers sustainable electrification without compromising environmental integrity.

F. Program Environmental Risks and Management Measures

Because of the project inherent E&S risks, the geographical scope of the Program in various districts, the weak legislations in management of waste and electrical waste, and the capacity of the Program Implementation Units (PIUs) and other institutions to manage environmental and social risks, the ESSA has confirmed that overall risk of the Program is rated as Moderate. The Program will exclude high risks projects of Category 1 (projects that have significant and high negative environmental and social potential impacts in sensitive areas, or that are complex to manage, irreversible, or unprecedented).

The investments in new grid connections, Low Voltage (LV) and Medium Voltage (MV) and off-grid solar system under MEFA II are likely to have Moderate environmental and social risks.

Environmental Risks for the Program

The adverse environmental risks from the Program include, but not limited to.

- Improper and indiscriminate disposal of waste and electrical waste may result to soil and water contamination through the release of heavy metals (lead, arsenic, and cadmium).
- Water, and soil pollution from the accidental spillage of fuels or other materials associated with new grid connection works.
- Environment Risks occupational health and safety incidents through injuries or accidents to the workers at new grid connection sites.

The majority of the adverse potential impacts can be prevented, are reversible, and can be mitigated with standard operational procedures and good new grid connection management practices.

Environmental Risk Management Measures

All activities under the Program will be subjected to the Environmental Law (Law No. 20/97), the Regulation on Environmental Impact Assessment (Decree No. 54/2015) including E&S screening, and

preparation of the Environmental and Social Impact Assessment (ESIA) as per national requirements. The subprojects are expected to be site specific and well-defined mitigation and monitoring measures will be developed through an Environmental and Social Management Plan (ESMP). Other than requiring that all investments under the Program to be subjected to screening and further environmental analysis, the Program under MEFA I has developed a set of principles that will act as measures to minimize sub-project risks at the concept and implementation levels.

The Project Operation Manual including Environmental and Social Risk Management aspects will incorporate contractual responsibilities and obligations with appropriate mechanisms for addressing non-compliance of environmental, health, and safety issues of the new grid connection activities (by the subcontractors/suppliers and the client). The Operation Manual will operationalize the Program Action Plan. Further, the African Development Bank team will undertake a post-screening audit to ensure that all the selected new grid connection activities meet the outlined criteria.

G. Program Social Risks and Management Measures

The nature of the proposed activities in Program does not suggest that specific vulnerable and marginalized communities/ Traditional Local Communities could be harmed by the Program. The design of the Program aims to foster the protection and integration of vulnerable and marginalized communities, including Traditional Local Communities, into all stages of program design and implementation. Recognizing that rural households, women-headed families, youth, elderly persons, and internally displaced populations are often the most disadvantaged in accessing electricity, the Program explicitly incorporates measures to reduce barriers and ensure equitable participation.

Social Risks of the Program

Potential negative social impacts of the Program include but are not limited to a range of challenges related to community safety, and equitable access to program benefits.

Another concern is the potential exclusion of vulnerable groups. Women-headed households, youth, the elderly, persons with disabilities, and internally displaced populations may face financial or procedural barriers to accessing household connections. Without targeted outreach and support, these groups risk being left behind, perpetuating inequalities in electricity access.

Community health and safety impacts also pose risks. Construction activities such as the use of heavy machinery, and stringing of cables may create hazards for local populations. Children are particularly vulnerable to accidents when construction sites are located near schools or residential areas. In addition, the installation of public lighting may alter community dynamics, potentially creating tensions if certain neighborhoods are prioritized over others.

There is also a risk of weak grievance redress and social accountability mechanisms. If grievances are not promptly addressed or if communities perceive the grievance system as inaccessible or biased, trust in implementing institutions may erode. This could lead to conflict, resistance to project activities, or delays in implementation.

Finally, there are potential risks of elite capture or inequitable distribution of benefits, where better-connected or wealthier households may gain faster access to electricity connections while poorer families remain excluded. This could undermine the Program's equity objectives and reduce its overall developmental impact.

These risks, while manageable, require proactive measures such as inclusive community consultations, targeted support for vulnerable households, enforcement of community safety measures, and the operationalization of transparent and culturally appropriate grievance

mechanisms. Addressing these risks will be critical to ensuring that the Program’s substantial social benefits are equitably shared and sustainably realized.

Social Risk Management Measures

The MEFA II Program is designed to maximize positive social outcomes while ensuring that potential risks are systematically identified, mitigated, and monitored. Social risk management is therefore embedded across all stages of program preparation and implementation, drawing on Mozambique’s legal framework which is aligned with AfDB’s Integrated Safeguards System (particularly Operational Standard (OS2): Labour and Working Conditions and OS5: Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement), and international good practice.

Inclusion of Vulnerable Groups -Social risk management emphasizes proactive inclusion of vulnerable and marginalized populations—including women-headed households, youth, elderly persons, and internally displaced communities—through targeted outreach, affordable connection schemes, and culturally appropriate communication. EDM will ensure that electrification benefits are equitably distributed and that access barriers are reduced through gender-sensitive planning, awareness campaigns in local languages, and prioritization of social infrastructure such as schools and health centers.

Community Health and Safety - Construction-related risks to local populations, including accidents during the transport and installation of and cables, will be managed through strict contractor OHS requirements, traffic management plans, and safety awareness campaigns. Special measures will be taken to protect children and other vulnerable groups in areas where construction intersects with schools, markets, or residential zones.

Grievance Redress Mechanism (GRM) – EDM/FUNAE already has an existing GRM, which will be strengthened through establishment of a site-specific multi-tiered GRM to ensure that communities can raise concerns and have them resolved in a timely, transparent, and culturally sensitive manner. Local committees, district governments, and EDM AND FUNAE unit will all serve as entry points, supported by a centralized grievance database to monitor and track complaint resolution. The GRM will be widely publicized in communities using accessible formats and languages to encourage use by women and marginalized groups.

Labor and Working Conditions - To mitigate risks related to labor exploitation, unsafe working conditions, or child labor, contractors will be required to comply with Mozambique’s Labor Law and AfDB’s Operational Safeguard 2. This includes provisions for written contracts, fair wages, safe working conditions, prohibition of child and forced labor, and access to a worker-specific grievance mechanism. Regular OHS audits and contractor compliance reviews will ensure adherence.

H. Monitoring and Verification

Independent Verification Agents (IVAs) will verify and validate the implementation of the Environmental and Social Action Plan (ESAP) part of the Program Action Plan presented in the current report. The ESAP is tied to Disbursement-Linked Indicators 5 (DLI 5).

Through these measures, environmental and social risk management in the MEFA II Program moves beyond compliance to create an inclusive, transparent, and accountable framework that both protects environmental and communities and enhances their long-term social and economic well-being.

I. Exclusion Criteria or List

The exclusion principle applies to Program activities that meet these criteria, regardless of the borrower’s capacity to manage such effects. In the RBF context, the concept of exclusion means that

an activity *is not* included in the identified Program of expenditures. Also, an activity is not included if it requires the completion of a non-eligible activity to achieve its contribution to the Project Development Objective (PDO) or any specific Disbursement Linked Indicators (DLI). The six principles under the RBF will apply to all investments as a mechanism for mitigating adverse environmental and social impacts.

The Program shall exclude projects that are likely to include:

- i. Significant conversion or degradation of critical natural habitats or cultural heritage sites.
- ii. Air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems.
- iii. Workplace conditions that expose workers to significant health and personal safety risks.
- iv. Land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people or the use of forced evictions. If any of the subproject activities
- v. Large-scale changes in land use or access to land and/or natural resources.
- vi. Adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions.
- vii. Significant cumulative, induced, or indirect impacts.
- viii. Activities that involve the use of forced or child labor.
- viii. The marginalization of, or conflict within or among, social groups.
- ix. Activities with high risk of SEA/SH.
- x. Activities that would (a) have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; (b) cause the relocation of VMGs/ Traditional Local Communities from land and natural resources that are subject to traditional ownership or under customary use or occupation; or (c) have significant impacts on cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects of the affected communities.

J. Key Findings on the Environmental and Social Systems Assessment

The key findings of ESSA on environmental and social systems are:

- i. Mozambique have well developed and robust legislation, regulations, and systems to manage environmental, health, and safety risks. The national ESIA systems have well-defined guidelines covering project registration and screening, ESIA process (scoping, alternative analysis, impact assessment, mitigation measures, management plan and consultation), monitoring and auditing, and decommissioning. However, there are no equivalent legislation or systems to manage distinctly social risks. The country do not have as well developed and defined Social Risk Management (SRM) Systems – there are in different organizations handling social issues and challenges exist in the coordination mechanisms.
- ii. The assessment identified the weakness in supervision/monitoring and poor enforcement, which should be strengthened to address the potential environmental and social challenges that might be encountered during the implementation of the Program.
- iii. The Program implementing units at Implementing Agencies (EDM and FUNAE) have Environment and Social specialists with experience in RBF.
- iv. The capacity to manage waste and electrical waste and associated risks remain weak, leading to poor management of waste and electrical waste, including poor enforcement by the authorities. The country have limited private sector players in waste management, with limited capacity to handle all electrical waste generated.
- v. There is weak annual environment and social performance verification audit procedures for minimum conditions related to environmental and social safeguards under existing RBF Programs. The annual audit for the proposed Program needs to be well developed to ensure E&S risks are captured well in the audit process.

- vi. Consultations with stakeholders indicated that there is a willingness to address gaps identified for the efficiency and effective application of the environmental and social management processes, and this feedback has been instrumental in designing and revising the Program’s ESSA action plan.

K. Program Action Plan

Though the potential environmental and social risks and impacts of activities under this Program are expected to have minor impacts, the Program provides an opportunity not only to strengthen the weaknesses in the procedures mentioned above to identify and mitigate these potential effects but also to strengthen the Implementing agencies in three areas: (i) strengthening of environmental and social systems, (ii) ensuring implementation and monitoring of environmental and social management; and (iii) building capacity for environmental and social management.

To fill the gaps identified in the ESSA, the Program will support specific measures to enhance environmental and social management system performance, especially on waste and electrical waste management. These measures will be implemented through support of the institutions in charge of environmental and social management to manage environmental and social issues, including the OHS risks.

These measures have been consolidated into the ESSA Action Plan that guides the overall formulation of the Program. Implementation of environmental and social procedures contained in the Program’s Operational Manual will guide the implementation of the Program. The implementation of some of these measures will be enhanced by their integration into the overall Program Action Plan and legally binding through the Environmental and Social Management Plan mandatorily annexed to the Financing Agreement (FA-ESMP) that is incorporated into the financing agreement of the Program. These action plans for the Program are grouped into three areas.

- i. actions to strengthen the environmental and social systems.
 - ii. actions to strengthen the implementation and monitoring of the environmental and social management of new grid connection activities; and
- actions to build the capacity of relevant institutions for staff involved in the Program to enhance environmental and social management performance.

	Action description	Responsible party	Timeline	Indicators
Environmental and Social (ES) Actions				
ES-1	Dedicated E&S management unit within EDM and FUNAE, with clear responsibilities and roles the Program implementation.	EDM/FUNAE	Before effectiveness date of the RBF implementation	ES management Unit established, with dedicated staff assigned to Program implementation.
	Preparation and adoption of an E&S Best Practice Manual or ESIA as required by law, including Waste and E-Waste, Workers and Community OHS, GBV, etc.	EDM/FUNAE	Before civil works starts and throughout the program	Number of good quality E&S Best Practice Manual or ESIA approved by environmental authorities for each subproject and under implementation.
ES-2	Develop community-based intervention to engage vulnerable group’s to adhere off-grid and on-grid household connections	EDM/FUNAE	During the RBF implementation	Number of vulnerable people in community-based interventions engaged and connected to the grid

ES-3	Gender-Based Violence mitigation measures are reflected in E&S instruments and implemented	EDM/FUNAE	During the RBF implementation	GBV aspects included in subprojects E&S documents and implemented
ES-4	Function and expansion of EDM/FUNAE's GRM to cover the Program (complaint boxes and green line in all implementation communities and project sites)	EDM/FUNAE	Before civil work starts and throughout the program	GRM under Implementation in all implementation communities and project sites (number of grievances received and resolved on time)
ES-5	Monitoring of E&S risks and impacts of the project activities	EDM/FUNAE	Within 6 months of program effectiveness date and throughout the program	Number of E&S quarterly and annual performance audit reports prepared and submitted to the Bank per year
ES-6	Training of E&S Staff, contractors and focal points on safeguards aspects including SEA/SH, OHS, Waste and E-Waste, etc.	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	Number of E&S Staff, contractors and focal points trained by year
ES-7	Development and implementation of a Stakeholder Engagement Plan	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	# of stakeholder engagements conducted; attendance logs; service outage notices and calendars
ES-8	Ensure program-related E&S documents (ESIAs, ESMPs) are disclosed publicly and consultations documented as required by law	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	Number of E&S documents prepared and disclosed on websites and local notice boards; consultation records available
ES-9	Require workers to sign of Codes of Conducts with specific provisions on GBV/EAS/SH.	EDM/FUNAE	Before civil work starts and throughout the program	100 % of workers with signed contracts and code of conducts
ES-10	Continuous coordination across agencies and jurisdictions	EDM/FUNAE	Within 6 months of program effectiveness date and throughout the program	Frequency of inter-agency coordination meetings; procedures adopted
ES-11	Ensure compliance with national and international labour standards (fair wages, no child/forced labour, worker GRM operational); Local hiring plans; camp management rules			# of worker GRMs established; % of workers covered by contracts with fair labour clauses; % local hires; zero camp-related incidents
ES-12	Record all incident and accidents under program and report to the Bank within 48 hours any serious or severe case.	EDM/FUNAE	By program effectiveness date and throughout the program life cycle	100% incidents logged & tracked, and 100% of serious incidents communicated to the Bank

ES-13	Incorporating environmental and social safeguards and management tools and procedures as per national legislations and aligned with AfDB ISS in the Program Operation Manual (POM) to be developed	EDM/FUNAE	Before launching of the Program.	POM with adequate E&S safeguards aspects reviewed and cleared by the Bank
ES-14	Ensure compliance with E&S action plans in the ESSA Incorporate mitigation actions in the ESMPs and other sub project instruments			% of implemented ES actions

1. INTRODUCTION AND PROGRAM DESCRIPTION

1.1. Introduction

The Program will help to accelerate Mozambique's progress towards achieving universal electricity access by 2030, while simultaneously strengthening the institutional systems that underpin environmental and social sustainability. The initiative will expand reliable and affordable energy to thousands of citizens, particularly in underserved rural and peri-urban communities.

