Meeting of the Board
25 – 28 March 2026
Songdo, Incheon, Republic of Korea
Provisional agenda item 10

GCF/B.44/02/Add.06
4 March 2026

Consideration of funding proposals – Addendum VI

Funding proposal package for FP290

Summary

This addendum contains the following seven parts:

a) A funding proposal titled "PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy";
b) No-objection letter issued by the national designated authority(ies) or focal point(s);
c) Environmental and social report(s) disclosure;
d) Secretariat's assessment;
e) Independent Technical Advisory Panel's assessment;
f) Response from the accredited entity to the independent Technical Advisory Panel's assessment; and
g) Gender documentation.

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Funding Proposal

Project/Programme title:	**PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy**
Country(ies):	Mozambique
Accredited Entity:	Enabel
Date of first submission:	*2025/07/16*
Date of current submission	*2026/02/20*
Version number	*V.006]*

GREEN CLIMATE FUND

Contents

Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the GCF Information Disclosure Policy, project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"FP- [Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]"

A. PROJECT/PROGRAMME SUMMARY

A.1. Project or programme	Project	**A.2. Public or private sector**	Public
A.3. Request for Proposals (RFP)	Not applicable		

A.4. Result area(s)

	GCF contribution	Co-financers' contribution[1]
Mitigation total	75 %	40 %
☒ Energy generation and access	75 %	40 %
☐ Low-emission transport		
Buildings, cities, industries and appliances		
Forestry and land use		
Adaptation total	25 %	60 %
☒ Most vulnerable people and communities	25 %	60 %
☐ Health and well-being, and food and water security		
Infrastructure and built environment		
Ecosystems and ecosystem services		

			Indicate total number of direct and indirect beneficiaries	
A.5. Expected mitigation outcome *(Core indicator 1: GHG emissions reduced, avoided or removed / sequestered)*	7-year implementation period: 63,393 tCO_2eq 25-year accounting period: 399,131 tCO_2eq	**A.6. Expected adaptation outcome** *(Core indicator 2: direct and indirect beneficiaries reached)*	66,200 direct *0,18% of total population*	158,800 indirect *0.44% of total population*

A.7. Total financing (GCF + co-finance[2])	42.050 million Euros	**A.9. Project size**	Small (Upto USD 50 million)
A.8. Total GCF funding requested	37.415 million Euros		

[1] Co-financer's contribution means the financial resources required, whether Public Finance or Private Finance, in addition to the GCF contribution (i.e. GCF financial resources requested by the Accredited Entity) to implement the project or programme described in the funding proposal.
[2] Refer to the Policy of Co-financing of the GCF.

A.10. Financial instrument(s) requested for the GCF funding	*Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.* ☒ Grant 37.415 million EUR ☐ Loan Enter number ☐ Guarantee Enter number ☐ Equity Enter number ☐ Results-based payment Enter number		
A.11. Implementation period	7 years	**A.12. Total lifespan**	25 years
A.13. Expected date of AE internal approval	*12/10/2025* *March 2026*	**A.14. ESS category**	B
A.15. Has this FP been submitted as a CN before?	Yes ☒ No ☐	**A.16. Has Readiness or PPF support been used to prepare this FP?**	Yes ☐ No ☒
A.17. Is this FP included in the entity work programme?	Yes ☒ No ☐	**A.18. Is this FP included in the country programme?**	Yes ☐ No ☒
A.19. Complementarity and coherence	Yes ☒ No ☐		
A.20. Executing Entity information	Two Executing Entities have been identified for the project. **Enabel** (also the AE) – the Belgian agency for international cooperation and implements Belgium's international development cooperation policy. It has the exclusive right to execute public service tasks in the field of direct bilateral cooperation with Belgian partner countries, inside and outside the Belgian territory. **FUNAE –** Mozambique's National Energy Fund, established by Decree No. 24/97 of 22 July 1997, as amended and partly replaced by Decree No. 101/2020 of 12 November 2020. Its legal mandate includes the design, implementation and development of energy projects and services in rural areas. It is registered in Mozambican law as a public fund.		

A.21. Executive summary (max. 750 words, approximately 1.5 pages)

Implementing 30–40 solar-powered mini-grids with productive use of renewable energy (PURE), providing climate-resilient energy access to underserved rural communities in Mozambique

1. Mozambique is among the world's most climate-vulnerable countries, facing increasing exposure to floods, droughts, tropical cyclones, and temperature extremes. These climate hazards devastate rural populations, who comprise over 60% of the country's inhabitants and are heavily dependent on rain-fed agriculture and unsustainable biomass for energy. Energy poverty remains widespread—only ~9% of rural households have access to electricity[3]—limiting their capacity to adapt to climate change, diversify livelihoods, or access critical services. Mozambique's energy system is also highly vulnerable: around 78% of grid electricity is supplied by hydropower, which is increasingly threatened by climate-induced drought and water variability. Under drying scenarios, hydropower output could fall by 10–20%,

[3] https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS?locations=MZ

new hydropower projects may achieve only 70–80% of planned capacity, and electricity generation costs could rise by 20–30%. Without the proposed interventions, climate change will deepen poverty, undermine food security, and erode resilience in Mozambique's most vulnerable communities, while the country also risks locking in fossil fuel use and missing a critical opportunity to catalyze resilient, low-emission development (with current estimated economic losses of 1–2% of GDP annually due to limited access to reliable power, and USD 400–450 million per year from climate-related disasters[4,5]).

2. This project proposes an integrated, climate-resilient approach to rural electrification that supports both mitigation and adaptation goals. It will deploy 30-40 solar-powered mini-grids across underserved communities and enable the uptake of PURE technologies that strengthen rural livelihoods and reduce climate vulnerability. The project is structured around four interrelated components: (i) institutional strengthening and capacity support of FUNAE, Mozambique's national energy fund; (ii) development of a pipeline of investment-ready mini-grid and PURE projects; (iii) construction and commissioning of mini-grids by competitively selected private developers; and (iv) delivery of Results-Based Financing (RBF) incentives to PURE developers to catalyze the uptake of income-generating, climate-resilient equipment (e.g. solar-powered irrigation, refrigeration, milling, cold storage, etc).

3. The project will deliver measurable climate benefits. On the mitigation side, it is expected to result in the avoidance of 399,131.26 tCO_2e over its 25-year lifetime by replacing diesel generation, reaching 66,200 direct beneficiaries. On the adaptation side, it will reach at least 158,800 indirect beneficiaries, improving their resilience through diversified income sources, improved food and water security, and enhanced access to health and education services. The project will support the deployment of approximately 300-400 climate-smart PURE solutions and contribute to more stable and resilient rural value chains.

4. In addition, the project will transform the enabling environment for rural electrification and climate finance in Mozambique. By strengthening FUNAE's fiduciary, managerial, and technical capacities, the project will position it to become an effective national entity for managing and mobilizing climate finance. It will also operationalize Mozambique's new mini-grid regulatory framework by establishing competitive procurement processes, streamlining licensing, and ensuring regulatory compliance across project sites.

5. The project adopts a performance-based, market-driven approach to ensure financial sustainability and long-term impact. Mini-grid developers will be required to co-finance a % of capital costs, while PURE incentives will be determined in function of market status and adapted to evolving market conditions. These financial instruments are designed to de-risk early-stage investments, promote market entry, and gradually reduce reliance on concessional finance

6. The project addresses key structural barriers to adaptation and mitigation in Mozambique by aligning renewable energy deployment with climate-resilient economic development. The project forms an essential part of a government-led Country Platform, a coordination mechanism that brings together public institutions, development partners, and financiers to streamline financing flows and harmonize technical support—unlocking a new level of policy alignment and national transformation. It provides a scalable, country-owned model for inclusive green growth and will contribute directly to the country's updated NDC, Energy Transition Strategy, and off-grid electrification targets.

[4] World Bank & Global Facility for Disaster Reduction and Recovery (GFDRR). 2019. *Disaster Risk Profile: Mozambique.* Washington, DC: The World Bank. Available at: https://documents1.worldbank.org/curated/en/845611574234249644/pdf/Disaster-Risk-Profile-Mozambique.pdf

[5] Foster, V., & Briceño-Garmendia, C. (Eds.). 2010. *Africa's Power Infrastructure: Investment, Integration, Efficiency.* Washington, DC: The World Bank. ISBN 978-0-8213-8455-8. Available at: Africas-Power-Infrastructure-2011.pdf

B. PROJECT/PROGRAMME INFORMATION

B.1. Climate context (max. 1000 words, approximately 2 pages)

Despite a high labor participation, Mozambique's rural economic growth trajectory is undermined by weak value chains that aggravate vulnerable employment and a very weak fiscal position that constrains government investment

7. Mozambique is situated in south-eastern Africa, bordered by the Indian Ocean to the east, and sharing land borders with Tanzania to the north, Malawi and Zambia to the northwest, Zimbabwe and Eswatini to the west, and South Africa to the south[6]. It is a low-income country, with a Gross Domestic Product (GDP) of US$21 billion in 2023, translating to a GDP per capita of US$623. Mozambique is currently assessed as being in high risk of debt distress and lacks fiscal space for new sovereign borrowing, with a long-term issuer rating of 'CCC+' from S&P Global[7]. Despite a labor force participation rate of 78.4% among individuals aged 15–64, the country remains among the poorest globally. The poverty rate, based on the US$2.15/day threshold[8], rose from 64.6% in 2014 to 74.4% in 2019[9]. Women make up a substantial share of the labor force, with a labor force participation rate of 77.2% in 2022, compared to 80% for men[10]. However, they continue to be disproportionately engaged in vulnerable employment[11] — 92.3% of working women are in such roles, compared with 72.4% of men.

