

Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 10-Dec-2020 | Report No: PIDC30885



BASIC INFORMATION

A. Basic Project Data

Country Mozambique	Project ID P175295	Parent Project ID (if any)	Project Name Sustainable Energy and Broadband Access in Rural Mozambique Project (P175295)
Region AFRICA EAST	Estimated Appraisal Date Jul 12, 2021	Estimated Board Date Oct 06, 2021	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Economy and Finance	Implementing Agency Ministry of Mineral Resources and Energy (MIREME), Fundo de Energia (FUNAE), Ministry of Transport and Communications (MTC), Electricidade de Moçambique (EdM)	

Proposed Development Objective(s)

The project development objective is to increase access to energy and broadband services and strengthen the financial performance of the power sector.

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	205.00
Total Financing	205.00
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	200.00
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IDA Grant	200.00
Non-World Bank Group Financing	
Trust Funds	5.00
Energy Sector Management Assistance Program	5.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Mozambique experienced a long period of sustained growth which was disrupted in 2016 by the hidden debt crisis and worsened by the effects of cyclones Idai and Kenneth in 2019.** The disclosure of US\$ 1.3 billion of previously undisclosed commercial debt contracted by the government¹, undermined investors' confidence and more than halved the average rate of growth from 8.4 percent between 2003 and 2015 to 3.3 percent between 2016 and 2019. The economic situation further deteriorated in 2019 after tropical cyclones Idai and Kenneth caused massive damage to infrastructure and livelihoods². The Government of Mozambique (GoM) responded to the economic slowdown and debt accumulation through a combination of governance and fiscal measures.

2. **The COVID-19 health crisis hit Mozambique at a weak economic moment, dimming the prospects of a nascent economic recovery.** The pandemic is impacting economic by reducing demand for certain goods and services. This reduced demand, together with the decrease in commodity prices are slowing the pace of investment in gas and coal. Growth is expected to decline to 1.3 percent in 2020, down from a pre-COVID forecast of 4.3 percent. The GoM has taken several steps to increase health spending, strengthen social protection to the most vulnerable, and support micro, small, and medium-sized businesses to mitigate the impact of the pandemic and preserve macroeconomic stability. However, Mozambique is also expected to experience large external and fiscal financing gaps in 2020 and 2021. It is likely that livelihoods, food security and nutrition will worsen as incomes are affected by the slowdown in economic activity.

3. Additionally, escalating conflicts in parts of the gas-rich province of Cabo-Delgado is further stressing the economic development with an increase in the number of internally displaced persons (IDPs). The difficult situation that provinces in the north of Mozambique already face due to high poverty incidence and limited access to basic services has

¹ Equal to about 10 percent of GDP in non-concessional debt and was accumulated between 2009 and 2014 by issuing guarantees to statecontrolled companies

² Idai estimated losses and damages total at about US\$ 2.8bn



been exacerbated in recent years due to attacks from insurgency groups to the civil population in Cabo Delgado. Since the conflict started in 2016, the GOM estimates that around 450,000 people have been displaced in Cabo Delgado, within the province including the city of Pemba, while others have crossed the provincial boundary into Nampula. The flow of IDPs is likely to continue to expand to Nampula and other provinces in the north including Niassa, and Zambezia, putting additional pressure to the limited infrastructure available.

Sectoral and Institutional Context

4. **GoM has pursued two key objectives for its power sector: (i) to achieve universal access to electricity by 2030 and (ii) to become a regional energy hub.** To meet these objectives, GoM established several key actions – such as improving operational and financial efficiency and sustainability of the sector; ensuring sufficient investment, commensurate with the sector's objectives; sustaining electricity tariffs at cost recovery levels; strengthening investment planning and ensuring efficient financing and implementation of investment projects; and developing policies for the structural and institutional evolution of the domestic electricity market.

5. **GoM has adopted an ambitious program to connect all Mozambicans to electricity by 2030.** The GoM launched the National Electrification Strategy (NES) and launched a comprehensive national electrification program, *Programa Nacional de Energia para Todos* (Electricity for All National Program), to balance the sector financial sustainability with the consumer affordability. To meet the target of universal access by 2030, nearly 700,000 households will need to be provided access to electricity every year through a mix of on-grid and off-grid solutions³. This represents a substantial scale-up compared to what EDM has achieved on average in the last 5 years (annual connections have increased from 42,000 connections in 2016 to 260,000 connections in 2018) requiring approximately US\$540 million per annum to finance the NES. The World Bank approved the Mozambique Energy for All (Pro-Energia) project (P165453)⁴ in 2019 to contribute to the implementation of the first phase of the NES, by financing on-grid and off-grid infrastructure.