Institutionally, the Program will help to reinforce the capacity of Electricidade de Moçambique (EDM) to manage environmental and social safeguards, occupational health and safety, and grievance redress mechanisms. Through training programs, system audits, and the establishment of monitoring and reporting mechanisms, the Program will ensure that environmental and social risks are identified early, mitigated effectively, and transparently reported.

Socially, the Program will help to promote inclusion by targeting low-access provinces such as Zambézia, Nampula and Niassa, where energy poverty remains a significant driver of inequality. It will ensure that women, youth, and other vulnerable groups benefit equitably from electrification, both through direct household connections and by enabling improved delivery of essential services such as schools and health centers.

Finally, the Program will help to build resilience to climate and natural hazards by promoting infrastructure designs that withstand cyclones, floods. In this way, the Program contributes not only to Mozambique's energy security and economic growth, but also to the fulfillment of its commitments under the Sustainable Development Goals, the Paris Agreement, and the African Union's Agenda 2063.

1.2. Program Description

The Mozambique Energy for All (MEFA) Program represents the Government of Mozambique's flagship initiative to achieve universal access to sustainable, reliable, and affordable electricity by the year 2030. Building on earlier electrification efforts, MEFA is structured to accelerate household connections, modernize public lighting, expand decentralized renewable solutions, and strengthen institutional systems for environmental and social safeguards. The Program is supported by development partners, including the African Development Bank (AfDB), through a Results-Based Financing (RBF) modality that links disbursements to independently verified outcomes.

At its core, MEFA II aims to expand electricity access to approximately 30 thousands additional households, with a particular focus on underserved provinces in central and northern Mozambique such as Zambézia, Nampula and Niassa. The Program prioritizes areas with the lowest current electrification rates and highest socio-economic needs, thereby addressing inequalities in access to basic infrastructure. New service connections will be installed to reach rural and peri-urban communities that have historically remained beyond the grid's reach.

Beyond physical infrastructure, MEFA II is designed to strengthen the institutional systems that guarantee environmental and social sustainability. The Program incorporates measures for hazardous waste management. It reinforces occupational health and safety (OHS) systems for contractors and EDM staff, establishes and scales grievance redress mechanisms (GRMs). Training and capacity building will be provided for EDM, district governments, and provincial environmental directorates to ensure consistent application of safeguards and compliance with AfDB's Integrated Safeguards System.

To maintain accountability, the Program is structured around key results areas with Disbursement-Linked Indicators (DLIs). Financing will only be released upon independent verification of household connections, hazardous waste management systems, occupational health and safety compliance, and grievance redress functionality. This results-based approach strengthens performance incentives and ensures that disbursements are directly tied to measurable outcomes.

Overall, MEFA is not only an electrification program but a transformative platform for inclusive and sustainable development. By reducing energy poverty, modernizing infrastructure, creating jobs, and reinforcing environmental and social systems, the Program will contribute directly to Mozambique’s Five-Year Government Plan, its National Electrification Strategy, the Sustainable Development Goals, and regional integration objectives under the Southern African Development Community (SADC).

A. Results-Based Financing (RBF) Program Boundary

The Results-Based Financing (RBF) Program forms a distinct financing window within Mozambique’s broader Energy for All (MEFA) framework. While MEFA encompasses a wide range of electrification and energy transition activities supported by multiple partners and national resources, the RBF program defines a narrower set of activities, results, and geographic areas that are eligible for AfDB support and verification.

The boundary of the RBF program is determined by three main dimensions: scope of activities, geographic coverage, and institutional responsibility.

From an activity perspective, the RBF program covers the expansion of household grid connections and the strengthening of institutional systems to ensure environmental, social, and occupational health and safety compliance. Activities outside this scope, such as large-scale generation projects, high-voltage transmission lines, or unrelated infrastructure investments, fall outside the RBF program boundary and are financed through other instruments.

Geographically, the RBF boundary is focused on provinces with the lowest electrification rates and highest levels of energy poverty, specifically in central and northern Mozambique. Provinces such as Zambézia, Nampula and Niassa are prioritized due to their combination of low household connectivity, high population growth, and social vulnerability. While southern provinces may benefit from complementary MEFA activities, only those connections and lighting upgrades verified in the designated RBF provinces will count towards disbursement-linked indicators.

Institutionally, the RBF boundary includes the activities directly implemented by Electricidade de Moçambique (EDM) for grid expansion. The oversight and verification functions of MIREME, MAAP, and AfDB also fall within the program boundary. Other national or donor-led projects that operate in the energy sector, but are not under the supervision and results-verification arrangements of the RBF program, are excluded from the scope of this ESSA.

By clearly demarcating this boundary, the ESSA is able to focus its assessment on the environmental, social, and institutional systems most directly relevant to the RBF-financed interventions. This ensures that safeguard risks are accurately identified and mitigated within the specific operational envelope of the RBF, while recognizing that broader MEFA activities may require complementary safeguards oversight under separate arrangements.

Program Development Objective(s)

The Development Objective of the Mozambique Energy for All (MEFA) Program is to expand access to sustainable, reliable, and affordable electricity across Mozambique, with a strong emphasis on equity, environmental and social sustainability, and institutional strengthening. The Program is designed to accelerate progress toward the national target of universal electricity access by 2030, as articulated in the Plano Estratégico do Sector de Energia (PESS 2024–2028) and aligned with Mozambique’s Five-Year Government Plan and international commitments.

Specifically, MEFA aims to:

- Increase household access to electricity by providing approximately two million new connections through grid expansion and decentralized renewable solutions, prioritizing central and northern provinces where electrification rates are significantly below the national average.
- Strengthen environmental, social, and occupational health and safety systems to ensure that the scale-up of electrification is implemented in a sustainable and responsible manner. This includes the safe management of hazardous waste, the protection of biodiversity, and the establishment of accessible grievance redress mechanisms.
- Enhance institutional capacity and accountability within EDM, FUNAE, MIREME, and other relevant entities through training, system upgrades, and strengthened monitoring and reporting mechanisms, ensuring compliance with national laws and the AfDB's Integrated Safeguards System.
- Promote social inclusion and equity by ensuring that women, youth, and vulnerable groups benefit directly from electrification, both through improved household living conditions and through expanded opportunities for income generation, education, and health services.

Through these objectives, MEFA will not only contribute to Mozambique's energy transition and national electrification goals but also reinforce its commitments under the Sustainable Development Goals (notably SDG 7 and SDG 13), the Paris Agreement, and the African Union Agenda 2063. The 9Program will thereby serve as both a driver of socio-economic transformation and a platform for strengthening the country's environmental and social safeguard systems in line with international best practice.

The Key Result Areas (KRAs) include:

Result Area 1: Increased Access to Electricity in Underserved Provinces

This result focuses on expanding access to modern electricity services in underserved provinces through on-grid solutions. The program will connect approximately 49,500 new households, of which at least 12 percent will be women-headed households, and 881 productive users of energy including schools, health centers, businesses, public institutions, and water supply systems.

Results Area 2: Expanded Off-Grid Electrification and Community Lighting

This result area will expand access in remote communities of Niassa and Zambézia through three solar mini-grids (310 kWp, 1,284 kWh storage) and construction of 10.5 km MV and 27.5 km LV networks, providing 750 new connections for households and social facilities. It will also finance 5 km of street lighting, enhancing safety and supporting local economic activities.

Result Area 3: Enhanced Sector Sustainability and Private Sector Participation

The program will strengthen sector sustainability and foster private-sector participation by supporting MIREME, ARENE, and EDM to enhance financial, regulatory, and planning frameworks. It will finance the update of the National Electrification Strategy and the development of a National Off-Grid Master Plan, enable ARENE to update the cost-of-supply study and prepare a roadmap for cost-reflective tariffs, and support EDM to implement an IPP arrears clearance plan. These measures will improve the sector's creditworthiness, attract private investment, and reinforce the foundation for universal access.

Result Area 4: Governance, institutional strengthening and implementation support

The program will strengthen governance and institutional capacity across the energy sector, supporting MIREME, EDM, FUNAE and ARENE through targeted training, advisory services, and digitalization. It will finance an Independent Verification Agent for results verification, strengthen PIU management and audits, and build capacity in procurement, safeguards, gender, and M&E. The

program will also support the development of concession evaluation guidelines, transaction advisory services, and digital tools for licensing and data management, enhancing transparency, efficiency, and results-based implementation.

The Disbursement Linked Indicator (DLI) include:

- i. DLI 1.1 - Additional number of households connected on grid of which 12% are women.
- ii. DLI 1.2 - Additional number of productive use customers connected
- iii. DLI 1.3 - Smart meters, ready boards, cables and accessories procured and installed

- iv. DLI 2.1 - Additional Mini-Grid Renewable Energy installed capacity
- v. DLI 2.2 - Additional number of households connected through Mini grid
- vi. DLI 2.3 - Additional km of MV and LV distribution lines

- vii. DLI 3.1 - Implementation of renewable energy IPP arrears clearance plan (full settlement of current invoices)
- viii. DLI 4.1 - Appointment of Independent Verification Agent (IVA)
- ix. DLI 4.2 - Implementation of the agreed Capacity Building Program

1.3. Program Implementation Arrangements

The implementation of the Mozambique Energy for All (MEFA) II Program will be carried out through the existing institutional structures of the energy sector, with clearly defined mandates at central, provincial, and local levels. At the core of the program, Electricidade de Moçambique (EDM) assumes the role of lead implementing agency for grid-based components. EDM is responsible for the new household connections. Within EDM, the Planning, Systems and Engineering Directorate plays a central role in managing environmental and social safeguards, supported by provincial focal points that ensure compliance with occupational health and safety standards and environmental management requirements at the local level.

The Ministry of Mineral Resources and Energy (MIREME) provides overarching policy direction for MEFA and ensures that the program is aligned with Mozambique’s Energy Sector Strategic Plan (PESS 2024–2028). To guarantee effective oversight, MIREME chairs the national Program Steering Committee, which meets quarterly to review progress, resolve bottlenecks, and validate the reports that link results to disbursement under the Results-Based Financing (RBF) modality.

Environmental and social licensing of subprojects remains under the authority of the Ministry of Agriculture, Environment and Fisheries (MAAP), operating through its National Directorate for Environment and Climate Change (DINAMC) and the provincial directorates for environment and sustainable development (SPAs). These institutions are responsible for reviewing environmental and social impact assessments, issuing licenses, and monitoring compliance with safeguard requirements. While they provide critical oversight, their limited human and logistical capacity at provincial level has been identified as a constraint, and the program will therefore finance targeted training and support to reinforce their effectiveness.

In parallel, the Energy Regulatory Authority (ARENE) ensures that the regulatory framework governing tariffs, service quality, and consumer protection is respected, thereby safeguarding the financial sustainability of electrification efforts. District governments also play a vital role in implementation by facilitating community engagement, supporting grievance redress mechanisms, and aligning electrification projects with local land-use planning processes.

To coordinate these multiple actors, a national Steering Committee chaired by MIREME brings together EDM, FUNAE, MAAP, ARENE, the Ministry of Finance, and representatives of the African Development Bank. This body validates implementation plans, reviews the reports of Independent Verification Agents (IVAs), and ensures that results-based disbursements are supported by evidence. Alongside this high-level committee, a Safeguards Coordination Working Group chaired by EDM convenes technical focal points from EDM, FUNAE, MAAP, and municipal authorities to harmonize the application of environmental, social, and occupational safety standards across the program.

Finally, the role of Independent Verification Agents is central to the RBF structure. These agents validate key disbursement-linked indicators such as the number of new household connections, the functioning of grievance mechanisms and the safe management of hazardous waste. Their independent verification ensures transparency, accountability, and confidence in the results upon which financing is released.

Through this multi-tiered institutional arrangement, MEFA combines the technical capacity of EDM, the regulatory and oversight mandates of MIREME, MAAP, and ARENE, and the participatory role of district governments, while reinforcing weak links in provincial monitoring and safeguards management. This integrated framework is designed to deliver the program's electrification objectives while upholding environmental and social sustainability in line with AfDB's Integrated Safeguards System.

2. OBJECTIVE, SCOPE, AND METHODOLOGY FOR THE ENVIRONMENTAL AND SOCIAL SYSTEM ASSESSMENT

2.1. ESSA Process

The following components make up the African Development Bank process for the preparation of an ESSA:

Preliminary screening: to ensure that activities that are judged to be likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and / or affected people are not included in the RBF design and are excluded from the program.

Stakeholder engagement: which must provide the opportunity for both internal and external stakeholders to meaningfully participate in the ESSA process, inform the preparation of the ESSA Report, and provide inputs throughout the lifecycle of the program. Generally, during the RBF preparation process, field-level one-on-one and focus group community consultations together with a stakeholder workshop are conducted to meet the stakeholder engagement requirements.

Analysis: Using available documentation and the information collected during stakeholder engagement, the ESSA analyses the responsible institutions' capacity to manage environmental and social risks on the basis of the strength of their applicable systems, staff capabilities and past history, and taking into consideration the likely significance of the potential impacts associated with the preparation and implementation of the program.

Grievance Mechanism (GRM): The ESSA reviews the program-level grievance mechanisms in place and assesses their adequacy and effectiveness. The ESSA confirms whether the GRMs are suitable to receive, record, resolve, and follow-up on complaints or grievances received.