8. Climate change-aggravated events are estimated to be causing Mozambique to bear economic losses. While the government lacks precise data on climate-related economic losses, analyses suggest substantial impacts. The World Bank estimates indicate that climate shocks and security risks could reduce GDP growth by 1.5% between 2023 and 2025. Longer-term projections indicate potential GDP losses of up to 13% by 2050, particularly affecting agriculture, roads, hydropower, and coastal areas exposed to sea-level rise and cyclones. Droughts and floods alone may cost 1.1% of GDP annually. Mozambique's low-lying coastal regions, home to 60% of the population, are especially vulnerable. Rising sea levels and more frequent extreme weather could displace up to 916,000 people by 2040, with Zambezia, Nampula, Sofala, and Maputo provinces facing the highest damages[12].

9. Mozambique has a predominantly tropical savannah (Aw) climate, with localized warm semi-arid (BSh) conditions in the south and interior. It experiences two distinct seasons: a hot, wet season from October to April, and a cooler, dry season from May to September. Coastal areas remain hot and humid year-round, while the interior sees milder conditions during the dry season[13]. Average maximum temperatures in Mozambique range from 25 to 30°C, with an annual mean of 24.79°C in 2023 (Figure 1). This figure shows a relatively stable climate through much of the early 20th century that has shifted toward a persistent and unprecedented increase in average temperatures, climbing by over 1°C in just a few decades. This steady upward trend highlights Mozambique's vulnerability to heat-related stresses with implications for energy demand and agricultural needs. The highest temperatures are recorded along the coast, southern Tete, and western Gaza province. Both temperature and rainfall vary with elevation, with highland areas receiving more precipitation and having slightly lower average temperatures than low-

[6] Mozambique's Second National Communication 2022. Available online.
[7] International Monetary Fund. 2024. *Republic of Mozambique: 2023 Article IV Consultation—Press Release; Staff Report; and Statement by the Executive Director for Mozambique.* IMF Country Report No. 24/8. Washington, DC: International Monetary Fund. Available at: https://www.elibrary.imf.org/view/journals/002/2024/008/article-A002-en.xml
[8] World Bank. 2022. Poverty and Inequality Platform: Global Poverty Line Update. Washington, DC: World Bank. Available: Fact Sheet: An Adjustment to Global Poverty Lines
[9] UN Women. 2024. Gender Pay Gap and Labour Market Inequalities in Mozambique. Available here.
[10] https://genderdata.worldbank.org/en/home?estimate=National
[11] "Vulnerable employment" refers to work lacking formal contracts, social protection, or job security—typically including own-account workers and unpaid family labour. It reflects higher economic insecurity and limited access to decent working conditions, especially in informal or subsistence sectors.
[12] https://africanclimatefoundation.org/wp-content/uploads/2023/11/800834-AFC-Mozambique-country-note-05A.pdf
[13] Mozambique's Second National Communication 2022. Available online.

lying regions[14]. Precipitation in Mozambique varies along a north-south gradient, with higher rainfall along the coast[15]. The north receives the most rain — 800 to 1,200 mm annually, reaching 1,500 mm in highland areas like Zambezia, Niassa, and Gorongosa. Central regions and the coastal belt receive 800 to 1,000 mm, while interior Tete sees as little as 600 mm. The south is driest, averaging under 800 mm, and dropping to around 300 mm in Pafuri, Gaza province[16]. Rainfall in Mozambique — particularly in the central and southern regions — varies significantly between years, largely due to the ENSO cycle: El Niño events often cause warmer, drier conditions and severe droughts in the south, while La Niña brings cooler, wetter seasons, sometimes with above-average rainfall in the north[17,18].

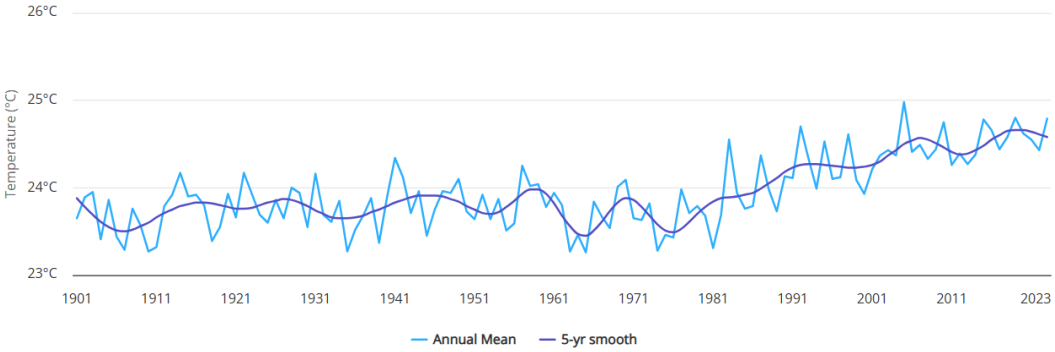


Figure 1. Observed annual average mean surface air temperature, Mozambique, 1901-2023[19].

Mozambique faces rising temperatures, declining and variable rainfall, and frequent extreme events such as droughts, cyclones, and floods, which already impact livelihoods, food security, and energy systems

Temperature and precipitation trends

10. Mozambique has experienced clear climatic shifts from 1951 to 2023, with average surface air temperatures rising by 1.1°C from 1951 to 2020, accelerating to 1.4°C from 1971 to 2020, and reaching roughly 1.7°C from 1991 to 2020 (Figure 2)[20]. Over the same period, annual precipitation declined from around 1,000 mm to 850 mm, with growing regional disparities in recent decades (1991–2020) (Figure 3)[21]. While northern provinces like Cabo Delgado, Nampula, and Niassa have maintained relatively high rainfall — albeit with increasing variability and intensity — southern regions such as Gaza and Maputo have seen notable declines, often receiving less than 1,000 mm annually[22,23].

[14] Mozambique's Second National Communication 2022. Available online.
[15] Mozambique's Second National Communication 2022. Available online.
[16] Mozambique's Second National Communication 2022. Available online.
[17] https://fscluster.org/sites/default/files/2024-11/202406_FEWSNET%20Mozambique_Food_Security_Outlook_EN.pdf
[13] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-historical
[19] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-historical
[20] https://climateknowledgeportal.worldbank.org/country/mozambique/trends-variability-historical
[21] https://climateknowledgeportal.worldbank.org/country/mozambique/trends-variability-historical
[22] https://fscluster.org/sites/default/files/2024-11/202406_FEWSNET%20Mozambique_Food_Security_Outlook_EN.pdf
[23] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-historical

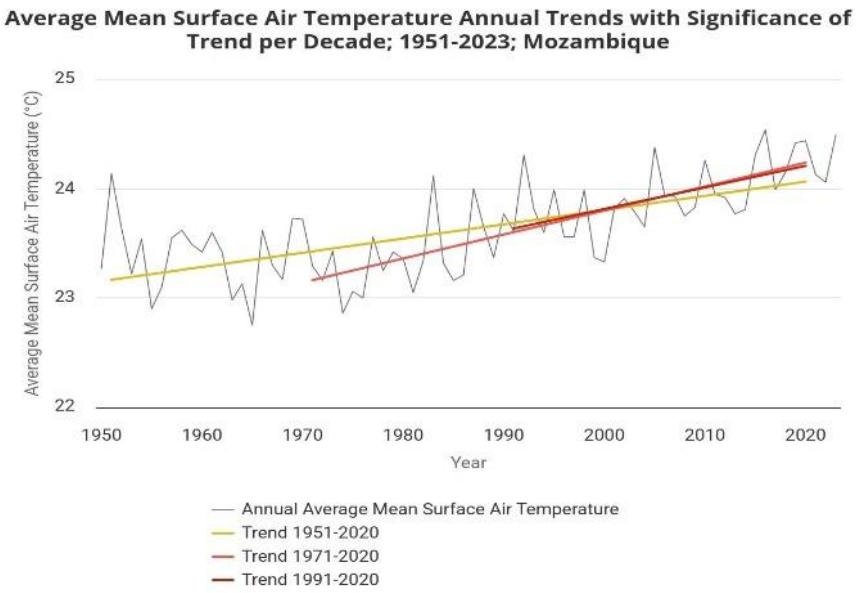


Figure 2. Trends for average mean surface air temperature for Mozambique, 1951–2023[24].