Challenges to meeting GoM's key objectives

6. **Energy access in Mozambique remains low with significant rural-urban disparities.** The rural electricity access rate is estimated at about eight percent, against 72 percent in urban areas. Only 17 percent of the population in the northern provinces have access to electricity (about 14 million people living without modern energy solutions. Energy for cooking in Mozambique is currently dominated by traditional stoves and fuels as in most other Sub-Saharan African countries. Mozambique had only 4 percent of clean cooking access in 2018 (12% urban areas and 0% rural areas); costing the country US\$10.1 billion each year, driven by adverse impacts on gender (US\$5.8 billion from women lost productivity), health (US\$2.7 billion), and climate (US\$1.6 billion)⁵. A number of factors must be overcome to expand access to modern energy services in Mozambique.

7. **First, the fragile financial health of the national utility EDM compromises its ability to fund capex related to access expansion.** This is due to a combination of: (a) the macroeconomic crisis exacerbating EDM's exposure to foreign currency liabilities in 2015–2016; (b) lack of timely tariff adjustments that were not recovering the cost of power purchases and operations; (c) capital expenditures for rehabilitation of the network and increasing energy access not being adequately funded; (d) adverse conditions in the regional power market (decrease in export prices); (e) limited supply

³ Based on medium scenario population growth projections from the United Nations (population.un.org) and an average household size of 4.4.

⁴ The US \$82 million Mozambique Energy for All (Pro-Energia) project has leveraged an additional US \$69 million to finance around 300,000 on-grid and off-grid connections.

⁵ Source: ESMAP State of Access to Modern Energy Cooking Services Database. Washington, DC: World Bank; 2020.



from HCB due to hydrological constraints; (f) high electricity losses estimated at around 30 percent in 2018 and 2019; (g) difficulties in collecting payments from a few external customers; and (h) weak governance of the utility. The effects of the COVID-19 pandemic compounded the financial strain on EDM, and the utility foresees losses of over US\$130 million in 2020 alone.

8. **Second, the off-grid market is nascent and implementation arrangements to scale-up need to be refined.** In the past five years, emerging private sector players have started providing high-quality certified solar products with more flexible payment schemes such as pay-as-you-go (PAYGO) model but progress has been slow for various reasons including: i) limited investment capacity of enterprises; ii) affordability for the poorest population (22 percent of households can afford SHSs without financing as they currently spend over US \$7.50 on lighting and power⁶ – the average monthly SHSs instalment); and iii) poor consumer perception about SHSs because of wide variations in the quality of products on the market (only 30 percent of the households prefer an SHS over an EDM connection). ⁷ The clean stoves market faces similar barriers to the standalone off-grid solar solutions, including high custom duty and VAT which affect affordability of systems. Alternative energy for cooking, such as LPG and ethanol are also emerging, but have so far served primarily urban middle to high income users due to their costs and limited distribution.

9. Third, access to broadband, which can enable inclusive service delivery, is limited. While fast growing, the broadband sector in Mozambique is one of the least developed compared to other countries in the world, with only 17.5% of the population using the internet in 2017.⁸ Overall internet penetration is lower than average for the Southern Africa region (29.1%) and Sub-Saharan Africa (SSA) (19.9%). High deployment costs due to the difficult terrain and lack of supporting infrastructure including reliable electricity, coupled with low commercial returns, render services not commercially viable on their own in many rural areas.

Access to broadband can enhance energy services delivery but, similar to electricity, low broadband access rates create a barrier to the government's goals of improving service delivery, diversifying the economy and creating jobs

10. While fast growing, the broadband sector in Mozambique is one of the least developed in the world, with only 17.5% of the population using the internet in 2017.⁹ Overall internet penetration is lower than average for the Southern Africa region (29.1%) and Sub-Saharan Africa (SSA) (19.9%). While Mozambique's international connectivity is relatively well developed, with multiple connections, including two undersea international links (SEACOM and EASSy)¹⁰, middle-mile and last-mile connectivity require urgent and significant investments. Backbone investment so far has focused primarily on major urban areas and on inter-city routes, and fiber reach remains limited in the rest of the country. Recent estimates by IFC suggested that 3G technologies or higher reached only around 30 percent of Mozambique's population in 2019 and the Northern provinces in particular are underserved. Consequently, important digital divides remain along urban-rural lines, with 24% of the urban population using the internet, against only 4% in rural areas.¹¹

⁶ Total amount by unelectrified households on torch batteries, candles and kerosene, mobile charging and transport to obtain these services.