Recommendations: The ESSA identifies measures and actions to manage any significant gaps in the capacity of the responsible institutions to implement E&S management systems at a level commensurate with the identified risks of the program, and consistent with the Bank's core principles and planning elements. The Bank and the borrower together agree to implement these as part of the program.

Disclosure: The draft ESSA report must be disclosed before program appraisal so that the views of interested members of the broader public may be solicited and considered before program decisions

are made final. Further, the final ESSA report and recommended actions are to be completed before negotiations, and the final version disclosed accordingly.

2.2. Objectives and Scope of the ESSA

An Environmental and Social Systems Assessment (ESSA) was undertaken by the Bank team for the Program as per the requirements set forth under Results-Based Financing. The ESSA aimed to review the capacity of existing host countries' government systems to plan and implement effective measures for environmental and social risks and impact management for the Program, including determining if any measures would be required to strengthen them. This included assessing the environmental and social systems in place, the human resources, the competencies, the gaps /weaknesses, extent and nature of necessary improvements that would form the basis for a Program Action Plan.

Specific objectives of ESSA are to:

- a) identify the potential environmental and social impacts/risks applicable to the Program interventions,
- b) review the policy and legal frameworks related to the management of environmental and social impacts of the Program interventions,
- c) assess the institutional capacity for environmental and social impact management within the
- d) Program system,
- e) to prescribe institutional arrangements for the identification, planning, design, preparation and implementation of the new grid connection activities under the proposed Program to adequately address environmental and social sustainability issues,
- f) specify appropriate roles and responsibilities and outline the necessary Program management and reporting procedures for managing and monitoring environmental and social concerns related to the proposed Program,
- g) assess the consistency of the Borrower's systems with six core principles and attributes defined in the Bank's Policy – Results-Based Financing, to include assessment of monitoring and evaluation systems for environmental and social issues,
- h) to describe actions to fill the gaps identified that will input into the Program Action Plan to strengthen the Program's performance concerning the core principles of the RBF instrument.

The ESSA is undertaken to ensure consistency with the six "core principles" outlined in paragraph 8 of the African Development Bank's policy on Results-Based Financing to effectively manage Program risks and promote sustainable development. The six core principles are:

1. Principle 1: Program E&S management systems are designed to (a) promote E&S Sustainability in the Program design; (b) avoid, minimize, or mitigate impacts; and (c) promote informed decision-making relating to a Program's E&S effects.
2. Principle 2: Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for RBF financing.
3. Principle 3: Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the new grid connection and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) renew grid connection or rehabilitation of infrastructure located in areas prone to natural hazards.

4. Principle 4: Program E&S systems manage the land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards.
5. Principle 5: Program E&S systems give due consideration to the cultural appropriateness or and equitable access to, Program benefits, giving special attention to the rights and interests of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, and to the needs or concerns of vulnerable groups.
6. Principle 6: Program E&S systems avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

The ESSA provides a reference that is used to monitor environmental and social systems performance during the Program implementation, and identifies actions, as needed, to enhance the systems during the Program preparation and implementation (the latter are included in the Program's Action Plan). The environmental and social risks, and proposed mitigation measures, as appropriate, are inputs to the integrated risk assessment of the Program. The assessment includes a review of the arrangements by which the Program activities that affect communities will be disclosed, consulted upon, and subject to a grievance redress process and proposes actions and measures to address consultation, disclosure and grievance as appropriate to the activities to be supported under the Program.

2.3. ESSA Methodology

The assessment, and the compiling and analyzing of results, were carried out in accordance with the African Development Bank Guidance Note for RBF Financing. The ESSA includes:

- i. A review of existing regulations, procedures and guidelines that apply to the Mozambique Rural and Urban Electrification;
- ii. Analysis of environmental effects, including residual impacts, systemic risks such as the risk of not identifying significant impacts, potential consequences from inadequate enforcement of mitigation measures, as well as the operational risks of unexpected impacts, accidents and natural hazards;
- iii. Review of social effects, including residual impacts and systemic risk, consultation mechanisms, grievance mechanisms, information dissemination and disclosure, participation and transparency;
- iv. An assessment of the capacity to implement the environmental and social management system, including monitoring, supervision and reporting, at both local and national levels.

The ESSA was prepared by a multidisciplinary team from the African Development Bank in collaboration with relevant Government officials and technical staff members.

i. *Desk Review of Policies, Legal Framework, Regulations, and Program Documents:*

The review covered current environmental and social laws and regulations relevant to energy infrastructure in Mozambique, including the Environmental Law (Law No. 20/97), the Regulation on Environmental Impact Assessment (Decree No. 54/2015), the Land Law (Law No. 19/97) and its implementing regulations, the Resettlement Regulation (Decree No. 31/2012), and the Labor Law (Law No. 23/2007) with associated Occupational Health and Safety provisions. The analysis also examined legislation specific to waste management, such as Decree No. 13/2006 on Waste Management.

At the institutional level, the review considered the mandates and performance of the Ministry of Agriculture, Environment and Fisheries (MAAP) and its National Directorate for Environment and Climate Change (DINAMC), the provincial directorates (SPAs), the National Administration of Conservation Areas (ANAC), and the district governments responsible for localized environmental oversight. Within the energy sector, the roles of Electricidade de Moçambique (EDM), FUNAE, and the

regulatory authority ARENE were also examined, particularly with regard to their environmental and social safeguard systems and prior experience with donor-financed programs.

The desk review further incorporated Mozambique's international commitments, including the Basel Convention on hazardous waste, the Paris Agreement on Climate Change, and the core International Labor Organization (ILO) conventions ratified by the country. These commitments provide important context for assessing alignment with the African Development Bank's Integrated Safeguards System.

Finally, the review assessed available secondary data sources such as EDM's Environmental and Social Management Framework (ESMF), previous Environmental and Social Impact Assessments (ESIAs) for grid and off-grid projects, and relevant analytical work by development partners. This documentary evidence provided the baseline against which institutional practices, safeguard gaps, and program-specific risks could be evaluated during field consultations and verification missions.

Consultation meetings

An initial meeting was held with the EDM coordination and safeguards team, where the objectives and scope of ESSA were explained and also the understanding of the procedures, standards, and approach that the institution follows for environmental and social management. Additional ESSA disclosure meetings will be held and to this end, the identification of relevant stakeholders is underway.

Identification of potential associated environmental and social effects

This process assessed potential environmental and social effects associated with Program implementation and analyzed whether the Borrower has the resources and necessary technical capacity to mitigate unavoidable impacts and optimize social and environmental benefits.

Validation workshop

A validation workshop held in September, 2025 with technical staff from EDM (Electrification and Projects Department, Department of Quality and Environmental Planning, System Planning Department), Ministry of Agriculture, Environment and Fisheries (MAAP) and Civil Society Organizations. The ESSA draft report was provided in advance of the meeting. Feedback from the workshop is incorporated into this ESSA final version and a full list of participants and summary of their feedback will be attached as an Annex.

Document dissemination

The ESSA report will be publicly disclosed through the African Development Bank and advertised in the national press, and public comments will be allowed during the dissemination period.

Implementation of Actions

An implementation action plan was developed jointly with the client specifying actions to improve system performance during the Program implementation period.

A. Program E&S Categorization

The Project is classified Category 2 (medium risk), validated in ISTS and confirmed in SAP on 21st July 2025. The classification is based on the Mozambican Regulation for Environmental Impact Assessment and Licensing Procedure (Decree No. 54/2025 of December 31) Annex III e), which provides that the "Installation of transmission and distribution lines below 66kv" are Category B (medium risk) activities, this is aligned with the Bank's Integrated Safeguards System (ISS). The potential risks and impacts resulting from the program activities, mainly Results Area 1 and 2, including installation of medium voltage (MV) and low voltage (LV) networks, solar mini-grids and household connections are expected to be localized, short-term, reversible and readily minimized by applying appropriate management and mitigation measures.

The Environmental and Social risks are considered moderate, although the scale of anticipated Low Voltage (LV) and Medium Voltage (MV) and off-grid solar system to be supported by the Program may not result in high environmental and social risks, past experience in projects involving these type of activities show that poor it may bring about waste management issues; inadequate sanitation conditions for workers, poor workers' health and safety records and difficult relationships between contractors and new grid connection workers have consistently been a challenge in the course of project implementation.

The program activities are not expected to require land acquisition. If activities or civil works require any land acquisition, the project E&S category shall be re-assessed and if it raises to Category 1 the operation are not eligible as per the ISS and the RBF policy - if remains under Category 2 then local laws and regulations (particularly Decree 31/2012), in combination with provisions under the African Development Bank's Integrated Safeguards System (ISS) Operational Safeguard 2 (OS2): Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement, will be applied to adequately address compensation issues. Measures to address gender and vulnerability (language, geography, cultural barriers) will be built into the Program Action Plan (PAP).

National environmental and social laws and regulations (mainly the Mozambican Environmental Impact Assessment Regulation Decree 54/2015) are in general considered robust and adequate for most of the activities financed under this Program. The regulatory framework is also consistent with international standards, including the African Development Bank's Integrated Safeguards System (ISS), with some minor differences. Enforcement of the regulations is constrained by inadequate institutional capacity, insufficient human resources and poor cross-sectoral coordination at various levels, including coordination within the EDM, where environmental aspects receive less attention.

3. Program E&S Categorization

Under the African Development Bank (AfDB) Results-Based Financing (RBF) Policy, programs and their activities are required to be those of medium environmental and social risks that are classified as Category 2 (moderate risk), excluding Category 1 (High risk) activities which entail significant adverse and irreversible E & S risks, under the AfDB's Integrated Safeguards System (ISS) and national legal frameworks. For a Category 2 RBF program, the borrower is required to demonstrate that their environmental and social management systems are adequate to identify, mitigate, and monitor potential impacts, and to implement the mitigation measures through a program-level Environmental and Social Management Plan (ESMP) or equivalent instruments and an operational Grievance Redress Mechanism (GRM) during implementation. This categorization allows the RBF instrument to focus on system-level oversight and results-based indicators, rather than requiring full project-specific ESIA's for each subproject. The Bank requires the preparation of an ESSA prior to appraisal, which evaluates gaps in national systems, assesses institutional capacity, and identifies measures to strengthen safeguards implementation. The Category 2 program will also require stakeholder engagement, disclosure of ESSA findings, ensuring transparency, accountability, and compliance with both national legislation and AfDB safeguard standards.

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4. POTENTIAL ENVIRONMENTAL AND SOCIAL EFFECTS OF THE PROGRAM

This section presents the anticipated environmental and social impacts, benefits, risks, and opportunities specific to the RBF Sub-project activities. The risks have been identified by looking at existing and possible impacts on the environmental and social context, the Program strategy and sustainability, the institutional complexity and capacity. The risks associated with the Program can be mitigated through proposed measures, which include capacity building of implementing entities and partners to enhance inclusion, participation, and strengthening mechanisms on accountability and grievance redress mechanisms. These measures are included in the Program's integrated risk management.

4.1. Scope of Projects under the Program

Results-Based Financing Environmental Risks. As described in Section II, the Program will have mostly positive benefits for Mozambique's development trajectory. By expanding access to electricity, it will directly improve the living standards of millions of households, especially in underserved rural and peri-urban areas where energy poverty remains a major barrier to human development. Reliable electricity will enhance social services, allowing schools, health centers, and administrative posts to function more effectively, while also enabling productive uses of energy that stimulate local economies, create jobs, and support small and medium-sized enterprises. From a social inclusion perspective, the Program will particularly benefit women, youth, and vulnerable groups by reducing the time spent on household chores (such as collecting firewood), improving community safety through lighting, and creating new opportunities for income generation. Electrification of schools and health centers will also contribute to better education and health outcomes, supporting Mozambique's progress toward the Sustainable Development Goals.

The Program will not support any large-scale Low Voltage (LV) and Medium Voltage (MV) and off-grid solar system. Environmental and social risks of the Program activities shall be confined to small works. The risk and impacts are site specific in nature and well known to be mitigable by enforcement of good environmental and social systems.

Based on the scope and scale of new grid connection activities to be financed under the Program, environmental and social impacts are expected to be low to Moderate in scale, with the most adverse impacts limited to the disposal of waste and electrical waste from the Program. All investments will undergo an environmental and social impact screening and assessment process as per the national environmental and social management systems requirements. These procedures will be outlined in the Environment and Social Risk Management Manual and Program Operation Manual (POM), to be prepared for the Program, with technical guidance from the African Development Bank, and consultations with relevant technical staff at PIU at ministries in charge of the Program, and other relevant Program stakeholders.

The Program will have mostly positive social benefits as the Program interventions will set up a robust statistical system and infrastructure in the participating countries which thence will result in, among others, regional harmonization, quality control and dissemination of correct statistical data for policy and development. The Program will increase effectiveness and efficiency of regional governments, strengthening transparency and accountability by improving access to information through the use of information technology, for improved use of development data for decision-making.

4.2. Environment and Social Risk Rating

The purpose of the screening and risk rating for the Program was to: (i) identify activities likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people; those activities are not eligible for financing and should not be included under the Program; (ii) to determine the priority areas for further attention during the environmental and social system assessment, and (iii) determine the risk rating of the Program.

Because of geographical scope of the Program in various provinces and the capacity of the PIUs and other institutions to manage environmental and social risks, the ESSA has determined that the overall risk of the Program is rated as *Moderate*.

The Program has proposed measures as part of the Program Action Plan to strengthen the Implementing Agencies' environmental and social management systems for the implementation and monitoring of the Program activities to close the gaps in areas of weak capacity and other risks associated with project implementation, especially during new grid connection and operation phases.

4.3. Potential Environmental and Social Risks of the Program

4.3.1. Main Environmental Risks

The potential adverse environmental risks from the Program include, but not limited to.

- Improper and indiscriminate disposal of waste by the organizations may result to soil and water contamination through the release of heavy metals (lead, arsenic, and cadmium).
- New grid connection phase related impacts such as disturbance of existing vegetation, air pollution from dust; nuisances such as noise and traffic interruptions.
- Soil pollution from the accidental spillage of fuels or other materials associated with new grid connection works.
- Environment risks occupational health and safety incidents through injuries or accidents to the workers at new grid connection sites and/or managing/maintaining equipment and infrastructure.