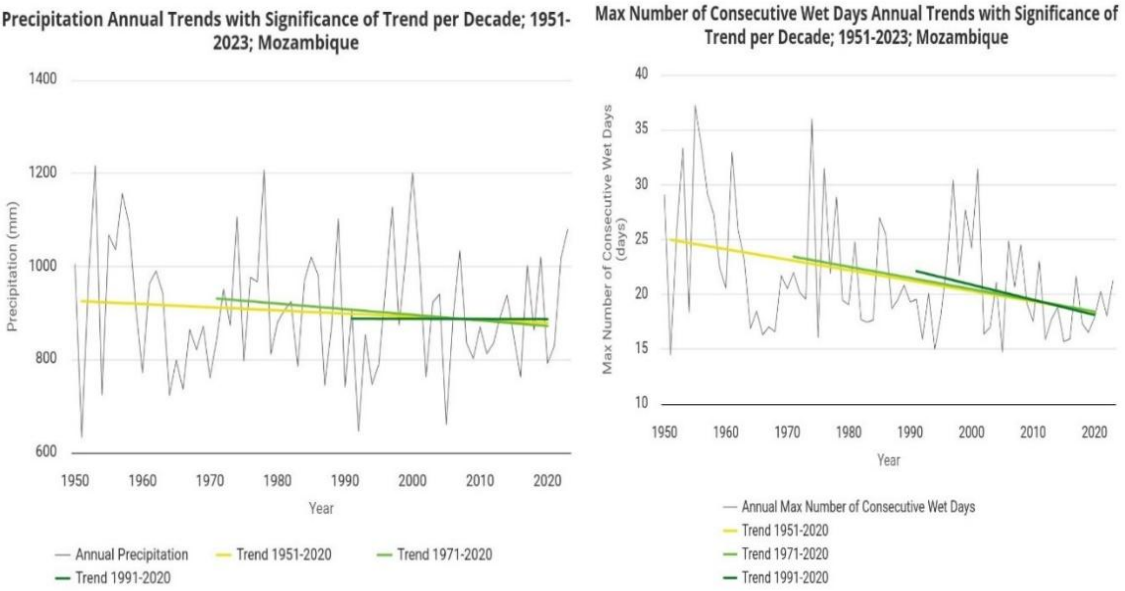


Figure 3. Observed annual trends in precipitation (left) and maximum consecutive wet days (right) from 1950–2020, Mozambique[25].

Climate change hazards

11. Mozambique is one of the most climate-vulnerable countries globally and the most at risk in Africa, facing recurrent extreme climate events such as tropical cyclones, floods, and droughts. These hazards are discussed further below.

Droughts and extreme heat

12. Droughts are a persistent threat in Mozambique, affecting 46% of the population annually, particularly in Zambezia and southern provinces such as Gaza, Manica, Sofala, and Inhambane[26]. Between 2000 and 2023, 11 recorded droughts impacted over 13.5 million people. The 2023–2024 El Niño has further

[24] https://climateknowledgeportal.worldbank.org/country/mozambique/trends-variability-historical
[25] https://climateknowledgeportal.worldbank.org/country/mozambique/trends-variability-historical
[26] World Bank Group. 2023. Mozambique: Country Climate and Development Report. Available here.

intensified drought conditions, escalating food insecurity and malnutrition. Additionally, up to 83% of the population is highly vulnerable to extreme heat, a risk projected to persist.

Cyclones

13. Mozambique has faced severe and recurring impacts from tropical storms and cyclones, with over 90 cyclones recorded between 1950 and 2018. From 2000 to 2023 alone, cyclones affected 5.8 million people and caused an estimated US$2.7 billion in losses[27]. Cyclone intensity is projected to increase, with Category 4 and 5 storms expected to rise in strength by a median of 10.5% (Figure 4)[28]. Recent events illustrate these risks: Cyclones Idai and Kenneth (2019) caused widespread destruction, including the loss of over 140,000 livestock, damage to fisheries in Sofala and Zambézia, and the destruction of 705 water boreholes and 47 urban water systems[29]. Cyclone Eloise in 2021 destroyed 242,000 ha of farmland, and in 2022 Cyclones Gombe, Ana, and Tropical Storm Dumako affected nearly 200,000 people — primarily in Nampula and Zambézia — with Cyclone Gombe alone damaging over 100,000 homes[30,31,32,33]. Earlier, in 2000–2001, cyclones and floods inflicted economic losses estimated at US$600 million. With provinces like Nampula and Zambézia frequently impacted, the increasing intensity of these events underscores Mozambique's acute vulnerability to climate change.

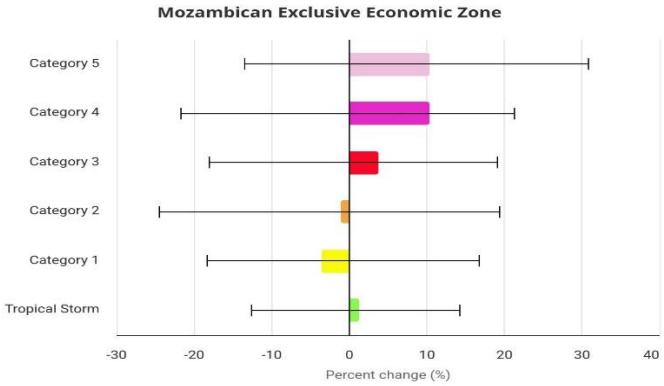


Figure 4. Percentage change in the number of cyclones by category between the historical and projected periods for Mozambique, SSP2-4.5 (2035–2064) relative to 1951–2014[34].

Floods

14. Floods are a frequent and damaging hazard in Mozambique, often associated with cyclone events. From 1980 to 2020, floods accounted for 33% of natural hazards. Between 2000 and 2023, floods impacted 7.5 million people and caused an estimated US$1.1 billion in damage[35]. Specific events highlight the impact of floods in the country: the 2015 floods affected over 160,000 people and displaced more than 50,000[36]; floods related to Cyclone Freddy in 2023 damaged over 92,000 hectares of crops[37]; and Cyclone Gombe in 2022 flooded 2,800 hectares, disrupting 23,000 farmers[38]. Earlier, floods linked to the 2000–2001 cyclone events led to the loss of nearly 100,000 hectares of crops and US$600 million in economic damage.

[27] https://www.undrr.org/resource/case-study/multi-hazard-early-warning-systems-mozambique
[28] https://climateknowledgeportal.worldbank.org/country/mozambique/tropical-cyclones-projections
[29] Muhala, V., et al. (2021). Climate Change in Fisheries and Aquaculture: Analysis of the Impact Caused by Idai and Kenneth Cyclones in Mozambique. Frontiers in Sustainable Food Systems
[30] https://www.arc.int/sites/default/files/2023-03/Post-Event%20Briefing_Mozambique_GOMBE_EN_25032022.pdf
[31] https://www.unocha.org/publications/report/mozambique/mozambique-tropical-cyclone-gombe-flash-update-no2-14-march-2022#:~:text=SITUATION%20OVERVIEW&text=With%20rains%20up%20to%20200mm,been%20reported%20in%20several%20districts.
[32] https://en.wikipedia.org/wiki/Cyclone_Freddy
[33] https://reliefweb.int/report/mozambique/acaps-briefing-note-mozambique-impact-tropical-cyclone-eloise-17-february-2021
[34] https://climateknowledgeportal.worldbank.org/country/mozambique/tropical-cyclones-projections
[35] https://www.undrr.org/resource/case-study/multi-hazard-early-warning-systems-mozambique
[36] https://reliefweb.int/report/mozambique/mozambique-floods-2015-response-and-recovery-proposal
[37] https://en.wikipedia.org/wiki/Cyclone_Freddy
[38] https://reliefweb.int/report/mozambique/mozambique-tropical-cyclone-gombe-flash-update-no3-16-march-2022

In 2021, Cyclone Eloise also caused widespread flooding, submerging thousands of hectares of farmland[39]. These repeated flood events threaten livelihoods, food security, and economic stability.

Observed impacts

15. Climate change has already considerably impacted Mozambique's agriculture and energy sectors. From 1981 to 2019, rising temperatures and shifting rainfall patterns contributed to average yield reductions of 20% for rice and 8% for maize, with drought accounting for 48 to 73% of crop failure risk across key staples like maize, rice, sorghum, and groundnut[40]. Smallholder farmers are especially affected, facing declining productivity and frequent crop losses. Extreme weather events also damage post-harvest infrastructure — such as cooling, sorting, and packaging facilities — further threatening food security[41].

16. In the energy sector, droughts and floods cause fluctuations in hydropower output, undermining the economic performance of key plants like Cahora Bassa and the planned Mphanda Nkuwa, which supply most of Mozambique's hydroelectric power. These plants face growing operational and financial risks under climate change. Energy disruptions also impact other sectors, particularly transport, which is vulnerable to rising fuel costs and infrastructure damage linked to climate-related events.

Warming temperatures and increasing climate variability threaten Mozambique's water, energy, and agricultural systems

Temperature and precipitation trends

17. Mozambique is projected to experience steadily rising temperatures across near-, mid-, and long-term timeframes, with the extent of warming dependent on future emission pathways. Under a low emissions scenario (SSP1-2.6), temperatures may increase by 1 to 2°C above the historical average of 23–25°C by 2100 (Figure 5)[42]. Intermediate scenarios (SSP2-4.5) project warming of 2 to 4°C or more, while high emissions scenarios (SSP3-7.0 and SSP5-8.5) could see increases of 4 to 5°C or higher[43]. These temperature rises will bring significantly more hot days and warm nights[44]. The number of days with a heat index above 35°C may climb from near zero historically to over 100–200 days annually under high emissions. Similarly, tropical nights (minimum temperatures above 20°C) are expected to become nearly year-round under the most severe scenarios[45].