⁷ USAID SAEP Mozambique Consumer Affordability Insights February 2020. SAEP designed this survey to be representative of target markets of SHS companies, so results are not expected to reflect or be a source of national statistics. The sample covers 91 percent of off-grid rural households, but not in the very low density and deep rural areas. It does not include Niassa and Maputo provinces.

⁸ International Telecommunication Union (ITU). 2017.

⁹ International Telecommunication Union (ITU). 2017.

¹⁰ A third undersea cable is underway (Liquid Sea), and possibly a fourth (Simba/Facebook), with a landing point in the north (Nacala).

¹¹ After Access 2018: A demand-side view of mobile Internet from 10 African countries, Research ICT Africa, April 2019.



11. Important market failures, particularly in rural areas, and lack of infrastructure sharing are limiting factors to the expansion of digital connectivity¹². High deployment costs due to the difficult terrain and lack of supporting infrastructure including reliable electricity, coupled with low commercial returns, render services not commercially viable on their own in many rural areas. Moreover, operators are facing revenue declines attributable to pricing pressure on voice services which has not been offset by growth in data revenue as in more mature markets. Low margins in turn are leading to reduced investments and roll-out of infrastructure. These effects have been compounded by the macro-economic situation that forced operators to slow down or postpone their investment plans for network expansion.

GoM is considering a comprehensive suite of actions to support a digitally enabled and financially sustainable green recovery process

12. The GoM is implementing a Financial Strengthening Plan (FSP) to improve the financial health of the energy sector. The plan includes (a) increase of electricity tariffs followed by adjustments in line with domestic inflation and changes in electricity purchase costs; (b) improvement of EDM's operational efficiency through reduction of losses; (c) ensuring of sustainable funding for electrification; and (d) recapitalization of EDM's debt in line with the recommendations of the Cost of Service Study (50 percent recapitalization). Delaying improvements in EDM's performance would compromise its ability to secure cost-effective financing and private sector investment and will risk an energy supply crisis, as experienced as recently as 2015, which would require contracting costly short-term emergency generation (or imports), with devastating financial impacts for the sector and the Mozambique's economy. The implementation of the FSP is needed for EDM to meet its payment obligations to suppliers without which private sector participation in the sector will be stifled. In line with the FSP, GoM mandated the development of a loss reduction plan (LRP) to reduce commercial losses in EDM as a low-cost measure to improve cash flow. The LRP addresses both technical and governance issues in EDM and was approved by its Board. Implementation of the FSP is underway with recent changes in the management of EDM.

13. **The GoM is piloting off-grid solutions to complement expansion of the grid.** Supported by the World Bank under the ProEnergia Project, GoM through FUNAE is streamlining programs to expand off-grid access to electricity and improved cooking solutions. The program will provide grants and working capital to mini-grid and off-grid solar companies to reach far-flung areas in Mozambique. In the past two years, emerging private sector players have started providing high-quality certified solar products with more flexible payment schemes such as pay-as-you-go (PAYGO) model enabled through digital payments. These SHS distributors are also exploring the inclusion of energy efficient stoves as a part of their product portfolio beyond SHS to offer consumers clean energy solutions.

14. The GoM has also been gradually strengthening the enabling environment in the telecommunications and broadband markets in an effort to drive competition and investment while simultaneously increasing efforts to address broadband access gaps. Since 1992, the regulatory environment has progressively become more enabling due to steps taken toward increased market liberalization, unified licensing, infrastructure sharing and open access. A new Telecommunications Act in 2016 (Law 4/2016) established safeguards against anti-competitive behavior to foster fair competition and spur investments. The Government has also made efforts to expand ICT services to rural areas and redress market failures through a Universal Access Service Fund (USAF) since 2007. Funded by operators' contributions, the USAF aims to implement projects to expand voice/SMS and internet access in under-served areas. The fund is in the process of drafting its new strategy, to reflect a more holistic approach to the digital economy, tackling both supply side

¹² World Bank, Mozambique Digital Economy Diagnostic, 2019.



infrastructure constraints and demand side barriers such as digital skills, affordability of handsets, and local content development. The pace of investments supported by the fund has recently increased.