4.3.2. Environmental Risks Management Measures

All project investments under the Program will be subjected to screening, and preparation of the Impact Assessment as per national requirements. The subprojects are expected to be site specific and well-defined mitigation and monitoring measures will be developed for each subproject through the ESMP. Other than requiring that all sub-project investments under the Program to be subjected to screening and further environmental analysis, the Program has developed a set of principles that will act as measures to minimize sub-project risks at the concept level.

While no high-risk projects are expected under the Program, the screening process will include criteria to exclude certain categories of projects as well as projects that are high risks and significant negative impacts that are sensitive, diverse, irreversible, or unprecedented on the environment and/or affected people. The screening procedure will be done during the sub-project appraisal and will be guided by the Host country's Guidelines which will be outlined in detail in the Environment and Social Risk Management Manual and highlighted in the Project Operations Manual (POM).

The Project Operation Manual (POM) will incorporate contractual responsibilities and obligations with appropriate mechanisms for addressing non-compliance of environmental, health, and safety issues of the new grid connection activities (by the subcontractors/suppliers and the client). The POM will operationalize the Program Action Plan.

4.3.3. Main Social Risks

Depending on the type, scope, and extent of eligible work under the Program, the potential negative social impacts are likely those that are typically related and limited to the new grid connection phase and are generally work site-specific. Potential negative impacts of the Program include but are not limited to:

- Vulnerable groups such as people living with disabilities, religious and ethnic minorities, households headed by women etc. and marginalized/traditional local communities may be affected disproportionately by the project and access to energy.
- Lack of transparency and trust by local communities due to poor consultations and stakeholder engagement with project beneficiaries, vulnerable groups, and marginalized communities/Traditional Local Communities.

4.3.4. Social Risk Management Measures

As part of the national legislation particularly, Decree 54/2015 of December 31 on Environmental Impact Assessment Regulation, the Borrower in addition to E&S screening, will apply to all investments a series of procedures and mechanisms for mitigating adverse social risks that shall include but not limited to:

- a) The Environmental and Social Management Plans (ESMPs) to be developed for new grid connection activities will evaluate risks to community health and safety associated with potential waste management.
- b) Establish an effective and adequately financed project-specific grievance redress mechanism that is accessible to all stakeholders including project beneficiaries.
- c) Put in place measures to prevent and respond to incidents of Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) within the context of the Program's investment projects.
- d) Projects that are likely to have negative impacts on vulnerable and marginalized groups (VMGs) /Traditional Local Communities to be given due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the needs or concerns of vulnerable groups and the rights and interests of VMGs/Traditional Local Communities.

- e) The Program Operation Manual will incorporate national legal requirements related to contractual responsibilities and obligations with appropriate mechanisms for addressing non-compliance of social issues of the new grid connection activities by the contractor and the respective project area.
- f) Contractors should also prepare worker Codes of Conduct (CoC) or adhere to EDM or FUNAE CoC, which are to be understood and signed by their employees.

Table 1 - Main Environmental and Social Risks and Mitigation Measures

	Risk	Program Aspects	Key Mitigation Measures
ENVIRONMENT	Construction nuisances:	Construction and installation of LV and MV transmission lines, on-grid and off-grid substations and households connections.	work-hour limits;
	Soil & water contamination (fuel, oil, lubricants, concrete washout)	Machinery oil handling and storage; maintenance and laydown yards	Spill prevention & response plans; install leakage collection system for oil leaks, lined refueling areas; waste concrete traps; training; incident reporting within 48h
	Hazardous & general waste (oils, e-waste, lamps, meters, asbestos)	Meter changeouts; LED retrofits; transformer replacements, damaged and obsolete batteries and cables	Licensed transporters/disposal; PCB-free specs; e-waste take-back clauses; develop a phase-out plan and submit audits to the regulator. Adhere to deadlines and prohibition as per national legislation, properly dispose of if authorized as waste by licensed handlers and decontamination.;
	Freshwater disturbance	Trenching near watercourses	Avoidance via routing; permit compliance; trenchless crossings where feasible; rehab & re-vegetation
	Erosion & sedimentation	Trenching on slopes	Erosion & sediment control; staged backfilling; silt fencing; stormwater containment
	air quality	Generator and vehicles use	Idle-time limits;
SOCIAL	Community health & safety (traffic, open trenches, energized works)	Trenching, line works, substation expansion	Traffic management; fencing & signage; public notices; lock-out/tag-out near communities, inform the communities
	Labor & working conditions (OHS)	Contractors & EDM and FUNAE workers	Engineering controls– safe work method statements, lock-out/tag-out, fall protection, safe access, trench barricading, and traffic management; Administrative Controls: site-specific OHS Plans, incident/near-miss reporting within 72h with corrective actions, structured OHS records; Provide and enforce use of task-specific PPE as last line of defense; transportation worker: employer responsibilities to ensuring adequate vehicle maintenance, driver fatigue, and providing safe loading/unloading procedures.
	Labor influx / informal labor	Short-term civil works	Local hiring plans; code of conduct; camp management rules
	GBV/SEAH risks	Mixed-gender communities; field crews	GBV prevention and response plan; survivor-centred GRM pathways; trainings; vetted service providers

Risk	Program Aspects	Key Mitigation Measures
Land access / temporary disruption	Easements, wayleaves for lines	Due diligence on tenure; voluntary access protocols; no civil works leading to resettlement shall be permitted.
Inclusion & equity of benefits, Infrastructure vandalism, and challenges around non-payment of services	Regularization; metering; connection charges	Social inclusion; gender-responsive outreach; tariff communication; Engagement and grievance systems to instill trust, equity, and social stability in affected communities.
Stakeholder engagement & information	Multi-site works; service disruptions	SEP with vulnerable mapping; multilingual notices; service outage calendars
Grievance redress mechanism (community & workers)	Province-wide activities	Tiered GRM; hotline/SMS; worker GRM; service-level standards (ack/close-out)
Cultural heritage (chance finds)	Trenching in historic towns	Chance-find procedures; stop-work & notify; authority liaison
Management of E&S risks and Impacts	Planning and implementation of Program physical investments	<ul style="list-style-type: none"> ▪ Environmental and Social Management instruments prepared by the Program are consistent with host country's national environmental and social legal framework. ▪ E&S training to technical staff at PIU and other implementing institutions (FUNAE and EDM and its sub-contractors). ▪ Conduct consultations with all relevant stakeholders. ▪ ESMPs measures are incorporated into the bidding and contract documents on time. ▪ Allocate adequate resources for monitoring and supervision of the ESMPs or ongoing works
Poor E&S coordination	Waste and electrical waste from new off and on grid connection and operation	<ul style="list-style-type: none"> ▪ Establish E&S coordination mechanisms with other institutions/entities/departments including the directorates of Occupation, Health, and Safety, labor, gender, social development etc. ▪ Develop and implement Waste Management Plan as part of the ESMPs. <p>Proper disposal of waste in accordance to country laws and regulations.</p>
<i>Lack of capacity and technical skills</i>	Planning and Implementation of program	<ul style="list-style-type: none"> ▪ Assign or recruit a dedicated Environmental and Social Safeguard specialists at EDM and FUNAE to support the E&S risk management of the program. ▪ Training on implementation and monitoring of environmental and social actions, waste management, and the Grievance Redress Mechanisms.
Inadequate consultations and functional grievance redress mechanism	Planning and Implementation	<ul style="list-style-type: none"> ▪ Carry out dissemination and awareness-raising activities amongst the implementing agency on the grievance redress mechanisms for the subprojects. ▪ Strengthen the existing Grievance Redress Mechanism at FUNAE and EDM particularly those activities financed by MEFA II including new on and off grid connection activities . <p>Undertake inclusive, free, and prior informed consultations based on stakeholder engagement plan.</p>

4.4. Exclusion Criteria

The exclusion principle applies to Program activities that meet these criteria, regardless of the borrower's capacity to manage such risks and impacts. In the RBF context, the concept of exclusion means that an activity *is not* included in the identified Program of expenditures. Also, an activity is not included if it requires the completion of a non-eligible activity to achieve its contribution to the Project Development Objective (PDO) or any specific Disbursement Linked Indicators (DLI). The six principles under the RBF will apply to all investments as a mechanism for mitigating adverse environmental and social impacts.

The Program shall exclude projects that are likely to include:

- i. Significant conversion or degradation of critical natural habitats or cultural heritage sites.
- ii. Air, water, or soil contamination leading to significant adverse impacts on the health or safety of individuals, communities, or ecosystems.
- iii. Workplace conditions that expose workers to significant health and personal safety risks.
- iv. Land acquisition and/or resettlement of a scale or nature that will have significant adverse impacts on affected people or the use of forced evictions.
- v. Large-scale changes in land use or access to land and/or natural resources.
- vi. Adverse Environmental and Social (E&S) impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions.
- vii. Significant cumulative, induced, or indirect impacts.
- viii. Activities that involve the use of forced or child labor.
- viii. The marginalization of, or conflict within or among, social groups.
- ix. Activities with high risk of SEA/SH.
- x. Activities that would (a) have adverse impacts on land and natural resources subject to traditional ownership or under customary use or occupation; (b) cause the relocation of VMGs/Traditional Local Communities from land and natural resources that are subject to traditional ownership or under customary use or occupation; or (c) have significant impacts on cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects of the affected communities.

4.5. Grievance Redress Mechanisms

Given the various environment and social risks and mitigation measures outlined above, the Program will put measures in place to mitigate possible risks, conflicts or tensions that might occur at all stages of the design and implementation of the Program at various levels. The Program will respond to concerns and grievances of project-affected parties related to the environmental and social performance in a timely manner. For this purpose, a GRM will be strengthened based on existing GRM for MEFA I, specific to the new grid connection activities, to receive and facilitate resolution of grievances and complaints related to its activities. A well-designed and implemented GRM will considerably enhance efficiency and effectiveness of the aspects supported by the RBF component.

The GRM for the Program will include the following objectives:

- i. Provide the stakeholders with an effective platform to seek redress or resolve any dispute that may arise during implementation of the Program new grid connection activities;
- ii. Ensure that appropriate and mutually acceptable redress mechanisms are identified and implemented to the satisfaction of complainants; and
- iii. Reduce the need for using judicial proceedings.

Communities and individuals who believe that they are adversely affected as a result of the Program will be given mechanisms to submit complaints to the grievance redress mechanisms (GRM). The Program also have setup government portals available for registering complaints, which can be used by complainants where relevant.

In addition, the Implementing Agencies shall separately set up their own portals for complaint mechanisms for receiving and registering complaints. The existence of this mechanism needs to be widely disseminated. In addition, the implementers of the portal need to identify a person identified to respond to the complainant (with given timelines) or forward the complaint to the relevant person for redress.

5. LEGAL, REGULATORY AND INSTITUTIONAL FRAMEWORKS

Mozambique have several policies, instruments and laws that support environmental and social management and the environmental and social assessment processes in the Information and Technology Sector. There are a number of sectoral directives to integrate environmental and social considerations in the decision-making process. These policies, legal and legislative frameworks are summarized below.

Mozambique has developed a robust, though unevenly enforced, framework of policies, laws, and regulatory instruments that govern environmental and social management, including environmental and social assessment (ESA) processes in the energy sector. These frameworks provide the legal foundation for evaluating, mitigating, and monitoring the risks of electrification programs such as new grid connections under the AfDB-financed RBF/MEFA II Program.

4.1. Legal and Regulatory Framework Applicable to the Program

4.1.1. Environmental and Social Policies and Legal Framework

The Mozambique Constitution, in Article 90 (Right to a Balanced Environment) states that: *"All citizens shall have the right to live in a balanced environment and shall have the duty to defend it. The State and the local authorities, with collaboration from associations for environmental protection, shall adopt policies to protect the environment and shall promote the rational use of all natural resources."* As such, the constitution recognizes the right to a safe and healthy environment. It also refers to the duty of the state and local authorities to protect the environment. Article 94 emphasizes the right to a healthy life and Article 36 guarantees equal rights to men and women.

The social legal and political framework includes:

The Gender Policy and Implementation Strategy (2006) ensures the integration of gender issues across all sectoral plans, including the energy sector. In the socio-cultural domain, Section 1.4 establishes that access to electricity services should be promoted as a key driver of gender equality and social inclusion. It recognizes that unequal access to energy services disproportionately affects women and girls, limiting their opportunities for education, economic participation, and improved health and safety. The Policy therefore emphasizes that electrification programs must actively reduce gender disparities by prioritizing connections for social services such as schools, health centers, and water supply systems, which directly benefit women and vulnerable groups.

In the context of the MEFA II Program, this provision translates into deliberate actions to ensure that women-headed households are not excluded from new household connections, that training opportunities in EDM extend to female staff and contractors, and that community consultations for grid extension and decentralized solutions integrate the voices of women, youth, and marginalized populations. The Program's emphasis on public lighting also directly contributes to the gender agenda by enhancing security in public spaces, markets, and transport corridors, where women are often most vulnerable to risks of violence or harassment.

By aligning with the Gender Policy and Implementation Strategy, the MEFA II Program not only expands energy access but also contributes to Mozambique's broader commitments to gender equality, women's empowerment, and social inclusion under the Sustainable Development Goals (particularly SDG 5 and SDG 7).

The environmental legal and political framework includes:

The National Environmental Policy, approved by Resolution No. 5/95 of December 6, 1995, which laid the foundations for all subsequent environmental legislation. In accordance with Section 2.1, the main purpose is to ensure sustainable development through an acceptable and realistic compromise between the country's socioeconomic development and environmental protection. The policy is intended to establish the principles for the preservation of the country's natural resources and of the environment in general, for present and future generations.