[39] FAO (2021). Assessing flood impact on agricultural production. Available from https://www.fao.org/3/cb4765en/cb4765en.pdf
[40] Parkinson, V.(2013). Climate Learning for African Agriculture: Working Paper No.6 Climate Learning for African Agriculture: The Case of Mozambique. Available online.
[41] USAID (2016). Mozambique agricultural value chain analysis. Available online.
[42] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections
[43] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections
[44] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections
[45] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections

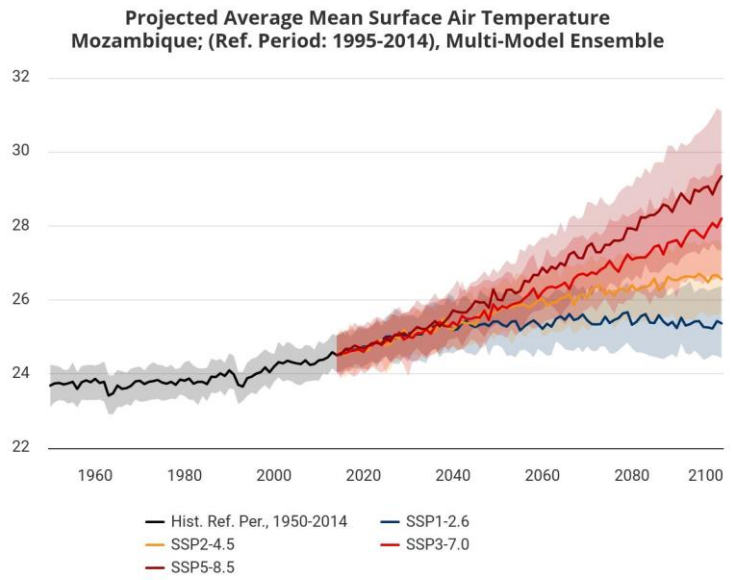


Figure 5. Projected average mean temperature by 2100 relative to 1995–2014, Multi-Model Ensemble, Mozambique[46].

18. Climate projections for Mozambique indicate a potential shift toward drier conditions by the end of the 21st century, especially under high emissions scenarios (SSP3-7.0 and SSP5-8.5), with overall precipitation expected to decline by 10–30% or more compared to the 1995–2014 baseline (Figure 6). In contrast, lower emissions scenarios (SSP1-2.6 and SSP2-4.5) suggest more stable precipitation patterns, with changes likely within ±10% of the baseline[47]. Additionally, the maximum number of consecutive dry days is projected to rise significantly under high emissions — reaching 120–140 days annually, a 10–55% increase over historical levels.

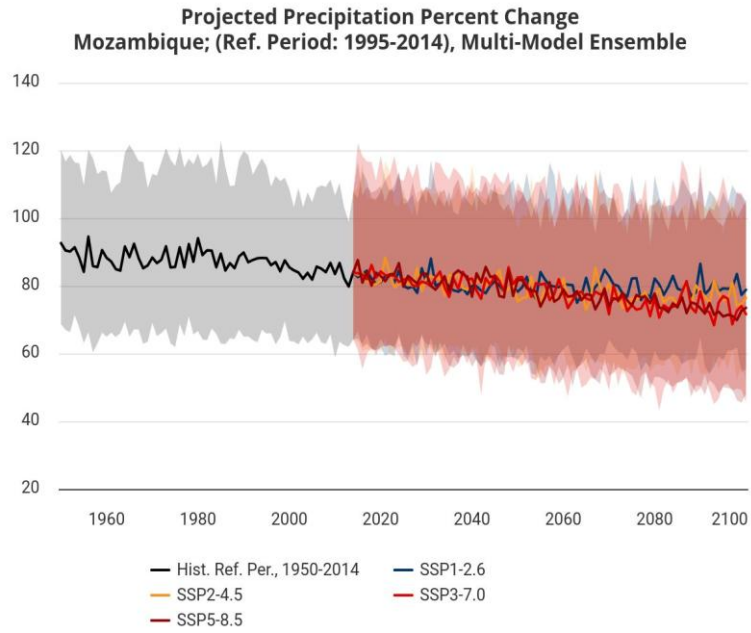


Figure 6. Projected Precipitation (% change) by 2100 relative to 1995–2014, Multi-Model Ensemble, Mozambique[48].

[46] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections
[47] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections
[48] https://climateknowledgeportal.worldbank.org/country/mozambique/climate-data-projections

Projected impacts

19. Climate change is projected to have an increasingly adverse impact on Mozambique's agricultural production, with projected GDP losses of 4.5 to 9.8% by 2050. The central region is projected to be the most adversely affected, facing potential declines in agricultural value added of up to 25%. Increased flooding and droughts are expected to damage key crops like soy, pigeon pea, and sesame — reducing domestic availability and export potential — while coastal crops such as cashew and coconut face growing risks from extreme weather[49]. Additionally, extreme heat increasingly threatens farm worker health and accelerates produce spoilage, further compounding food insecurity.

20. Mozambique's energy sector faces growing threats from climate change, with rising temperatures — projected to increase by up to 4.6°C by 2090 — expected to accelerate evaporation in key reservoirs like Cahora Bassa, Umbeluzi, and Massingir, reducing water levels and hydropower output. Increased variability in precipitation, marked by more frequent droughts and floods, will worsen water scarcity in critical catchment areas, while upstream water use — including increased irrigation and population-driven demand — further threatens river flows. Under drying scenarios, overall hydropower output could decline by 10–20%, with Cahora Bassa alone potentially facing a 20% reduction in capacity. Under climate change, projections suggest that hydropower plants under development may only reach 70–80% of planned capacity due to uncertain water availability, compounded by an estimated 15% reduction in Zambezi River flows[50]. Mozambique's heavy reliance on hydropower also increases its exposure to rising electricity generation costs — potentially 20–30% higher in the near term — and its limited energy diversification heightens long-term vulnerability. Furthermore, climate change can also jeopardize Mozambique's ambition as energy exporter for the SADC region. Export of energy (electricity) to the neighboring countries is one of the big targets of the Mozambican government and considered as an important future revenue stream. This is threatened by climate change.

Using energy access as a driver of Mozambique's rural economic growth requires interventions that overcome existing low connectivity, low demand, limited ability to pay, and subsidized tariffs, which undermine the financial viability of decentralized energy solutions

21. Renewables remained Mozambique's primary electricity source in 2024, led by HCB's hydroelectric production (60%), with the rest supplied by EDM (13%) and independent power producers (27%)[51]. Solar mini-grid development — driven by public, private, and NGO partnerships — is rapidly expanding to improve rural access and climate resilience. Several solar, wind, and mini-hydro projects are underway, supported by four active results-based financing and grant programs that have strengthened provider viability, though challenges remain around financial sustainability and sales quality[52].

22. Prior to 2018, the Government was prioritizing site selection based on administrative hierarchy (provinces, districts and localities), prioritizing the highest administrative level and other ad-hoc sites. In 2018, the Government approved the National Electrification Strategy and started implementing the presidential initiative Energia Para Todos, which aims to achieve universal energy access by 2030. Under this national program, the Government continued to prioritize sites based on the level of administrative hierarchy. In 2024, the government started preparing an Integrated Energy Access Plan (IEP) based on a least cost analysis, which included developing an integral strategy to electrify the remaining sites, mainly localities (the lowest level in the administrative hierarchy). This IEP is being developed by the UIPCE (Integrated Unit for Planning and Coordination of Electrification) of the Ministry of Mineral Resources and Energy,

[49] International Food Policy Research Institute (IFPRI). 2023. From climate risk to resilience: unpacking the Economic impacts of climate change in Mozambique. Available here
[50] International Food Policy Research Institute (IFPRI), 2023. From climate risk to resilience: unpacking the economic impacts of climate change in Mozambique. Available here.
[51] AMER/ALER 2025. Briefing: Renewables in Mozambique 2024. Available online.
[52] AMER/ALER 2025. Briefing: Renewables in Mozambique 2024. Available online.

which is mandated to monitor all activities under the framework of the National Electrification Strategy. The UIPCE contributes to planning, coordinating, defining, and implementing national electrification targets and establishing electrification priorities, both on-grid and off-grid, according to least-cost criteria and options. A techno-economic analysis of the household electrification baseline is expected to be approved in Q1 of 2026.

Only around 5-10% of rural areas have reliable electricity access, while just 7% of MSMEs are connected, highlighting critical gaps in energy availability despite a national grid capacity of 2.9 GW and rapidly growing demand

23. Mozambique has a grid-connected generation capacity of 3.1 GW for 2024, with electricity demand growing rapidly at around 8% annually — part of a broader energy consumption increase of 6.8% per year (2022–23) to 8,940.30 ktoe in 2023[53,54]. Domestic users account for ~43% of demand, industry 36.6%, and commercial, agriculture, and streetlighting 19.9% in 2024. Electricity access in Mozambique has improved, reaching 53.4% in 2023 and 60.1% in 2024 (including ~7.1% off-grid), but remains uneven — around 79% in urban areas versus just 9% in rural areas (2023)[55,56]. As of 2022, progress is being driven by new solar plants and while ongoing wind and thermal projects are expected to be commissioned in 2026, yet only 7% of MSMEs have electricity access. The distribution system also faces high losses (over 18%), prompting government upgrades[57,58].

Successful pilots have demonstrated the potential of PURE to enhance rural electrification, strengthen agricultural value chains, and generate measurable socio-economic benefits for communities with 3,936 mini-grid connections in Mozambique by 2024

24. These conditions present strong opportunities for mini-grids to improve rural access and support agricultural value chains by electrifying labor-intensive post-harvest processes[59]. Targeted programs such as the Green People's Energy (GPE) Mozambique program have successfully linked mini-grid expansion with productive uses of renewable energy (PURE) to maximize socio-economic impact in rural communities. The GPE program supports rural electrification through mini-grids while promoting PURE and gender inclusion via tailored community engagement. PURE — defined as electricity use that generates income, boosts productivity, and creates economic value — is being stimulated across key value chains such as maize, rice, sorghum/millet, and fisheries[60]. Additional opportunities include electrified eco-lodges, homestays, and artisanal craft production, which benefit from improved lighting and tools to increase value.