The proposed project harnesses the synergies of energy and digital to support GoM's objectives to connect remote Mozambicans to economic opportunities in a financially sustainable manner

15. The proposed project aims to enhance the operations and utilization of technology by EDM to reach remote and fragile areas. Electric utilities need good quality communication services to efficiently carry out key their core activities for delivery of electricity service to their customers. Customers must be able to easily reach contact center of the utility via phone, SMS, and internet services in the event of outages or other incidents in electricity supply. Mobile phone payments also make it much quicker and easier for customers to pay their bills, especially in rural areas. Electrification projects to be carried out by EDM and any other solar provider should therefore consider incorporating mobile phone services where applicable as an important enabler of electrification, understood as sustainable delivery of good quality electricity service to consumers.

16. The proposed project will also unlock innovative, lower cost business models for delivery of off grid energy solutions. A number of private-sector home solar system and mini grid providers are taking advantage of these technologies to enable remote monitoring and operation of equipment, remote payments, and pay-as-you go (PAYGO) consumer financing. They are increasingly leveraging customer payment data to inform offerings of additional services and credit. There is also opportunity for sharing of agent networks for sales and repairs between telcos and off-grid solar companies and use of mobile towers as an anchor tenant for mini-grid providers. In line with the recommendations of the forthcoming WBG off-grid solar policy toolkit, the proposed project will support increased collaboration across ministries and regulators responsible for energy, broadband and digital financial services access to align and coordinate strategies.

17. To maximize the benefits of these services, the proposed project will further explore synergies between energy and digital to facilitate the deployment of broadband access. Digital devices need constant and reliable electricity, and the increasing demand for mobile network coverage in rural and remote areas requires electricity services to reach beyond the traditional grid. On the other hand, the expansion of broadband presents an opportunity to extend electricity services. Likewise, broadband can create opportunities for the development of innovative services, including digital financial services, and the digitalization of sectors like health, education and agriculture, which could lead to greater inclusion and translate into economic returns. The project aims to expand rural broadband coverage in the areas targeted for electrification under this project and under ProEnergia, with an emphasis on the northern provinces.

18. The proposed project is an important response to post-COVID economy recovery process. As an engine for economic growth, investments in the energy sector will be an important component of the resilient green COVID recovery process in Mozambique. The pandemic also highlighted the importance of closing the digital divide and using digital technologies across sectors and policy areas. Accelerating the deployment of new electricity connections and broadband infrastructure will be key in supporting IDPs and host communities tackle the challenges associated to the conflict situation. Rapid implementation of the FSP is therefore critical to avoid a snowball effect potentially leading to an exponential increase in debt from these crises and eroding EDMs credibility as a creditworthy off-taker.

19. The proposed project will also establish gender informed mechanisms to reach vulnerable population in rural areas. Access to electricity and clean cooking solutions will provide a base for ensuring key necessities around safety, health care, education, and communication, among others are met. When coordinated with the expansion of broadband



services, energy access programs can extract additional benefits through the capabilities enabled by ICT services. As women are more likely to lack education and are often unable to secure sustainable sources of income, such programs also need to be gender-informed to ensure women are positioned to reap the benefits of connectivity to electricity and ICT services to enhance their well-being.

Relationship to CPF

20. **The proposed operation is aligned with the World Bank's ongoing Country Partnership Framework (CPF) for FY17–FY21.**¹³ The project will directly support, under Focus Area 1 ("Promoting Diversified Growth and Enhanced Productivity"), the strategic objective of "Expanding Access and Improved Reliability of Electricity" by helping increase the delivery of electricity services through grid extension and provision of off-grid solutions throughout the country and improving EDM's operational efficiency to enhance energy service reliability. The activities under the proposed project provide a continuation of two ongoing projects (ProEnergia – P165453 and PERIP – P158249) that were explicitly included in the CPF as operations that support the above-mentioned objective. Increasing access to broadband is a fundamental enabler of nearly all CPF objectives – unlocking opportunities to achieve them in innovative and more efficient ways.