Environmental Law No. 20/97, of October 1: The Law establishes the legal basis for the utilization and practical management of the environment and its components with a view to promoting sustainable development in Mozambique. This law prohibits the storage or disposal of toxic pollutants in the soil, subsoil, water and the atmosphere. It is enabling legislation for other laws dealing with specific environmental aspects, including regulations on environmental quality standards to ensure the sustainable use of resources in the country, hazardous waste regulations, regulations governing the process of environmental impact assessment (EIA) and many other laws. Following this, MITADER has developed guidelines for the EIA process (approved in Ministerial Diploma Nr. 129/2006), and guidelines for public participation in the environmental impact assessment process (approved in Ministerial Diploma Nr. 130/2006).

Ministerial Diploma Nr. 129/2006 establishes core principles for environmental management, namely:

- Management of the environment so that it improves citizens' quality of life and protects biodiversity and ecosystems;
- Recognition and valuing of local communities' traditions and knowledge;
- Prioritization of systems that prevent environmental degradation;
- The importance of public participation;
- The principle of "polluter pays";
- The importance of international cooperation in ensuring appropriate environmental management.

The Plano Estratégico do Sector de Energia (PESS 2024–2028) defines the strategic vision and medium-term priorities for Mozambique's energy sector. It establishes universal access to modern, reliable, and affordable electricity by 2030 as a national development goal, aligned with the Government's Five-Year Plan and the Sustainable Development Goals. The PESS provides the framework for investments in generation, transmission, and distribution, as well as for the promotion of renewable energy, energy efficiency, and sector governance reforms.

Specifically, the PESS defines priority areas of intervention, including the rapid expansion of household electrification, with a target of connecting two million new households during the plan period; the modernization of public lighting with energy-efficient technologies; the integration of decentralized solutions to reach remote communities; and the strengthening of institutional capacity within EDM, FUNAE, and regulatory authorities. It also emphasizes cross-cutting themes such as gender equality, private sector participation, climate resilience, and environmental and social sustainability.

For the MEFA II Program, the PESS serves as the overarching policy anchor. It ensures that the Results-Based Financing approach is not pursued in isolation, but rather as a financing instrument that directly supports the Government's strategic priorities. By linking disbursements to measurable outcomes—such as verified household connections, functioning grievance mechanisms, and safe

waste management systems—the Program operationalizes the PESS in a manner that combines infrastructure expansion with system strengthening.

The strategy introduces a comprehensive approach to achieving universal access to electricity by combining grid extension, off-grid renewable solutions, and efficiency improvements. It emphasizes the dual priorities of expanding coverage to underserved provinces while ensuring that the systems put in place are socially inclusive, environmentally sustainable, and economically viable. A core feature of the strategy is the adoption of Results-Based Financing (RBF) as a mechanism to link disbursements to verified outcomes, thereby strengthening accountability and incentivizing performance across implementing institutions.

In addition, the strategy introduces cross-cutting measures designed to address broader development challenges. These include mainstreaming gender equality by ensuring that women-headed households and vulnerable groups have equitable access to electricity services; strengthening occupational health and safety standards in energy projects; and embedding climate resilience by promoting infrastructure designs that can withstand floods, cyclones, and other natural hazards common in Mozambique.

From an institutional perspective, the strategy introduces reforms to enhance coordination between EDM, FUNAE, MIREME, MAAP, and ARENE, while clarifying the regulatory framework for decentralized solutions and private sector participation. It also calls for stronger monitoring and reporting systems, including the use of digital platforms and independent verification, to improve transparency and compliance with national legislation and international safeguards such as the AfDB's Integrated Safeguards System.

Overall, the strategy introduces a transformational shift in the way Mozambique approaches electrification: moving beyond infrastructure roll-out to embrace an integrated, inclusive, and sustainable model that ensures long-term benefits for households, communities, and the national economy.

The Regulations on Waste Management (Decree No. 13/2006) establish that all entities generating waste are legally responsible for its proper segregation, collection, storage, transport, treatment, and final disposal, in line with the principles of the “polluter pays” and environmental protection. The regulations require that waste be classified into hazardous and non-hazardous streams, with hazardous waste such as electronic components, subject to stricter controls.

The Regulations further establish that hazardous waste must be inventoried and recorded through manifests, ensuring traceability from the point of generation to its final destination. Generators are obliged to ensure that hazardous waste is transported only by licensed carriers and delivered to authorized treatment or disposal facilities. Improper handling, dumping, or uncontrolled burning of waste is prohibited and subject to penalties.

In addition, the Regulations introduce the principle of extended producer responsibility (EPR), whereby importers, distributors, and manufacturers of products that generate hazardous waste—such as electrical and electronic equipment—are accountable for ensuring their environmentally sound end-of-life management.

For the purposes of the MEFA II Program, these provisions are directly applicable to the handling of waste generated by electrification activities. This includes packaging materials from new equipment, as well as hazardous waste streams such as electronic waste from metering and control systems. Compliance with these regulations will require EDM and contractors to maintain updated waste inventories, use licensed operators, and ensure that all hazardous waste is delivered to facilities authorized by the Ministry of Agriculture, Environment and Fisheries (MAAP).

While the Regulations provide a strong legal basis, practical challenges remain due to limited hazardous waste treatment infrastructure within Mozambique and weak enforcement capacity at

provincial levels. This underscores the need for the Program's Waste Management Plan to complement national regulations with practical measures for safe storage, transport, possible export under the Basel Convention, and contractor training to ensure compliance.

Occupational Health and Safety is managed by combining provisions from different legal instruments namely: the Constitution, the Labor Law (Nr.23/2007 of August 1) and a series of provisions from subordinate legislation, much of it inherited from the colonial period. ILO conventions, especially Convention no 17, related to compensation for workplace accidents as well as ILO Convention no 18, regarding compensation for occupational illnesses, also apply.

The Constitution (Article 85) states that all workers have a right to a fair wage, rest and vacation and to a safe and hygienic work environment. The Labor Law (Articles 216 through 236) indicates that workers have the right to work under hygienic and safe conditions and that employers have the obligation to create such conditions and to inform workers about the risks associated with specific tasks that they are supposed to perform. Creating safe working conditions would include the provision of safety equipment and appropriate work clothing to prevent accidents and negative effects on workers' health.

Under the Labor Law employers and workers are expected to work together to ensure health and safety at the work place. Companies with a high risk of accidents or occupational hazards are required to establish workplace safety committees to ensure compliance with health and safety norms, and to investigate the causes of accidents and organize preventive measures. Such committees must include representatives of both the employer and the workers.

The Labor Law also stipulates that industry-specific regulations on health and workers' safety may be established by ministerial diploma, by the Minister of Labor, the Minister of Health or the Minister in charge of the specific sector. In December 2008, the Ministry of Health approved specific guidelines in this regard (EDM, "Guidelines on Safety and Health in the Workplace").

Health and Safety considerations are also included in the regulations Establishing the Legal Regime of Occupational Accidents and Diseases, Decree Nr. 62/2013 of December 4. Article 5 of this regulation makes the employer responsible for implementing the measures prescribed in the laws and regulations preventing occupational accidents and diseases, and for training workers about risk prevention.

The Environmental Impact Assessment Regulations (Decree 54/2015 of December 31) establishes rules governing the environmental impact assessment process, which apply to all public or private activities that may directly or indirectly impact on the environment. The main entity in this process is the National Directorate for Environment, part of MAAP. The National Agency for the Control of Environmental Quality (AQUA), also part of MAAP, oversees the compliance of the EIA regulations during project life cycle. However, the responsibility to ensure compliance with the EIA regulations lies with each project Implementing Agency. In this case and context of the Program, the Ministry of Health shall comply with the requirements of the EIA regulation.

The environmental assessment process involves the following steps:

- a) *Project Registration*: The applicant is required to register the project with MAAP.
- b) *Screening*: The project is classified to determine the level at which the environmental assessment should be carried out. The applicant prepares a Screening Report (a template is already included in the legislation) which is submitted to MAAP. The project is classified by MAAP. Based on the analysis in steps a) and b) above, MAAP decides whether an EIA is required or not. Projects are classified as category A+ and A (full EIA is required, with supervision by MITADER at the national level), category B (simplified environmental assessment is required, under the supervision of MAAP at the provincial level) or category C (no specific environmental assessment is required, the project follows environmental best practices through an ESMP to be approved by MAAP). This process is applicable for the

proposed the present Program (refer to the shaded areas of Figure 1), but only in respect of category B or category C projects. Category A and A⁺ projects, for which a full ESIA is required, are not funded under RBF.

- c) *Environmental assessment*: For category B projects, a Simplified Environmental Assessment must be prepared which complies with the reporting requirements in Article 12 of Decree 54/2015. The applicant is required to prepare a Terms of Reference for the study for approval by MAAP before proceeding, in accordance with Article 12 of Decree 54/2015. Article 13 sets out the requirements for the content of a Simplified Environmental Assessment report, which must include a non- technical summary, a description of the project (including details of its location and boundaries), the legal framework applying to the project, relevant environmental and social baseline information, an assessment of impacts and an ESMP, which includes monitoring of impacts, environmental education programs), and a public participation report, as stipulated in Article 9 and 15. For Category C projects, the environmental license is issued on the basis of an ESMP, prepared by the applicant.
- d) *Environmental Licensing*: For and C projects, MAAP's Environmental Provincial Services (SPA) issues the license.
- e) *Monitoring of Project Implementation*: The proponent prepares and implements an appropriate monitoring program (i.e., an environmental management program).
- f) *Public participation*: Public participation is required during the project scoping phase and after the draft Environmental Assessment is completed for Category A⁺, A and B projects. Public participation must be undertaken in accordance with Article 15 of Decree 54/2015, and Ministerial Diploma 130/2006, which provides details of the process to be followed.

The proponent is responsible for undertaking the process, and ensuring that is free, fair and culturally appropriate. The proponent must identify interested and affected parties and ensure that they have appropriate information on which to comment and adequate opportunities to express opinions. The public must be notified 15 days before any public meeting to discuss the scoping and reporting phase of the project. A public participation report must be prepared to accompany the environmental documentation submitted to the regulator and there must be clear evidence in the report and in the environmental assessment itself, of the response to any public concerns. If there is very strong public opposition to a project, MAAP may organize public hearings before making a decision. The public participation requirements in Decree 15/2015 and the associated Ministerial Diploma 130/2006 are broadly consistent with African Development Bank .

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

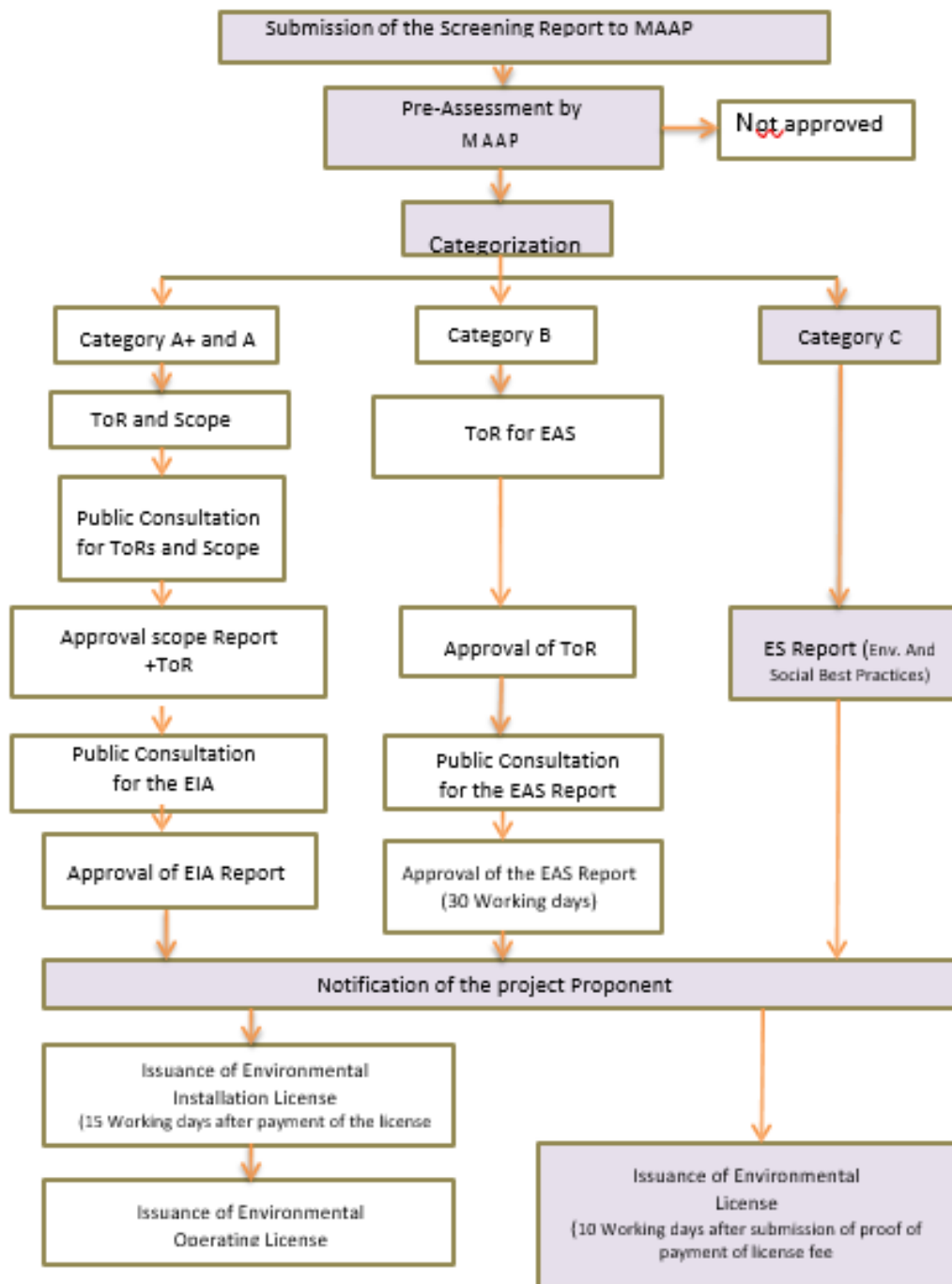


Figure 1: EIA Process, emphasizing Category B and C Projects (Source: Adapted from the EIA Decree No 54/2015)

4.2. Institutional Responsibilities

4.2.1. Overall Responsibilities

Electricidade de Moçambique (EDM) is the implementing authority for the grid-based components of the MEFA II Program, including the expansion of household connections and meters. Within EDM, the Department of Quality and Environmental Planning is directly responsible for coordinating the application of environmental and social safeguards, occupational health and safety standards, and waste management procedures across all program activities. EDM's provincial delegations and project implementation units (PIUs) ensure that safeguards are implemented and monitored at local level, working in close collaboration with district governments and provincial environmental authorities. FUNAE will implement off-grid and renewable-energy activities in coordination with EDM.