Recent regulatory reforms and expanding off-grid initiatives provide a strong enabling environment for the PURE Rural Mozambique Project to advance inclusive, climate-resilient energy access

25. The current regulatory framework and institutional arrangements in the energy sector reflect a growing emphasis on low-carbon development, with clear mandates for renewable energy, energy efficiency, and emissions reductions through cross-sector collaboration and integrated climate and energy planning. The off-grid sector is governed by the 2021 Off-Grid Decree (No. 93/2021), which provides a clear regulatory framework for concessions, interconnection, technical standards, and tariffs. While this framework was strengthened through updates between 2021 and 2023, it remains largely untested. Electricidade de Moçambique (EDM) is the national utility overseeing electricity generation, transmission, and distribution,

[53] GET.transform 2024. Mozambique Country Window: Energy System Transformation Outlook (ESTO). Available online.
[54] Enerdata 2022. Mozambique Energy Information. Available online.
[55] https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS?locations=MZ
[56] https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS?locations=MZ
[57] Powerline 2021. Electrifying Mozambique: EDM earmarks $1.2 billion to expand electricity access in country. Available online.
[58] Enerdata 2022. Mozambique Energy Information. Available online.
[59] Multiconsult 2025. Green Peoples Energy – PUE concept report.
[60] https://docs.nrel.gov/docs/fy24osti/89253.pdf

while the Energy Regulation Authority (ARENE) ensures compliance with energy laws and fosters private sector participation and competition. ARENE is advancing the sector through initiatives such as its planned 2025 tender for four solar mini-grid clusters (3 MW total) in Nampula[61]. The Ministry of Mineral Resources and Energy (MIREME), along with DNAC and the National Institute of Statistics (INE), supports data collection for emissions tracking, while the Inter-institutional Group on Climate Change (GIIMC) facilitates coordination across energy and environmental sectors to ensure integrated planning and policy coherence. FUNAE is the public agency dedicated to off-grid energy and fuel distribution, focusing on renewable energy. Since its establishment in 1997, FUNAE has implemented over 100 public mini-grids, currently operating 111 solar and hydro systems (11.58 MW total). Its mandate was expanded in 2021 to include fund mobilization and management for off-grid investments.

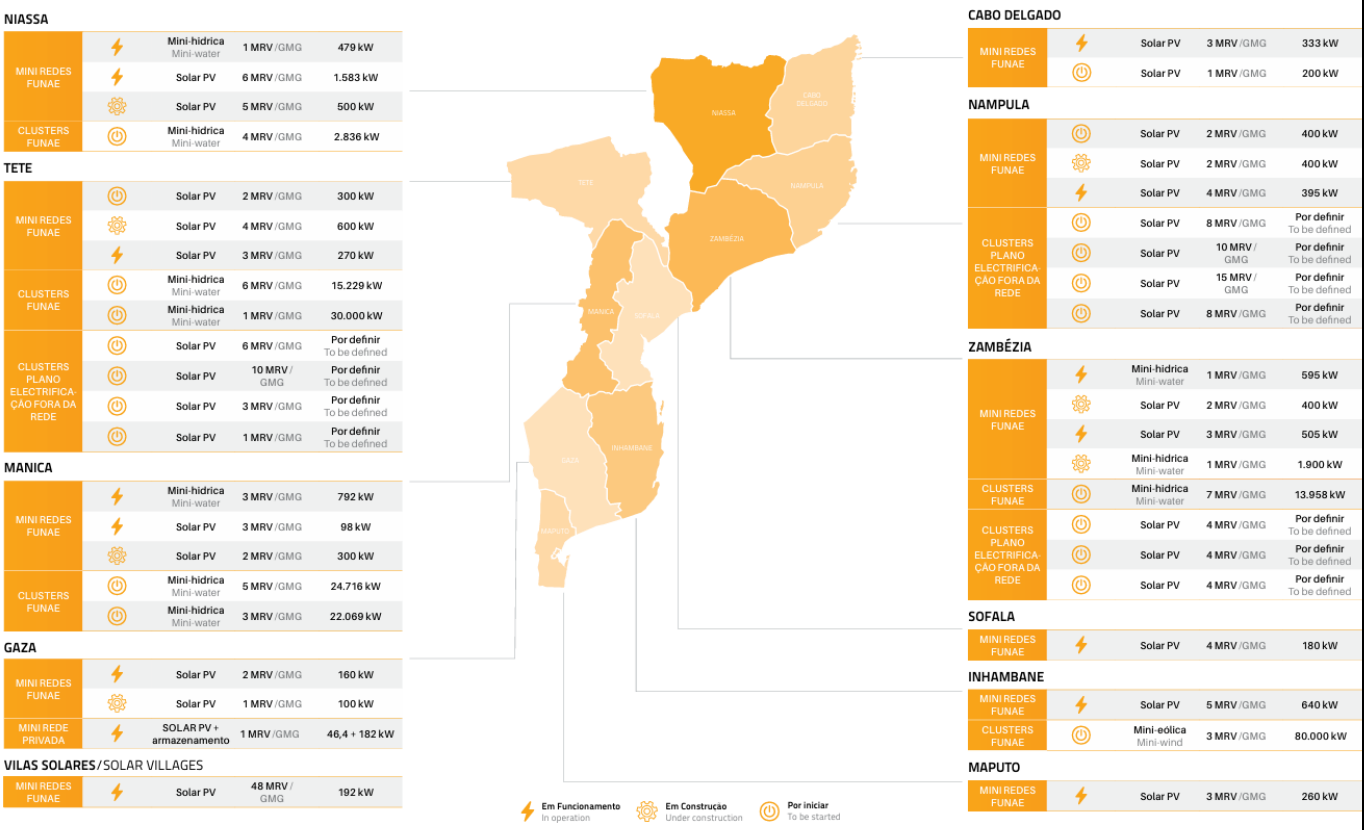


Figure 7. The Electrification Plan for Off-Grid Areas provides FUNAE with the mandate to deliver Mini-grids.

26. Regarding challenges in the sector, Mozambique's subsidized retail electricity tariffs create a structural challenge for decentralized, private-sector-led renewable energy systems, particularly those focused on self-consumption. In rural areas, low electricity demand — often limited to basic uses like lighting and phone charging — and customers' limited ability to pay place financial strain on mini-grid developers. While solar home systems have a broad geographic reach, market penetration remains shallow due to high upfront costs, limited consumer financing, and weak uptake of productive uses. Climate-smart PURE adoption is also low, hindered by limited awareness and capacity among rural users. Electricity access alone is therefore insufficient to drive rural economic development.

The energy and agriculture sectors are trending as the most significant GHG emission contributors, and so are most in need of addressing the causes

[61] AMER/ALER 2025. Briefing: Renewables in Mozambique 2024. Available online.

27. Mozambique's GHG emissions profile has shifted significantly over the past two decades due to rising deforestation, energy demand, industrial activity, and population growth[62]. In 2020, total anthropogenic emissions were estimated at around 30,600 Gg CO_2eq (excluding LULUCF), with the energy sector as the leading source, followed by agriculture, and smaller contributions from IPPU and waste (Figure 8). Within the energy sector, key emission sources include Fuel Combustion Activities (1.A) and Fugitive Emissions (1.B), the latter primarily driven by inefficient, carbon-intensive charcoal production. Reliance on charcoal, especially in rural and peri-urban areas, poses a major mitigation challenge[63].

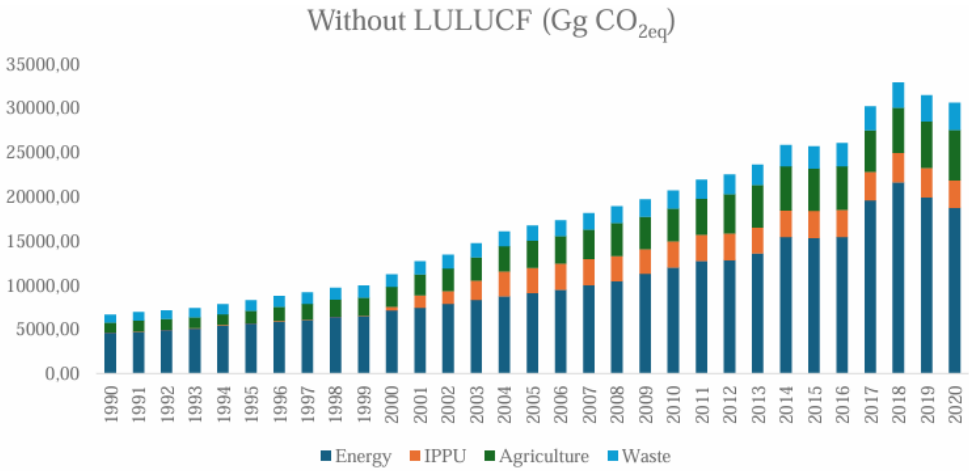


Figure 8. Trend of national GHG emissions by sector, excluding LULUCF.

28. Mozambique has set a conditional target of reducing GHG emissions by approximately 76.5 million tCO_2e between 2020 and 2030, dependent upon international support. This commitment is part of Mozambique's updated Nationally Determined Contribution (NDC) submitted in 2021, which outlines mitigation actions across various sectors, including energy, forestry, agriculture, waste management, and industry[64]. Meeting its NDCs and pursuing a low-emission development path will require transformative actions such as expanding renewable energy (e.g. solar and hydropower), promoting energy-efficient technologies, and strengthening the energy sector's resilience. Key measures include advancing sustainable biomass solutions — like improved cookstoves and cleaner charcoal supply chains — to curb forest degradation and household emissions, and developing a national decarbonization roadmap with clear targets, investments, and timelines[65].