21. **The Project would also help meet the Bank's twin goals of poverty reduction and shared prosperity** and is aligned with Sustainable Development Goal 7 (SDG7), Sustainable Development Goal 9 (SDG9), Sustainable Energy for All (SE4ALL), the WB Energy Sector Directions Paper (ESDP), and the WBG Digital Economy for Africa (DE4A) Initiative:¹⁴

- Providing electricity connections and clean cooking solutions will increase access to modern energy services for poor households in rural and urban areas enabling opportunities to study and work, contributing to raising quality of life and improving safety at night, stimulating off-farm activity and economic interaction, and supporting the digital economy development agenda. Increased access to improved energy will reduce GHG emissions including reduced use of unsustainable biomass for cooking, improve health especially for women and children by reducing household air pollution, and reduce women's time poverty to address gender disparity.
- Similarly, developing ICT infrastructure and increasing access to broadband has great potential to accelerate Mozambique's socioeconomic development.¹⁵ In particular, it enables entrepreneurship, with businesses and individuals using fast internet to create new applications and services in areas such as e-commerce and financial services. Likewise, it allows the public sector to deliver services to citizens and businesses more effectively and more inclusively, including in sectors critical to inclusive growth, such as education, health and agriculture.

22. The project is also aligned with the thematic pillars of the WBG crisis recovery strategy of protecting poor and vulnerable people from the impact of the economic and social crisis; saving livelihoods, preserving jobs, and ensuring more sustainable business growth and job creation; and strengthening policies, institutions and investments for resilient, inclusive and sustainable recovery by Rebuilding Better¹⁶.

¹³ International Development Association, International Finance Corporation, and Multilateral Investment Guarantee Agency: Country Partnership Framework for the Republic of Mozambique for the Period FY17–FY21, Report No. 104733-MZ March 30, 2017.

¹⁴ Several other SDGs, such as financial inclusion, universal identification, efficient government services, social protection, education inclusion and quality, require intensive use of digital technologies.

¹⁵ An extensive body of research indeed confirms the impact of increased investment in broadband on economic growth. World Bank research estimates that a 10% increase in broadband penetration in developing countries is associated with a 1.4% increase in GDP. Kim, Yongsoo; Kelly, Tim; Raja, Siddhartha. 2010. Building Broadband: Strategies and Policies for the Developing World. World Bank.

¹⁶ Saving Lives, Scaling-up Impact and Getting Back on Track: World Bank Group COVID-19 Crisis Response Approach Paper (June 2020)



C. Proposed Development Objective(s)

23. The project development objective is to increase access to energy and broadband services and strengthen the financial performance of the power sector.

Key Results (From PCN)

24. The indicators that will be used to measure achievement of the PDO are:

- People provided with new or improved electricity services
- People provided with new or improved broadband services
- People provided with new or improved access to clean cooking solutions
- Cash-recovery index (billing index x collection index)

D. Concept Description

25. At its core, the project harnesses digital technologies and least cost design elements to connect households, enterprises, hospitals, schools to energy and broadband services; thus enabling new economic, health, and educational opportunities in some of the most fragile locations. The project adopts a coordinated approach to capture synergies in the mutual deployment of energy and ICT infrastructure and services.

Component 1: Peri-urban and Rural Electrification (US \$85 million)

26. Building on the ongoing activities under the WB-financed Mozambique Energy for All (ProEnergia) Project (P165453), this component will provide access to electricity to over 1,000,000 beneficiaries primarily through grid densification and expansion. This component will finance the design, procurement of materials and construction works required to electrify all participating households, businesses and public facilities in the project target areas with high population density (in peri-urban and rural areas). The project is at national level but focusing on areas where access to electricity is low, like in the northern provinces of Cabo Delgado, Nampula, Niassa and Zambezia where an added strain on current infrastructure is expected due to flows of displaced people to urban and peri-urban areas close to Cabo Delgado province's borders and around the district capitals of these four provinces.

Component 2: Improvement of EDM financial performance (US \$60 million)

27. This component will improve financial performance of EDM and strengthen structural and institutional framework of the sector. This component will comprise the following two pillars: a) improve electricity sector financial sustainability through measures to enhance EDM's financial and operational performance; and b) enhance sector governance and institutional capacity by supporting the government's policy positions being proposed through a revision of the Electricity Law. It will also aim to capture opportunities to better leverage EDM's fiber-optic network and utilize its transmission infrastructure to support broadband market development while generating additional revenue.