The Ministry of Mineral Resources and Energy (MIREME) provides overall policy oversight, ensuring that program implementation remains aligned with national strategies such as the Plano Estratégico do Sector de Energia (PESS 2024–2028). MIREME chairs the Program Steering Committee, which convenes EDM, the Ministry of Agriculture, Environment and Fisheries (MAAP), the Energy Regulatory Authority (ARENE), the Ministry of Economy and Finance, and representatives of development partners, including the AfDB.

The Ministry of Agriculture, Environment and Fisheries (MAAP), through its National Directorate for Environment and Climate Change (DINAMC) and the provincial directorates (SPAs), is responsible for environmental and social licensing, oversight of environmental and social management plans, and compliance monitoring. The National Administration of Conservation Areas (ANAC) provides input where grid expansion activities intersect with protected areas or Key Biodiversity Areas.

ARENE ensures regulatory compliance in the energy sector, particularly with regard to service standards and consumer protection, while district governments play an essential role in facilitating local consultations, supporting grievance redress mechanisms, and aligning electrification projects with local development priorities.

The AfDB supports implementation through financing, technical supervision, and safeguard compliance monitoring. Independent Verification Agents (IVAs) validate program results, including household connections, lighting replacements, safeguard performance, and grievance redress mechanisms, as a prerequisite for disbursement under the Results-Based Financing modality.

When requested to do so by MAAP and also by project proponents from various sectors, the Department of Quality and Environmental Planning should actively participate in the review of EIA reports to ensure the incorporation of aspects related to the electrification process into the projects. However, there is no clarity about their direct participation in the environmental process of projects designed and implemented by EDM. Ideally, the Department of Quality and Environmental Planning should be deeply involved in EIA processes in parallel with the Department of Infrastructure and Health Equipment responsible for contract management, as well as the Procurement Department.

Considering a specific project to make Low Voltage (LV) and Medium Voltage (MV) and off-grid solar system, the following steps are relevant for the participation of the Department of Quality and Environmental Planning (Figure 2):

Project conceptualization: preliminary technical study, preliminary 'Environmental and Social Information Form' in accordance with Article 7 of Decree 54/2015 (submitted to MAAP for categorization of the Environmental Assessment that is required), verification of legal land aspects (DUAT), and development of the ToR for project design. The Department of Quality and Environmental Planning should ensure that the ToR for the project design makes provision for environmental and social assessment and licensing, based on MAAP categorization.

Project design and tender documents: The Department of Quality and Environmental Planning must ensure that the Simplified Environmental Assessment is prepared by independent consultants registered with MAAP (Category B projects), including an ESMP (Category B & C projects). In addition to social and environmental management requirements, the ESMP should include requirements for health and safety of workers and labour and working conditions for the Contractor's personnel. Any design recommendations that arise from the ESMP must be included in the detailed design. The New grid connection ESMP must be included in the tender documents for the new grid connection contract.

Before project implementation, the Department of Quality and Environmental Planning needs to be fully involved in the Tender evaluation and provide scores for E&S components of each Technical Proposal received. The score for E&S aspects should be considered in the total score of the technical proposal.

Project implementation: An ESHS officer will be required on both the contractor's and the supervisor's teams. The contractor will be responsible for implementing the ESMP and producing monthly progress reports. The Department of Quality and Environmental Planning must regularly monitor the site activities to verify compliance with the ESMP provisions and ESHS requirements and report to the African Development Bank quarterly.

These proposed actions for the Department of Quality and Environmental Planning should be included in its departmental and legal responsibilities, specifically described in the organizational structure of EDM, as part of the role of the Systems Planning and Engineering Directorate.

Because the MEFA II Program is financed through an RBF modality, the environmental process follows a programmatic approach rather than a traditional project-by-project Environmental and Social Impact Assessment (ESIA). The steps are designed to ensure that every subproject complies with Mozambique's legal framework while also aligning with AfDB's Integrated Safeguards System (ISS).

Step 1 – Screening and Subproject Registration

- Each electrification activity (e.g., grid extension, installation of transformers, public lighting upgrades) is screened by EDM using standardized checklists.
- Screening determines the environmental risk category in line with Decree 54/2015 (EIA Regulation):
 - Category A: Full ESIA (rare for low-voltage works).
 - Category B: Simplified ESIA or Environmental and Social Management Plan (ESMP).
 - Category C: Environmental registration with basic mitigation measures.
- Subprojects are registered with the relevant SPA (Provincial Directorate of Land and Environment).

Step 2 – Scoping and Terms of Reference

- For subprojects requiring ESIA/ESMP, a scoping exercise is undertaken to identify key impacts (hazardous waste, land acquisition, biodiversity).
- Terms of Reference (ToR) are prepared in consultation with DINAMC/SPAs and approved by MAAP.

Step 3 – Preparation of Environmental and Social Studies

- Consultants or EDM safeguards teams prepare the required studies: ESIA, ESMP, or screening reports.
- Key areas of analysis include waste management, occupational health and safety, biodiversity impacts, community health and safety, and social inclusion.
- Public consultations are held in accordance with national law and AfDB's OS1.

Step 4 – Review and Licensing

- Studies are reviewed by DINAMC (for higher-risk) or SPAs (for lower-risk).

- If satisfactory, an Environmental License is issued, which becomes a precondition for AfDB disbursement.

Step 5 – Integration into Program Design and Contracts

- Mitigation measures from ESMPs and licenses are integrated into contractor obligations and EDM workplans.
- OHS provisions, waste handling protocols, and community engagement requirements are contractually binding.

Step 6 – Implementation, Monitoring, and Supervision

- Contractors implement mitigation measures, supervised by EDM safeguards units.
- SPAs conduct site inspections to verify compliance.
- Independent Verification Agents (IVAs) confirm that safeguard requirements are met before RBF disbursements are triggered.

Step 7 – Reporting and Disclosure

- EDM prepare quarterly safeguards reports for MAAP, AfDB, and provincial governments.
- Summaries are disclosed publicly in Portuguese and local languages at municipal offices, ensuring transparency.

Step 8 – Grievance Redress and Adaptive Management

- Communities can raise complaints through the **Grievance Redress Mechanism (GRM)**.

Lessons learned from grievances and monitoring are used to strengthen future subproject design and implementation.

The Electrification and Projects Directorate of Electricidade de Moçambique (EDM) plays a central role in the operationalization of the MEFA II Program. As the technical arm of the utility, this department is responsible not only for expanding the electricity grid but also for ensuring that these activities are implemented in full compliance with environmental, social, and occupational health and safety standards. Its mandate bridges the technical and safeguards dimensions of electrification, making it a key driver of both infrastructure delivery and sustainable development outcomes.

In practical terms, the Department is tasked with planning, designing, and supervising the installation of service connections in priority provinces. These interventions are critical for achieving the program’s results-based targets while simultaneously delivering tangible benefits for communities in terms of safety, reduced energy costs, and improved urban environments.

Beyond infrastructure delivery, the Department has clear responsibilities for environmental and social safeguard compliance. It ensures that projects undergo proper environmental and social screening, that Environmental and Social Management Plans (ESMPs) are integrated into contractor obligations, and that hazardous waste generated by electrification activities is properly inventoried, stored, and disposed of in accordance with Mozambican regulations and international conventions. The Department also oversees occupational health and safety standards, requiring contractors to implement safe work practices, provide personal protective equipment, and adopt monitoring systems that reduce the risks of electrocution, falls, and transport accidents.

An equally important function of the Department is community engagement. It facilitates consultations with affected stakeholders, informs communities of planned works, and coordinates the grievance redress mechanism to ensure that complaints are documented, addressed, and reported transparently. This role is particularly significant in rural and peri-urban areas where communities may be affected by temporary land acquisition, new grid connection disturbances, or the relocation of public assets.

Finally, the Department carries out monitoring, evaluation, and reporting duties. It consolidates data on connections completed, lighting systems upgraded, safeguard compliance, and OHS performance, feeding into EDM's central reporting system and into the Independent Verification Agent's assessments under the RBF mechanism. This ensures that financial disbursements are directly linked to verified outcomes and that lessons learned are captured for continuous improvement.

In this way, the Electrification and Projects Department functions as the backbone of EDM's implementation role, translating strategic objectives into on-the-ground actions while safeguarding the social and environmental integrity of the MEFA II Program.

4.2.2. Environmental and Social Responsibility

The Ministry of Agriculture, Environment and Fisheries (MAAP) is the key government agency responsible for coordination of government actions related to environment and social safeguards (particularly the new Environmental Impact Assessment Regulation- approved by the Decree 54/2015 of December 31). MAAP has the mandate to direct the implementation of environmental and social safeguards policies and to coordinate the sustainable planning and use of natural resources of the country.

At the central level the processes of environmental impact assessment are the responsibility of the National Directorate for Environment and Climate Change (DINAMC), in particular, all projects classified as category A⁺ and A (full EIA required).

At provincial level, MAAP is represented by the Provincial Environmental Provincial Services (SPA). SPA is responsible for guiding, reviewing and licensing projects for which Category B and Category C assessments have been prepared.

At district level, MAAP's representation is through the District Planning and Infrastructure Services (SDPI). This department is responsible for handling issues related to land use planning, as well as any issue related to environmental protection. However, staff typically have limited training on environmental and social matters, which constrains effective environmental and social management at the district level. Most sector ministries have designated human resources and/or a unit responsible for environmental and social affairs. These environmental and social units are often comprised of only a single person, who acts as a focal point, and who typically has other responsibilities.

Public participation is compulsory for A⁺, A, and B projects. The EIA regulations, approved by the Decree 54/2015 of December 31, state that the public participation process must be carried out in the presence of the Environmental Impact Assessment Authority and the respective sector of the activity under evaluation.

To date there are no specific environmental assessment regulations for the health sector, so all activities/projects which could directly or indirectly influence the environment are covered by the provisions of the Decree 54/2015 EIA regulations and must follow the environmental assessment procedures provided in them. EDM is required collaborate with MAAP through a registered environmental consultant to carry out the required category of environmental impact assessment.

The National Agency for the Control of Environmental Quality (AQUA), which a division of MAAP, directly supervised by the Minister, has the following functions:

- Develop and adopt benchmarking indicators for the assessment of risks associated with polluting substances and propose prevention and mitigation measures;
- Control the management and handling operations of chemical products, discharges of effluents and emission of pollutants;
- Coordinate waste management at national level with the relevant sectors (including EDM).

In relation to electrical waste management, MAAP is responsible for policy development and licensing, whilst EDM is responsible for management of waste within health care facilities, including training and capacity development.

4.2.3. Responsibility for Resettlement and Land Acquisition

Projects that involve resettlement automatically require Category A or A+ environmental assessments, in accordance with Annexures I and II of Decree 54/2015. These projects shall not be funded under RBF. Land acquisition for infrastructure new grid connection is not expected however this is governed by MAAP under the EIA regulations and related processes, as described above, and would also fall in the purview of the EDM Department of Quality and Environmental Planning. The E&S specialists hired by that Department must have the capacity to manage these aspects, as well as other environmental and social aspects that may arise during project preparation, implementation/new grid connection and operation.

EIA and Monitoring

Monitoring has been defined as a process whereby states observe, measure, evaluate and analyze by recognized scientific methods the risks or effects of pollution or environmental harm. It is a continuous or periodic determination of actual and potential effects of any activity or phenomenon of the environment whether short-term or long-term. Unlike prior EIA, monitoring is generally undertaken after the project has begun, to check initial EIA predictions and determine whether further measures are needed to abate or avoid pollution or environmental harm. It is also done for purposes of conducting research or identifying patterns and trends, which reflect the state of the environment. Under Article 1 of the 1992 OSPAR Convention, monitoring has been defined as the “repeated measurement” of the following three factors:

- i. The quality of the environment and each of its compartments;
- ii. Activities or natural and anthropogenic inputs which may affect the quality of the environment; and
- iii. The effects of such activities.

Environmental Audit

Article 5 of Regulation on Environmental Audit process obligates AQUA with the responsibility of carrying out an environmental audit of all activities that are likely to have significant effect on the environment such as ongoing projects commenced prior to the coming into force of the regulations or new projects undertaken after completion of an environmental impact assessment study report. In carrying out an environmental audit study the auditor must carry out an appraisal of all the project activities including the production of goods and services; consider environmental regulatory frameworks, environmental health and safety measures and sustainable use of resources. The principles applicable to EIA are also relevant in an environmental audit.

6. PROGRAM CAPACITY AND PERFORMANCE ASSESSMENT AND IDENTIFICATION OF GAPS

Building on results under the MEFA I, a Results-Based Financing (RBF) approach for MEFA II is again proposed as the primary instrument so that financing is directly tied to the achievement of measurable outcomes rather than to inputs alone. This modality ensures that each disbursement is linked to verified results such as the number of new household connections established, the operationalization of grievance redress mechanisms, and the effective management of hazardous waste streams generated by the Low Voltage (LV) and Medium Voltage (MV) and off-grid solar system process.

By adopting the RBF approach, MEFA II strengthens accountability across implementing institutions, while incentivizing them to maintain compliance with environmental and social safeguards. The mechanism also fosters greater transparency, as all program results must be independently verified before disbursements are released. This creates a system in which performance and sustainability are at the core of program delivery.

In addition, RBF encourages the institutional strengthening of EDM and district governments by requiring them to develop robust monitoring, reporting, and grievance-handling systems. It also

ensures that environmental and social risks are systematically addressed through the linkage of disbursement conditions to safeguard compliance indicators, such as OHS audits, or waste management protocols.