Mozambique's geographic exposure, low adaptive capacity, and reliance on climate-sensitive sectors make it one of the most climate-vulnerable countries in Africa, underscoring the urgent need for gender-responsive, climate-resilient development

29. Mozambique's location along the Indian Ocean, with a 2,700 km coastline and position within nine international river basins, makes it highly vulnerable to climate hazards — particularly tropical cyclones, floods, droughts, and sea-level rise[66]. These hazards are particularly intense during the November–April cyclone season and are compounded by highly seasonal rainfall patterns that trigger flash floods, particularly in Zambezia, Sofala, and Manica provinces. Broader climate risks threaten livelihoods, with up to 83% of the population at high risk from increasing extreme heat[67]. Additionally, ENSO fluctuations intensify water variability, crop failures, and disaster risks, contributing to rising food insecurity and vulnerability.

[62] Second biennial update report (BUR) of Mozambique 2024. Available online.
[63] Second biennial update report (BUR) of Mozambique 2024. Available online.
[64] https://climatepromise.undp.org/what-we-do/where-we-work/mozambique
[65] Second biennial update report (BUR) of Mozambique 2024. Available online.
[66] World Bank Group 2011. Climate Risk and Adaptation Country Profile: Mozambique. Available online.
[67] Mozambique's Second National Communication 2022. Available online.

30. The population of Mozambique's overall adaptive capacity remains low, driven by widespread poverty, inadequate infrastructure, limited health and sanitation services, and dependence on climate-sensitive sectors such as agriculture. Despite ongoing disaster mitigation efforts, investment in climate resilience remains insufficient, particularly in technology and essential services[68]. Women and youth are especially vulnerable due to limited access to finance, markets, equipment, and skills needed to diversify income. Women — who make up over half of subsistence fish workers — face additional tourism, agriculture, and fishing barriers, highlighting the urgent need for gender-sensitive reforms to strengthen resilience across communities[69].

31. Mozambique's energy sector is highly exposed to climate risks due to its heavy reliance on hydropower, which supplies ~78% of grid electricity and is sensitive to rainfall variability and extreme weather. Climate variability and change are already affecting hydropower output through recurrent droughts, erratic rainfall, and more frequent flood events that damage infrastructure and transmission[70]. Rising temperatures further increase reservoir evaporation losses and alter river-flow regimes, while projected declines in runoff could reduce hydropower capacity factors by 9–14% by the end of the century[71]. These vulnerabilities underscore the need to diversify Mozambique's power mix through distributed solar mini-grids that are less climate-sensitive and can maintain essential services in rural areas during hydrological shocks[72].

32. The exposure is further heightened by the growing demand for electricity, driven by population expansion to a projected 46 million by 2040. Additionally, while electrification efforts have progressed, the energy mix also relies heavily on unsustainable biomass widely used in households for cooking, heightening vulnerability to climate-induced disruptions and underscoring the need for diversified, resilient energy infrastructure[73,74]. These challenges undermine economic performance, deepen poverty and inequality, and hinder value chain development — particularly in rural areas where 20,000 people still lack access to cooling, limiting farm productivity and storage of perishables — further exacerbating climate vulnerability in these areas.

33. Mozambique's agriculture sector, employing 70% of the workforce and contributing 27.5% to GDP (2021), is critically important yet highly vulnerable to climate change. Small-scale farming underpins food security and livelihoods, but frequent droughts — affecting over 30 districts — limit access to water for drinking, irrigation, and livestock, and have strained deep aquifers in the interior. Extreme heat threatens farm worker health and accelerates food spoilage, compounding food insecurity. Women and children under five are particularly at risk of malnutrition and stunting, especially in the north[75]. Vulnerability in the sector is further heightened by limited access to finance, productive assets, modern technologies, insurance, and climate knowledge. In rural areas, agriculture employs 93% of women and 76% of men. Female-headed households, primarily located in rural areas, are the most dependent on agriculture. These households are disproportionately vulnerable to increased rates of natural hazards, such as erratic weather patterns, higher temperatures, pests, crop and livestock diseases, and lower yields, which disrupt productivity.

[68] Manuel, L., Tostão, E., Vilanculos, O., Mandlhate, G. and F Hartley. (2020). Economic implications of climate change in Mozambique. Available from https://ceppag.uem.mz/images/pdf/SA_TIED_WP_136.pdf
[69] Parkinson, V. (2013). Climate Learning for African Agriculture: Working Paper No.6 Climate Learning for African Agriculture: The Case of Mozambique. Available online.
[70] MDPI (2020). "Assessment of Hydrological Variability and Hydropower Reliability in Southern Africa," Applied Sciences, 10 (14): 4842.
[71] International Energy Agency (2022). National Climate Resilience Assessment for Mozambique. Paris: IEA.
[72] OECD (2020). Climate Impacts on African Hydropower. Paris: Organisation for Economic Co-operation and Development.
[73] Uamusse, M.M et al.2017. Climate Change Observations into Hydropower in Mozambique: 2017 International Conference on Alternative Energy in Developing Countries and Emerging Economies 2017 AEDCEE, 25-26 May 2017, Bangkok, Thailand. Available here.
[74] Nhambiu, J. and Chichango, F. 2024. Comprehensive Analysis of the Energy Transition in Mozambique: Opportunities and Challenges for Achieving the Established Global Goals. *Energy Engineering* 14(12):45 - 65
[75] USAID(2021). Mozambique: Nutrition Profile. Available online.

Climate hazards cause US$3.8 billion in damage: Without intervention, climate change is expected to slash GDP contribution by up to 9.8% by 2050, with the central regions of Mozambique facing losses of 25% or more

34. In this project's absence, Mozambique faces worsening vulnerability and missed opportunity. With rural electricity access still below 10% and hydropower accounting for ~78% of the national grid supply, the country remains highly exposed to climate shocks. Projected warming of 2 to 4°C by 2100 will accelerate evaporation in key reservoirs like Cahora Bassa, reducing hydropower output by up to 20% and threatening energy security as demand rises by 6% annually. Without decentralized renewable solutions like mini-grids, millions will remain energy-poor and dependent on carbon-intensive diesel, locking in emissions and undermining national climate goals.

35. At the same time, extreme weather will become more frequent and costly. Since 2000, floods and cyclones have caused over US$3.8 billion in damage. These costs are projected to increase without early adaptation measures, straining public finances and reversing development gains. In agriculture, climate change is expected to slash GDP contribution by up to 9.8% by 2050, with the most vulnerable central regions facing losses of 25% or more. The continued lack of electricity and productive use equipment in these rural areas will mean farmers cannot adapt, store food, or diversify incomes, compounding poverty and food insecurity.

36. Mozambique has committed to reducing 76.5 $MtCO_2e$ by 2030, and support is needed to scale clean energy, strengthen institutional capacity, and enable climate-resilient livelihoods to reach those targets. Under a “do-nothing” scenario, the country will forego an opportunity to enhance rural energy access, support low-emission development, and strengthen the adaptive capacity of vulnerable communities.

The project will directly benefit approximately 66,200 people and indirectly reach 158,800, while reducing an estimated 399,131.26 tCO_2e over its lifetime through targeted climate change interventions

37. The proposed project adopts an integrated and climate-resilient approach to address Mozambique’s acute energy access gaps, vulnerability to climate hazards, and limited adaptive capacity — particularly in rural areas. Guided by principles of country ownership, decentralized renewable energy development, and inclusive green growth, the project is designed to be a “no-regret” investment that delivers immediate development benefits and long-term resilience. The project’s design follows Locally Led Adaptation principles, ensuring that communities, women’s groups, and local authorities drive the identification of priorities, site selection, and technology choices through participatory needs assessments. Additionally, to inform implementation, the project will draw on a gender-inclusive methodology to verify needs and priorities through structured consultations with women’s cooperatives, youth associations, and local government representatives. These considerations will ensure that the defined energy solutions directly address locally expressed adaptation and livelihood needs while strengthening social inclusion and ownership.

38. The project combines clean energy infrastructure with institutional capacity-building and inclusive livelihood support to address Mozambique’s climate vulnerabilities. Institutional reforms and capacity-building within FUNAE will strengthen national systems to mobilize and manage climate finance to promote resilient off-grid energy investments, addressing inadequate governance and limited adaptive capacity. Additionally, by developing a pipeline of viable mini-grid and PURE projects in climate-exposed regions while engaging private developers and facilitating the adoption of climate-smart technologies in local communities, the project will ensure that interventions are targeted where droughts, floods, and cyclones most threaten livelihoods. During the inception phase, a market-demand and revenue-anchoring study will be conducted (or, where data are available, validated) to assess potential anchor clients such as mobile network operators, schools, clinics, local government offices, and small businesses. Lessons and benchmarks from

comparable Enabel and SEforALL pilots will inform the investment pipeline to verify demand and financial viability.