Component 3: Off-grid energy and broadband service delivery (US \$45 million)

28. This component will support electrification of areas in Mozambique where off-grid solutions are the least-cost or most-viable solutions due to (i) high costs of the infrastructure required to reach customers through the grid, or (ii) difficulty to provide grid solutions due to risks related to the escalating conflict.



Sub-component 3a: Off-Grid solutions for electricity access (US \$25 million)

29. This sub-component will expand availability and affordability of off-grid solar systems for households, public facilities, and resettlement camps for lighting and productive uses with a particular focus on deep rural and other underserved areas in the Northern provinces. Given the current conflict situation in the north and the risk it represents for contractors and infrastructure, it is necessary to provide alternative and transitional solutions to reach populations in need of urgent energy access solutions, including internally displaced people (IDPs). Where least-cost, this sub-component will also complement the mini-grid activities being implemented under the ProEnergia Project.

Sub-component 3b: Broadband Access for Underserved Areas and Target Groups (US \$15 million)

30. The aim of this sub-component is to improve access to affordable broadband connectivity for public institutions, private enterprises and citizens in underserved areas of Mozambique including the Northern Provinces and resettlement camps. It will include development of an operational plan corresponding to the National Broadband Strategy and interventions to encourage private sector broadband infrastructure and services deployment in geographical areas which do not offer sufficient short to medium term commercial returns, or are considered too risky to attract investment from the private sector alone. Interventions may include supply or demand side subsidies, long term connectivity services contracts and/or regulatory reforms to reduce the costs and time for rural infrastructure deployments, such as reforms to encourage and facilitate infrastructure sharing and open access to critical infrastructure.

Sub-component 3c: Clean Cooking Solutions (US \$5 million and US\$5 million from Clean Cooking Fund)

31. This sub-component will set up a clean cooking RBF window to subsidize purchases of clean cooking solutions (CCS) by eligible households to address energy and health challenges associated with the use of traditional stoves for cooking, benefiting women in particular who are disproportionately exposed to these risks. The design and implementation structure of the clean cooking RBF window will build on the off-grid RBF Facility currently being developed under ProEnergia to provide incentives to private sector players and eligible households to increase availability and adoption of CCS. Subcomponent 3c is expected to be co-financed by the Clean Cooking Fund (CCF) of the World Bank's ESMAP.

Component 4: Technical Assistance and Implementation Support (US \$10 million)

32. This component will finance capacity building, sector studies, implementation support for the implementing agencies (expected to be EDM, MIREME, FUNAE, and MCT), and verification of PBCs. The capacity of FUNAE will need to be substantially strengthened for implementation as its track record has been uneven.

Legal Operational PoliciesTriggered?Projects on International Waterways OP 7.50NoProjects in Disputed Areas OP 7.60No

Summary of Screening of Environmental and Social Risks and Impacts



Environment and Social Risk is classified as Substantial to reflect the risks posed by the security concerns in parts of the project's target areas.

Key environmental risks associated with the proposed project activities include: disposal and management of waste, occupational health and safety of workers, and community health and safety. While impacts from the operation of renewable energy for off-grid solutions have a positive impact on climate change through the reduction of greenhouse gas emissions, there are potential environmental and social risks and impacts related to the storage and final disposal of used batteries containing hazardous waste; and disposal/recycling of solar panels. Other adverse impacts are related to medium/small civil works in rural areas in the context of natural habitats close to conservation areas and coastal zones, the movement of machines and equipment, transportation and disposal of raw materials, erosion on internal areas or of coastal zones, increased dust and noise, among others.

Key social risks include: a) ensuring security for project operations and associated workers; and b) sexual exploitation and abuse, sexual harassment (SEA/H), and other forms of gender-based violence during civil works particularly in refugee/resettlement camps in Nampula and Cabo Delgado. Other impacts are related to potential economic and physical displacement of PAPs as a result of expansion and increasing access to grid-connection electricity services and potential exclusion of vulnerable groups.

Mitigation: All social and environmental risk mitigation measures will be detailed in the appropriate ESF instruments.

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APPROVAL

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