The continuation of RBF under MEFA II thus represents a deliberate choice to consolidate the gains made under MEFA I, scale up successful practices, and embed sustainability, inclusion, and accountability into Mozambique's pathway towards universal electricity access by 2030.

5.1. Adequacy of the Legal Framework

The Laws and Regulations governing the EIA process in Mozambique are sufficient to ensure that any component of the Program that requires environmental licensing will be subject to an appropriate level of environmental assessment. The environmental assessment process, as set out in Decree 54/2015 and described in Section 3, is consistent with African Development Bank Safeguards Policies, with some minor differences.

5.2. Institutional Constraints

While the African Development Bank has been working to help electrification goals under the ongoing Program. The RBF approach significantly relies on existing implementation agencies whose capacities are known to be limited. The government's commitment and capacity to recruit and apply adequate resources for technical assistance and monitoring and evaluation will be critical for successful implementation, and for achievement of DLIs. While the focus of the Program will rest on building management capacity at district level, some attention is needed to ensure that other structures benefit from technical assistance as needed. The team is working with the government to identify key required technical assistance and to incorporate these needs into the budget framework and in legal covenants where necessary. The aim is to improve readiness of district and provincial level entities to implement the Program through a series of dialogues/workshops to discuss and disseminate operations guidelines.

Despite Mozambique's comprehensive legal and policy framework for environmental and social management, several institutional constraints continue to limit the effective implementation of safeguards in the energy sector. These constraints are particularly relevant for the MEFA II Program, where large-scale electrification activities require strong institutional coordination, technical expertise, and adequate resources.

An assessment of existing Government energy programs highlights the following institutional findings in respect of Safeguards:

Reasonable capacity to manage the Environmental Assessment Process. While the Environmental Assessment must be undertaken by a consultant (an individual or company) registered with MAAP as an EIA Consultant, Decree 54/2015 does not specify rules for the competence of the proponent. The proponent's responsibilities in environmental assessment apply to the initial phase of project categorization (where a "Preliminary Environmental Information Form" must be completed and communicated to MAAP); the determination of the Terms of Reference for the independent consultant; the provision of relevant information to the consultant; the review of the Environmental Report prepared by the consultant; and other tasks that are typically required to guide the environmental assessment to its conclusion.

For the Mozambique Electrification program, the implementation of good environmental assessment practice is not constrained by a human resources in the institutions involved, including EDM and FUNAE. Overall, the EDM and FUNAE Departments of Quality and Environmental Planning have sufficient human and technical capacity to effectively manage the environmental and social assessment process and the experience and qualifications of the staff who supervise environmental, social, health and safety aspects is adequate. At central level, EDM and FUNAE Departments of Quality and Environmental Planning and Department of Infrastructure has sufficient professionals directly

responsible for environmental and social impact assessment processes. As a result, environmental assessments for projects that require licensing are done in the presence of appropriate participation by EDM or FUNAE.

Reasonable capacity to manage the environmental and social aspects of tendering for new off or on grid connection contracts. EDM and FUNAE capacity do not affect performance at other stages of the EIA process. The content of the EIA and EAS includes an environmental management plan (ESMP) consisting of specific management programs. Where projects involve new grid connection, the tender documents must include the ESMP or best practices manuals so that the Contractor can price any environmental compliance requirements into the Bid. Adjudication of bids must take the bidders' response to ESMP requirements into account. Usually the consultants responsible for the completion of the Environmental Assessment and ESMP have completed their scope of work by this stage, and EDM lacks the experienced personnel to undertake these tasks internally.

Reasonable capacity to manage the implementation of environmental and social compliance set out in the ESMP. Responsibility for the implementation of the mitigation measures in the ESMP lies with the proponent. In cases of new grid connection works, the proponent may delegate all or some of the responsibility to other parties; nevertheless, ensuring that there is compliance with the environmental license remains the responsibility of the license holder. The proponent may do so either directly, using internal staff, or through the new grid connection manager or EHS officer hired to supervise the new grid connection contractor.

Both at EDM and FUNAE's level, the technical supervision of the new grid connections is carried out by the Department of Infrastructure through a contracted Supervisor. Based on experience of the new grid connections financed under the HSDP, supervision of the implementation of the ESMP has been carried out by a Supervisor representing EDM, and has generally not met the standard that is required by Safeguards Policy. Systems to identify, assess and manage environmental and social risks and impacts are also weak or absent. While the potential environmental and social risks associated with new grid connections are generally fairly minor, they nevertheless require appropriate management.

Limited capacity to manage waste and electrical waste. The lack of responsible management of waste and electrical waste is a key safeguard risk. Compliance with the provisions of the regulations on electrical waste management is very poor at all levels of EDM facilities. Most of EDM's facilities do not have waste treatment facilities and segregation of waste and temporary storage is not done in accordance with legal requirements. The Regulations establish that facilities and other institutions handling electrical waste should provide an environmental health and safety (EHS) specialist for the coordination and supervision of the electrical waste management process. This legal obligation is not fulfilled in many of the facilities.

Lack of robust environmental management systems, procedures and guidelines. There are deficient environmental management systems in place in EDM and FUNAE, including procedures or guidelines available that foster conformance with international best practice, although most are compliant with national legislation. In addition to the problems of staffing, this creates further constraints that personnel are uncertain about their responsibilities and how to go about meeting them.

Limited training in environmental and social impact management. There is inadequate provision for training of personnel to manage environmental and social safeguards at any national, provincial or district level.

7. E&S ACTION PLAN

This section summarizes the E&S actions that the that the ESSA reports recommended and was reviewed and discussed with stakeholders to be included in the Program Action Plan and should be executed during program implementation to address the gaps identified above between the program

system and the RBF core principles and key elements as well as to address any capacity shortcomings. The recommended actions of the ESSA are included in Table 5.

Table 2 – E&S Action Plan of the Program Action Plan

	Action description	Responsible party	Timeline	Indicators
Environmental and Social (ES) Actions				
ES-1	Dedicated E&S management unit within EDM and FUNAE, with clear responsibilities and roles the Program implementation.	EDM/FUNAE	Before effectiveness date of the RBF implementation	ES management Unit established, with dedicated staff assigned to Program implementation.
	Preparation and adoption of an E&S Best Practice Manual or ESIA as required by law, including Waste and E-Waste, Workers and Community OHS, GBV, etc.	EDM/FUNAE	Before civil works starts and throughout the program	Number of good quality E&S Best Practice Manual or ESIA approved by environmental authorities for each subproject and under implementation.
ES-2	Develop community-based intervention to engage vulnerable group's to adhere off-grid and on-grid household connections	EDM/FUNAE	During the RBF implementation	Number of vulnerable people in community-based interventions engaged and connected to the grid
ES-3	Gender-Based Violence mitigation measures are reflected in E&S instruments and implemented	EDM/FUNAE	During the RBF implementation	GBV aspects included in subprojects E&S documents and implemented
ES-4	Function and expansion of EDM/FUNAE's GRM to cover the Program (complaint boxes and green line in all implementation communities and project sites)	EDM/FUNAE	Before civil work starts and throughout the program	GRM under Implementation in all implementation communities and project sites (number of grievances received and resolved on time)
ES-5	Monitoring of E&S risks and impacts of the project activities	EDM/FUNAE	Within 6 months of program effectiveness date and throughout the program	Number of E&S quarterly and annual performance audit reports prepared and submitted to the Bank per year
ES-6	Training of E&S Staff, contractors and focal points on safeguards aspects including SEA/SH, OHS, Waste and E-Waste, etc.	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	Number of E&S Staff, contractors and focal points trained by year
ES-7	Development and implementation of a Stakeholder Engagement Plan	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	# of stakeholder engagements conducted; attendance logs; service outage notices and calendars
ES-8	Ensure program-related E&S documents (ESIAs, ESMPs) are disclosed publicly and consultations documented as required by law	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	Number of E&S documents prepared and disclosed on websites and local notice boards; consultation records available

ES-9	Require workers to sign of Codes of Conducts with specific provisions on GBV/EAS/SH.	EDM/FUNAE	Before civil work starts and throughout the program	100 % of workers with signed contracts and code of conducts
ES-10	Continuous coordination across agencies and jurisdictions	EDM/FUNAE	Within 6 months of program effectiveness date and throughout the program	Frequency of inter-agency coordination meetings; procedures adopted
ES-11	Ensure compliance with national and international labour standards (fair wages, no child/forced labour, worker GRM operational); Local hiring plans; camp management rules	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	# of worker GRMs established; % of workers covered by contracts with fair labour clauses; % local hires; zero camp-related incidents
ES-12	Record all incident and accidents under program and report to the Bank within 48 hours any serious or severe case.	EDM/FUNAE	By program effectiveness date and throughout the program life cycle	100% incidents logged & tracked, and 100% of serious incidents communicated to the Bank
ES-13	Incorporating environmental and social safeguards and management tools and procedures as per national legislations and aligned with AfDB ISS in the Program Operation Manual (POM) to be developed	EDM/FUNAE	Before launching of the Program.	POM with adequate E&S safeguards aspects reviewed and cleared by the Bank
ES-14	Ensure compliance with E&S action plans in the ESSA Incorporate mitigation actions in the ESMPs and other sub project instruments	EDM/FUNAE	During the RBF Implementation (Year 1, 2 and 3)	% of implemented ES actions

8. ASSESSMENT OF THE REPUTATIONAL RISK TO THE BANK

While the Mozambique Energy for All (MEFA) II RBF Program offers a transformational opportunity to accelerate universal electrification, the Bank faces reputational risks if environmental, social, and occupational health and safety safeguards are not effectively implemented.

8.1. Risk Sources

- **Hazardous Wastemanagement:** Improper handling of mercury lamps, e-waste, or transformer oils could expose the Bank to criticism from civil society and international watchdogs, especially given Mozambique's limited waste treatment infrastructure.
- **Occupational Health and Safety (OHS) Incidents:** Worker injuries or fatalities due to inadequate safety enforcement could damage the Bank's reputation as a development partner prioritizing "do no harm."
- **Weak Grievance Redress:** If communities perceive that their concerns are ignored or unresolved, social conflict could escalate, undermining both program legitimacy and the Bank's image.

8.2. Reputational Exposure

The Bank’s exposure is heightened by the results-based financing modality, which links disbursements to verified outcomes. Any weaknesses in safeguards implementation directly question the integrity of results verification and could attract scrutiny from international stakeholders, including donor governments, NGOs, and media.

8.3. Mitigation Measures

- Linking safeguards compliance to disbursement-linked indicators (DLIs) ensures reputational risk is directly tied to financial incentives.
- Independent Verification Agents (IVAs) provide an additional assurance layer, validating not only physical outputs but also compliance with environmental and social standards.
- The Program Action Plan (PAP) includes targeted measures—such as digital OHS incident reporting, and waste manifest systems—that reduce reputational risks to manageable levels.
- Proactive public disclosure of safeguards reports in Portuguese and local languages enhances transparency and accountability, protecting the Bank from allegations of secrecy.

8.4. Overall Risk Rating

The reputational risk to the Bank is assessed as **Moderate**. This reflects the significant potential for criticism if safeguards fail, balanced by strong mitigation mechanisms embedded in the program design. With effective implementation of the PAP and robust verification by IVAs, the Bank’s reputational exposure can be reduced to **Moderate** - and maintained within acceptable levels.

Table 3 - Risk Matrix

Risk Category	Description of Risk	Likelihood
Environmental – Hazardous Waste	Inadequate handling and disposal of hazardous waste could contaminate soil, water, and expose workers/communities.	Low
Social – Vulnerable Group Exclusion	Traditional Local Communities, women-headed households, IDPs risk exclusion from benefits.	Low
OHS – Worker Safety	Risks of electrocution, working at heights, traffic accidents during transport.	Low
Community Health & Safety	Increased risks of accidents near worksites, unsafe cable installations	Medium
Institutional Capacity	Weak provincial safeguards capacity, limited coordination among EDM, FUNAE, MAAP, ARENE.	Medium
Governance & Transparency	Risk of weak GRM implementation, delays in information disclosure, reputational risk for AfDB.	Medium

9. PROGRAM MONITORING AND IMPLEMENTATION SUPPORT

Effective monitoring and implementation support are critical to ensure that the MEFA/EDM/FUNAE RBF Program delivers not only on electrification targets but also on environmental, social, health, and safety (ESHS) compliance. The Program’s Results-Based Financing (RBF) approach makes verification of results and safeguards performance a precondition for disbursement, thus elevating the importance of a robust monitoring framework.

9.1. Monitoring Framework

a. Results-Based Verification

- **Independent Verification Agent (IVA):**
 - An independent firm or institution will verify results linked to Disbursement-Linked Indicators (DLIs).

- Implementation of E&S Program Action Plan - % of agreed E&S strengthening actions completed;

- **Disbursement Triggers:**

- Each DLI is linked to **clear, measurable evidence**. For example, “number of new connections installed and verified as functional,” or “percentage of contractors with approved OHS plans.”
- No disbursement occurs until verification confirms compliance.

b. Environmental and Social Monitoring

- **Environmental Oversight:** EDM/FUNAE Safeguards Unit and SPAs will conduct joint inspections of construction sites, storage facilities, and waste management hubs.
- **Social Oversight:** Community consultations, and grievance redress records.
- **OHS Monitoring:** Contractors required to submit monthly safety reports; EDM/FUNAE to conduct site audits and disclose findings.

c. Community-Level Monitoring

- **Participatory Monitoring:** Local communities, district governments, and civil society will be engaged in oversight, especially regarding safety.
- **Feedback Loops:** Community liaison officers will ensure grievances and suggestions feed back into program adjustments.