39. By delivering decentralized solar mini-grids and diversifying the energy mix away from climate-sensitive hydropower and unsustainable biomass, the project will provide reliable electricity to rural communities, benefiting approximately 66,200 direct and 158,800 indirect beneficiaries while reducing an estimated 399,131.26 tCO_2e over the project lifetime. This will stabilize food production, reducing post-harvest losses and strengthening livelihoods impacted by climate change. The project will also directly address Mozambique's climate-exacerbated food insecurity by linking decentralized renewable energy to climate-smart productive uses. PURE interventions such as solar-powered irrigation and pumping will reduce drought impacts, while cold storage and cooling facilities will reduce post-harvest losses from heat and floods, and fish processing and ice-making equipment will support coastal communities' livelihoods when cyclones disrupt supply chains. Additionally, agro-processing and value-addition will diversify incomes, while gender-responsive financing windows will ensure women's participation. Together, these interventions avoid maladaptation by prioritizing locally appropriate technologies, community engagement, and flexible financing models that strengthen, rather than strain, natural and economic systems. Moreover, by linking the needs assessments directly to the design of PURE interventions, the project will ensure that mini-grids are well used and financially sustainable. This will improve capital efficiency, strengthen community ownership, and generate steady revenues for operation and maintenance, making the model more attractive to private investors.

40. The project will address the risks posed by floods and cyclones to ensure the long-term resilience of mini-grid infrastructure. Site screening and assessments will integrate geospatial analyses of floodplains, cyclone exposure, and other hazard layers, complemented by local field surveys to guide site selection and land demarcation. Additionally, tender documents and concession agreements will require mini-grid developers to embed climate-resilient features into their designs for cyclone-prone areas, flood-sensitive zones, and extreme heat. Mini-grid developers must also establish O&M protocols for extreme weather preparedness, including SOPs for cyclone and flood response, emergency shutdowns, and staff safety measures. Financial sustainability will be supported through blended finance and cost-recovery mechanisms that enable long-term operation and maintenance of the systems.

41. The project comprises four components: strengthening FUNAE's capacity, tendering mini-grid and PURE investments, constructing 30-40 solar mini-grids, and supporting climate-smart, income-generating energy use in rural areas. These interventions are grounded in evidence from similar programs in Mozambique and globally, including Enabel's ongoing bilateral energy portfolio, the GPE Mozambique program, and SEforALL-supported pipeline development work. They reflect best practice in combining renewable energy with income diversification and institutional strengthening for durable adaptation. This project will support Mozambique's transition to a low-emission, climate-resilient future by reducing pressure on hydropower, enabling productive rural economies, and strengthening national systems to anticipate and respond to climate risks, while generating lessons to inform national policy and scale up resilient mini-grid models across other provinces. A summary of interventions to climate threats and expected co-benefits is presented in Table 1 below.

Table 1: Climate adaptation interventions, related threats, and co-benefits.

Intervention	Climate threat addressed	Expected co-benefits
Solar mini-grid installation	Energy insecurity from Mozambique's heavy reliance on hydropower (~78% of grid supply), which is highly vulnerable to drought-driven water scarcity, declining Zambezi flows, and flood or	Improved rural energy access; reduced reliance on diesel.

	cyclone damage to generation and transmission infrastructure.	
Climate-smart Productive Use of Renewable Energy (PURE)	Livelihoods are threatened by recurrent droughts (affecting >30 districts), extreme heat (83% of the population), and erratic rainfall that reduces yields, accelerates food spoilage, and undermines fisheries and agro-value chains.	Increased income opportunities; enhanced food security and storage.
Institutional strengthening of FUNAE	Limited institutional capacity and access to adaptation finance hinder Mozambique's ability to plan for and respond to intensifying hazards such as cyclones, floods, and prolonged droughts, leaving communities without sustained resilience support.	Strengthened climate governance; increased access to adaptation finance.
Project Preparation Facility	The slow uptake of renewable energy is caused by weak private sector engagement, despite rising energy demand and the growing risks of grid disruption from droughts, floods, and cyclones. This delays investments that could otherwise reduce vulnerability.	Bankable project pipeline; enhanced private investment in clean energy.
Green infrastructure for livelihoods	Rural economies face degradation of natural resources and repeated damage from floods, cyclones, and droughts, which erode farmland, fisheries, and local enterprises, trapping communities in cycles of poverty and vulnerability.	Resilient rural value chains; improved gender inclusion and job creation.

The proposed project builds on and complements a range of ongoing and planned initiatives advancing renewable energy access and climate resilience in Mozambique and the wider Southern and Eastern Africa region.

42. Key related projects and interventions, including complementarities and coherence, are summarized in the table below. Additional information is provided in Annex 2: Feasibility Study.

43. To step up the alignment and coordination of different projects and interventions in the off-grid sector, the Government of Mozambique initiated a so-called Country Platform approach to foster collaboration among public and private actors based on a shared strategic vision and priorities. Initial discussions related to the establishment of the Country Platform started in 2024. Since then, both the scope, mandate and governance structure of the Country Platform have significantly taken shape (see Box).

Mozambique's Government-Led Country Platform Approach for the Off-grid Sector

Preliminary results from the Least Cost Electrification Plan (LCEP) indicate that more than 300 mini-grids will need to be developed in the coming years for Mozambique to achieve its goal of universal access by 2030. Ensuring the financial viability and long-term impact of these mini-grids will require substantial complementary investment in Productive Use of Energy (PURE) solutions, which can stimulate electricity demand, enhance revenue generation, and support climate-resilient socio-economic development in rural areas.

Delivering on these ambitions will require a significant step change in collaboration and coordination among public institutions, development partners, national and international financiers, and off-grid energy companies. Against this backdrop, the Government of Mozambique initiated a Country Platform approach to convene relevant public and private actors around a structured mechanism for aligning financial support and technical assistance. The principal objective of the Country Platform is to accelerate the deployment of mini-grids and PURE solutions by aligning funding streams and harmonizing technical support to ensure policy coherence, efficiency, and impact.

The Country Platform is led by the Ministry of Mineral Resources and Energy (MIREME), supported by a Secretariat. Country Platform members to date include:

- Public institutions: ARENE, EDM, FUNAE
- Development partners: European Union, Sweden, Germany, Belgium, World Bank
- International Financial Institutions: KfW, IFC
- Development agencies: Enabel, SNV
- Donor-backed initiatives: GET.Transform, GET.Invest
- Private-sector associations: AMER (Mozambican Association of Renewable Energy)

Under the Country Platform, stakeholders are collaborating to align technical support and promote coherent sector-wide approaches across several key areas, including:

- Mini-grid site selection and clustering methodologies;
- Harmonization of electricity tariffs and subsidy structures;
- Alignment of tender procedures and procurement approaches;
- Clarification of tax exemptions and licensing requirements, including environmental impact assessment processes;
- Development and harmonization of data platforms and data-sharing protocols;
- Etc.

As part of the Country Platform approach, the European Union, Sweden, and Enabel have also already intensified efforts to fully align their planned and ongoing funding windows. In this context, the partners have agreed to leverage already available resources from the Swedish-funded +Sol project to frontload project preparation, including mini-grid site assessments, cluster definition and preparation of tender information per mini-grid cluster. Specific activities include:

- Remote site assessments using geographic information systems
- On-site data collection and fieldwork
- Preparation of site-specific mini-grid profiles and information packages
- Cluster definition
- Obtaining provisional land titles (DUAT)
- Preliminary environmental licences

The aim is to complete information packages for each cluster of mini-grids before funding from the European Union and the current GCF proposal becomes available with a view to finalize complete Tender Packages (including tender documents) and launch a coordinate mini-grid concession tender shortly afterwards (see Activity 2.2.1 and Activity 2.3.1). More information about the project preparation process

and alignment between the +Sol program, the EU funding and the current GCF proposal can be found in Section 8 of Annex 2. The alignment is also captured in a Letter of Understanding between Sweden, EU and Enabel.

As discussions under the Country Platform advance, it is expected that further dialogue will take place between public and private financiers to align and optimize diverse funding sources and instruments capable of driving transformational change in the off-grid sector.

In line with Output 1.1, Enabel will continue to strengthen government leadership within the Country Platform by providing dedicated institutional support to FUNAE.

Table 2. Related projects and interventions.

Project title, funding, agency	**Project description and coverage**	**Complementarity with the proposed project and gaps addressed**
Renewable Energy for Rural Development – Phase 2 (RERD2) **Funding:** Total budget: EUR 22,000,000 (Belgium) **Project executing agency: Enabel and FUNAE**	The project includes the following components: - Construction of five mini-grids using a public model. - Distribution and piloting standalone PURE, focusing on small-scale irrigation - Piloting remote monitoring of mini-grid data using the Odyssey platform - Technical capacity building for FUNAE to operate solar mini-grids with battery systems.	**Complementarity:** the project collected key data points for construction and operation of solar mini-grids with battery systems which were used to estimate CAPEX and OPEX, and to model the initial adoption of small-scale PURE appliances. The data were used for the preparation of this funding proposal to estimate viability gap financing needs. **Remaining gaps:** the project did not yet use a private sector concession model as at the time of starting the project, the regulatory framework had not yet been approved
Participation in Energy Access Relief Facility ("EARF" under implementation)[76] **Funding:** Total budget: US$60,000,000 GCF: US$30,000,000 Co-financing: US$30,000,000 **Project executing agency:** Acumen Fund, Inc.	Provide energy access companies with vital liquidity through low-interest, unsecured junior loans. GCF will channel its investment into Climate CV, which will, in turn, participate in EARF loans to eligible companies operating in NOL countries. Assist companies in remaining solvent, maintaining staff and supply lines, positioned to drive the post-COVID-19 recovery, and reducing emissions by 1.3 million tons of carbon dioxide equivalent ($MtCO_2eq$). **Geographic coverage:** Uganda, Nigeria, Democratic Republic of the Congo, Kenya, Senegal, Mozambique, Sierra Leone, Rwanda and Zambia	**Complementarity**: The EARF project provided critical liquidity during the immediate aftermath of the COVID-19 crisis to off-grid companies that are active in Africa and that may become beneficiaries under the current proposed GCF project. **Remaining gaps::** The EARF project is a regional project and there is little to no public information available about companies that were supported in Mozambique.
Accelerating Sustainable & Clean Energy Access Transformation (ASCENT) in AFE Region Multi-Phase Programmatic Approach (MPA, 2023–2030)[77,78] **Funding:** Total budget: US$ 50 million International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD)	The ASCENT Multiphase Programmatic Approach (MPA), under the Energy Transition and Access (ETA) Global Challenge Program, aims to: • Expand access to affordable, reliable, sustainable, and modern energy. • Scale up clean energy, phase down fossil fuels, and ensure a just energy transition. This initiative is built on three pillars: • **Pillar 1** focuses on strengthening regional and national energy planning platforms to reduce	**Complementarity:** Leverages regional TA and planning complements ASCENT by focusing on on-the-ground min-grid implementation and productive energy use in rural communities. Additional information about the alignment between the World Bank's Ascent and Ascent Green program and the current GCF proposal are detailed in the Box below. **Remaining gaps:**