9.2. Implementation Support Arrangements

a. EDM/FUNAE Lead Role

- EDM/FUNAE is the primary implementing agency, with its **Off-Grid and On-Grid Electrification and Projects Department** coordinating technical execution and safeguards monitoring.
- EDM/FUNAE’s Safeguards Unit will oversee ESHS compliance and report quarterly to AfDB and MREME.

b. Role of Other Institutions

- **MAAP / DPTADERS:** Environmental licensing, compliance inspections, and enforcement of waste management regulations.
- **MIREME:** Oversight of program performance and alignment with the national electrification strategy (PESS).
- **ARENE:** Regulatory oversight, including service quality, affordability, and consumer protection.

c. AfDB Support

- **Safeguards Support:** The Bank will conduct bi-annual support missions, focusing on compliance with the Program Action Plan (PAP) and ESSA recommendations.
- **Capacity Building:** AfDB will support EDM/FUNAE and provincial institutions with targeted training, workshops, and knowledge sharing.

- Adaptive Support: Flexibility to adjust monitoring tools, DLIs, or action plan priorities as lessons emerge during implementation.

9.3. Reporting & Disclosure

- Quarterly Progress Reports (QPRs): Submitted by EDM/FUNAE to AfDB, covering technical progress, safeguard compliance, grievances, and OHS incidents.

9.4. Capacity Building for Monitoring

- Training Programs: Safeguards officers, contractors, and municipal staff trained in waste management, OHS, and GRM operation.
- Resource Provision: Vehicles, inspection kits, and digital monitoring tools provided to DPTADERS and EDM/FUNAE provincial offices.
- Peer Learning: Exchange visits and technical workshops with similar programs in the region (e.g., Tanzania, Rwanda).

Figure 1 - Monitoring & Verification Matrix – MEFA/EDM/FUNAE RBF Program

Table 4: Monitoring indicators

Monitoring Area	Key Indicators	Frequency	Responsibility
E&S Compliance	Number of sub-projects with approved ESMPs or environmental licenses;	Quarterly	EDM/FUNAE
Institutional Capacity	Number of trained staff in district and provincial departments; contractor and focal points	Quarterly	EDM/FUNAE
Stakeholder Engagement	Number of community consultations held; % of grievances addressed within established timelines	Quarterly	EDM/FUNAE
GRM Performance	Number of grievances received, resolved, and escalated; Average resolution time	Quarterly	EDM/FUNAE
E&S Performance Audit	Number of E&S performance including OHS audits conducted	Annually	EDM/FUNAE
Implementation of PAP	% of agreed E&S strengthening actions completed;	Quarterly	EDM/FUNAE/IVA

9.5. Feedback and Adaptive Management

The MEFA/EDM/FUNAE RBF Program adopts a **learning-oriented approach** where monitoring results, verification findings, and stakeholder inputs are systematically used to improve program performance. This ensures that electrification results are achieved while environmental and social safeguards remain effective and responsive to emerging risks.

9.5.1. Feedback Loops

- **Independent Verification Agent (IVA):** Verification reports not only determine disbursement eligibility but also highlight systemic gaps (e.g., weak contractor OHS compliance) which are communicated to EDM/FUNAE and AfDB for corrective measures.
- **Quarterly Progress Reports (QPRs):** EDM consolidates technical, safeguards, and grievance data including from FUNAE; AfDB reviews these and issues technical notes for follow-up.
- **Grievance Redress Mechanism (GRM):** Community-level grievances are escalated through district governments and EDM/FUNAE to the Safeguards Unit, ensuring local voices inform program adjustments.
- **Supervision Missions:** AfDB bi-annual missions serve as feedback checkpoints to validate progress, identify risks, and agree on mid-course corrections.

9.5.2. Adaptive Management Mechanisms

- **Safeguard Action Plan Adjustments:** If emerging risks (e.g., new waste streams, climate events) are identified, the Program Action Plan (PAP) will be updated and linked to DLIs where appropriate.
- **Contractor Performance Management:** Contractors found non-compliant on OHS or safeguards will be required to implement corrective actions; persistent non-compliance may lead to sanctions or contract termination.
- **Institutional Capacity Support:** Where gaps in staffing or skills are identified, AfDB and EDM/FUNAE will prioritize targeted training, secondments, or resource allocation.
- **Community Engagement Adaptation:** Consultation methods (e.g., local languages, gender-sensitive approaches) will be adjusted based on feedback from vulnerable groups and Traditional Local Communities.
- **Policy Alignment:** Any changes in Mozambique's legal or regulatory framework (e.g., updates to Waste Management Decree) will be integrated into program safeguards systems.

9.5.3. Continuous Learning and Knowledge Sharing

- **Annual Learning Reviews:** Jointly organized by EDM/FUNAE, MIREME, and AfDB to review performance data, share lessons across provinces, and document good practices.
- **Peer Learning:** Exchange visits with regional utilities (e.g., TANESCO in Tanzania, REG in Rwanda) to adopt tested approaches for safeguards compliance in electrification programs.
- **Knowledge Dissemination:** Case studies and lessons learned will be documented and shared with stakeholders, contributing to national and regional energy sector learning.

9.6. Escalation and Accountability

- Issues that cannot be resolved at provincial level are escalated to the National Program Steering Committee, chaired by MIREME.
- Serious safeguard breaches (e.g. major OHS accidents, hazardous waste mismanagement) trigger AfDB engagement and corrective action plans tied to disbursement suspension until compliance is restored.

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ANNEXES

Annex 1: EVIDENCE OF PUBLIC CONSULTATIONS MEETINGS

ATTENDANCE REGISTER

APRESENTAÇÃO DO ESBOÇO DO RELATÓRIO DE AVALIAÇÃO DO SISTEMA AMBIENTAL E SOCIAL (ESSA) DO PROGRAMA MEFA

17 September 2025

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ENCONTRO REALIZADO VIRTUALMENTE EM 30/10/2025 COM BAD

Agenda: Janela de Financiamento de USD2.5Milhões para Upgrade de Sistemas em Niassa e Zambézia


#	Nome	Assinatura
1	Dr. Edson Uamusse	Virtual
2	Eng ^a Minaxi Chauque	<i>Minaxi Chauque</i>
3	Eng ^a Penalva Pene	<i>Penalva Pene</i>
4	Dr. Osvaldo Dias	<i>Osvaldo Dias</i>
5	Dr. Hamilton António	<i>Hamilton António</i>
6	Eng ^a Nélsia Manhique	<i>Nélsia Manhique</i>
7	Eng ^o Mário Sousa	Virtual
8	Eng ^o Victor Raúl	Virtual




ENCONTRO REALIZADO VIRTUALMENTE EM 24/10/2025 COM BAD

Agenda: Janela de Financiamento de USD2.5Milhões para Upgrade de Sistemas em Niassa e Zambézia

#	Nome
1	Dr. Edson Uamusse
2	Dr. Mussa Mané
3	Eng ^a Minaxi Chauque
4	Eng ^a Penalva Pene
5	Dr ^a Arcádia Nhantumbo
6	Osvaldo Dias

Leonel  Ludovic Durel **Lúcia Madeira** Joao Buque Raquel Beco
 Leonel Ludovic Durel Lúcia Madeira Joao Buque Raquel Beco

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MOZAMBIQUE ENERGY FOR ALL PROGRAMME

Stakeholder Briefing Environmental Social System Assessment Report

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Annex 2: EVIDENCE OF DISCLOSURES IN-COUNTRY AND BANK'S WEBSITE

Annex 3: PHOTOS OF STAKEHOLDER WORKSHOP



Annex 5: ESTIMATED E&S COST

Estimated Costs for ESMPs & OHS Plans Implementation for EDM and FUNAE

Category	Key Activities	Unit / Basis (Mt)	Estimated Cost (USD) x 2 for EDM and FUNAE
1. ESMP Preparation & Integration	Preparation of site-specific ESMPs, review, integration into contracts	Avg. 500.000 Mt per province	46,000
2. ESMP Mitigation Measures	Waste segregation & storage, erosion control, habitat protection, traffic management	Lump sum across worksites	18,000
3. Monitoring & Compliance	Site inspections, safeguard audits, field checklists, reporting	250.000/year x 2	15000
4. Hazardous Waste Management (ESMP sub-component)	Storage facilities, safe transport, disposal/export of lamps, oils, PCB equipment	Lump sum	14,000
5. OHS Training & Induction	Induction workshops, refresher training, toolbox talks	200.000/year x 2	12,000
6. Personal Protective Equipment (PPE)	Helmets, gloves, harnesses, safety boots, masks for EDM/FUNAE & contractors	Avg. 20.000/staff x ~50 staff/contractors	30,000
7. OHS Audits & Supervision	Contractor OHS audits, independent safety inspections	600,000/year x 2	40,000
8. Emergency Preparedness & Response	First aid kits, extinguishers, drills, hospital linkages	Lump sum	8,000

Estimated Costs for Monitoring, Reporting & Auditing (incl. IVA) – RBF Program (2 years) for EDM and FUNAE

Category	Key Activities	Unit / Basis (Mt)	Estimated Cost (USD)
1. EDM/FUNAE Internal Monitoring	Monthly site inspections, safeguard compliance checklists, photographic documentation, reporting to EDM/FUNAE HQ	600,000/year x 2	36,000
2. Provincial/SPA Oversight	Environmental & social compliance inspections, licensing follow-ups, safeguard workshops	300,000/year x 2	18,000
3. Quarterly Safeguard Progress Reports	Compilation of E&S performance reports (ESMP, OHS, GRM), translation & disclosure	367,500/year x 2	22,000
4. Independent Verification Agent (IVA)	Verification of DLIs, safeguard compliance audits, field missions, stakeholder consultations	225,000/year x 2	12,000
5. Mid-Term Safeguard Review (Yr1)	Independent mid-term audit of safeguard implementation and PAP progress	Lump sum	18,000
6. Final Safeguard Completion Audit (Yr2)	End-of-program safeguard audit, lessons learned, closure verification	Lump sum	26,000

Estimated Costs for Training, Capacity Building & Stakeholder Engagement – RBF Program (2 years) for EDM and FUNAE

Category	Key Activities	Unit / Basis (MT)	Estimated Cost (USD)
1. Safeguard Training (EDM/FUNAE, FUNAE, MAAP, Districts)	Training on AfDB ISS, ESMPs, waste management, OHS standards	1.250,000/year x 2	80,000

2. Contractor & Worker Training	Induction & refresher OHS training, toolbox talks, SOP application	650,000/year × 2	40,000
3. Gender & Inclusion Mainstreaming	Training EDM/FUNAE & contractors on gender policy, vulnerable group inclusion, community engagement	Lump sum (annual workshops + materials)	5000
4. Community Consultations & Engagement	Public meetings, information sessions, culturally appropriate GRM sensitization, local language materials	1.400,000/year × 2	86,000
5. Stakeholder Forums & Coordination Platforms	Annual multi-stakeholder forums (EDM, FUNAE, MIREME, ARENE, civil society, Districts)	450,000/year × 2	27000
6. Communication & Awareness Campaigns	Radio, TV, flyers, social media on safety, rights, GRM, energy savings, environmental protection	175,000/year × 2	10,000
7. Knowledge Exchange & Study Tours	Peer learning with other African utilities (AfDB facilitation), cross-provincial knowledge sharing	Lump sum	12,000
8. Training Materials & Toolkits	Development of manuals, guidelines, translated handbooks, digital tools	Lump sum	7000

Estimated Costs for GRM, Disclosure & Communications – RBF Program (2 years) for EDM and FUNAE

Category	Key Activities	Unit / Basis (Mt)	Estimated Cost (USD)
1. GRM Establishment & Systems	GRM software platform (case tracking), hotline setup, regional GRM focal points, logbooks	Lump sum (Qr1–Qr2)	8,000
2. GRM Operations	Processing complaints, staff time, logistics for site visits, translation into local languages	600,000/year × 2	18,000
3. GRM Training & Awareness	Training for EDM/FUNAE, Districts, contractors on grievance intake & resolution	500,000/year × 2	15,000
4. Disclosure of Safeguards Documents	Translation of ESMPs + local languages, printing, radio/TV announcements, website hosting	250,000/year × 2	7,000
5. Community Communication & Sensitization	Roadshows, posters, radio programs, info sessions at schools/markets, safety & rights awareness	400,000/year × 2	12,000
6. Stakeholder Feedback Surveys	Annual beneficiary perception surveys, gender & vulnerability disaggregation	125,000/year × 2	3,500

Estimated Costs for Contingency & Compliance Incident Reserve – MEFA/EDM/FUNAE RBF Program (2 years)

Category	Key Uses	Unit / Basis	Estimated Cost (MT)
1. Environmental Emergencies	Spill cleanup, emergency waste containment, biodiversity offset measures	Lump sum reserve	40,000
2. OHS Emergency Response	Accident compensation, emergency medical evacuation, crisis investigations	Lump sum	6,000
3 Legal & Compliance Response	Rapid response to safeguard non-compliance, audits, regulatory fines, legal support	Lump sum	4,000
4. Climate/Disaster Contingency	Damage control from cyclones/floods affecting electrification sites (e.g., poles, storage yards)	Lump sum	3000

TOTAL - 762,000 USD

SOURCE OF FUNDING - Implementation costs of the Safeguards component in the RBF Project - MEFA II

Annex 6: Project Sites

Under FUNAE off-grid connections installations, the following project sites shown in the table below are included in the program and the red-line polygons represents the area of expansion with use of more efficient solar panels requiring less space. These areas are already fenced and free of any encumbrance, temporary or permanent occupation. Similarly, the Medium Voltage (MV) and Low Voltage (LV) will be place alongside the rural roads and is not expected to lead to economic or physical displacement.

Province	Power plant	Installed capacity (kWp)	Additional capacity (kwp)	Total capacity (kwp)	Installed storage (kwh)	Added storage capacity (kwh)	Total storage capacity (kwh)	MV network added (km)	LV Network added (km)	New connections
Niassa	Lipusia	5	60	65	67.2	250	317.2	3	7.5	150
Niassa	Mbamba	5	100	105	67.2	517.2	584.4	3	8	200
Zambezia	Pinda	5	250	255	67.2	1000	1067.2	18	20	800
Total		15	410	425	201.6	1767.2	1968.8	24	35.5	1150





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