[76] https://www.greenclimate.fund/project/fp148
[77] https://www.comesa.int/accelerating-sustainable-clean-energy-access-transformation-ascent-in-afe-region-multi-phase-programmatic-approach-mpa/
[78] https://projects.worldbank.org/en/projects-operations/project-detail/P180547

Project executing agency: Common Market for Eastern and Southern Africa (COMESA)	costs, align policies, and mobilize climate and private financing for energy access. • **Pillar 2** aims to expand and upgrade electricity grids, including cross-border connections, while improving utility performance and ensuring affordability for vulnerable groups • **Pillar 3** promotes distributed renewable energy and clean cooking through innovative financing, de-risking mechanisms, and support for the private sector and local institutions. The ASCENT program includes a dedicated investment window, ASCENT-Green, which operationalizes Pillar 3 by scaling access to distributed renewable energy and clean cooking solutions. Led by the World Bank with partners including TDB/TDF, IFC and MIGA, ASCENT-Green (2025–2032) builds on the ASCENT MPA to translate regional planning into country-level implementation. It supports national results-based financing, mobilizes private investment through blended-finance and de-risking tools, promotes productive energy use and climate-resilient livelihoods, and strengthens enabling policy and institutional frameworks for an equitable and sustainable energy transition across 20+ countries in Eastern and Southern Africa. **Geographic coverage:** Eastern and Southern Africa	Additional information about the alignment between the World Bank's Ascent and Ascent Green program and the current GCF proposal are detailed in the Box below.
PROLER: Supporting Mozambique to develop large-scale renewable energy production (2017–2027)[79] **Funding:** Total budget: € 37,700,000 (US$: 41,913,571 Current conversion) **Project executing agency:** AFD, the European Union and EDM	Develop four renewable energy projects with a total installed capacity of around 160MW: 3 solar (Dondo, Manje, Chimbunila) and one wind (Jangamo). **Geographic coverage:** Mozambique: Dondo, Manje, Lichinga and Inhambane	**Complementarity:** The PROLER program targets on on-grid renewable energy projects and as such complements the focus of the current GCF proposal, which targets off-grid solutions. **Remaining gaps:** on-grid electrification will not be sufficient to reach universal access by 2030. Off-grid solutions can fill this gap.

[79] https://www.afd.fr/en/carte-des-projets/proler-supporting-mozambique-develop-large-scale-renewable-energy-production

Energy Efficient Lighting and Appliances in EAC and SADC (EELA; 2019 – 2024)[80] **Funding:** Funded by Swedish International Development Corporation (Sida). Budget not disclosed. **Project executing agency:** East African Centre of Excellence for Renewable Energy and Efficiency (EACREEE), Southern African Development Community Centre for Renewable Energy and Energy Efficiency (SACREEE), and Swedish Energy Agency (SEA) Implemented by the United Nations Industrial Development Organization (UNIDO)	Support market development for energy-efficient lighting and appliances across East and Southern Africa. To accelerate sustainable development, the project promoted efficient electricity use in homes, businesses, and public facilities. A preparatory phase started in August 2018. **Geographic coverage:** 21 Member countries of the Southern African Development Community (SADC) and the East African Community (EAC)	**Complementarity:** Promotes energy efficiency; the proposal integrates efficient appliances into mini-grids for enhanced energy use and co-benefits. **Remaining gaps:** No direct rural deployment
Mozambique Energy For All (ProEnergia;2019–2024)[81] **Funding:** Total project cost: US$148,000,000 **Project executing agency:** World Bank with EDM and FUNAE	Increase access to electricity service in peri-urban and rural electrification, with EDM and GoM identifying over 500 settlements to be electrified in Mozambique. Component 1: approximately 20 districts across the country, with 74% of those settlements in rural areas, and is expected to connect around 250,000 households, of which 185,000 are in rural areas and 65,000 in peri-urban areas. Component 2: off-grid electrification, which includes two subcomponents: mini-grids and off-grid results-based financing. Component 3: Technical assistance and implementation support to EDM and FUNAE. **Geographic coverage:** Mozambique	**Complementarity**: Contributed to rural electrification via grid densification. **Remaining gaps:** ProEnergia did not focus on mini-grids and Productive Use of Renewable Energy
BRILHO–Energy Africa Mozambique programme (2019–2026)[82] **Funding:**	Increase energy access through promoting private sector investment in off-grid clean energy. Build a market for off-grid energy businesses that can operate sustainably.	**Complementarity**: The Brilho project significantly contributed to the elaboration of Mozambique's off-grid regulations, including the regulation for awarding mini-grid concessions and establishing

[80] https://www.eacreee.org/project/energy-efficient-lighting-and-appliances-eela-project-southern-and-eastern-africa
[81] https://projects.worldbank.org/en/projects-operations/project-detail/P165453
[82] https://brilhomoz.com/

By the end of 2023, £31.7 million (approximately US$42.3 million) **Project executing agency:** UK/Sweden-funded, implemented by SNV.	Build the supporting environment for successful off-grid energy businesses. Support the Government of Mozambique in developing an off-grid strategy, policy, and regulatory environment that embeds a private sector approach into government systems. **Geographic coverage:** Mozambique	cost-reflective tariffs. The project also supported the first private sector finance mini-grid in Mozambique. **Remaining gaps:** The off-grid and mini-grid regulations have not yet been applied in practice. The Brilho project also had limited focus on mini-grid related Productive Use of Renewable Energy.
+SOL project(2024–2028)[83] **Funding:** SNV and Swedish International Development Cooperation Agency (SIDA) **Project executing agency:** SNV and ARENE	The +Sol The +Sol project builds further on the Brilho project and seeks to further operationalize the off-grid and mini-grid regulations by supporting the preparation and implementation of mini-grid concessions, complemented by the distribution of solar home systems and clean cooking appliances. It consists of four components: • Pipeline Development: Identifies and prepares priority off-grid communities for private sector investment, supported by GIS analysis, public tenders, and advisory from SNV. • Clean Energy Fund (CEF): This fund will provide results-based financing to energy MSMEs across project stages, with high initial incentives to support early market development. • Climate Asset Aggregator: This tool enables carbon credit generation and reinvestment into the CEF, ensuring sustainability by linking carbon revenues to initial funding support. • Technical Assistance (TASS): Strengthens the off-grid sector through tailored advisory services, regulatory support, and capacity-building for local and international energy providers. **Geographic coverage:** Mozambique	**Complementarity:** As part of the Country Platform discussions, the +Sol project has been restructured to align with the current GCF proposal as well as a planned EUR 20 million funding envelope from the European Union. As such, the funding envelope from Sweden under the +Sol project will be redirected towards carrying out initial mini-grid site assessments and clustering work that will be later used as a basis for preparing the private sector mini-grid concession tenders, which are being jointly planned and which will receive financial support from the EU and the GCF funding requested under this proposal. See also Box - *Mozambique's Government-Led Country Platform Approach fpr the Off-grid Sector.* More information about the alignment of the project preparation process between +Sol, EU and this GCF proposal can be found in Section 8 of Annex 2. **Gaps addressed:** Data and TA for mini-grids are missing to inform and launch mini-grid concession tenders — the project will carry out essential site assessment and project preparation work to facilitate the launch of a large-scale coordinated concession tender, which will benefit from parallel financing from both EU and this GCF proposal. For more information, see Section 8 of annex 2
GET.FiT Mozambique **Funding:** KfW	The GET.FiT Mozambique program, also known as mini-grids-Green People's Energy (GPE) program, is a German cooperation initiative designed to accelerate private investment in the mini-	**Complementarity:** The GET.FiT Mozambique program is the first program in Mozambique that is starting to apply the mini-grid regulations,

[83] https://api.swedenabroad.com/globalassets/ambassader/mocambique-maputo/documents/2024-10-24-sol-procurement/appendix-1-terms-of-reference.docx

Project executing agency: Multiconsult Norge SA	grid sector. Funded by KfW and implemented by Multiconsult Norge SA, the program has a budget of $23.48 million EUR and a long-term duration from 2022 to 2032. Its strategic goal is to leverage a financial subsidy to make private sector mini-grid development economically viable.	including for awarding concessions and setting tariffs. Concessions have not yet been awarded but the program will provide important lessons learned and data points to further inform the implementation of the proposed GCF project. **Remaining gaps:** The GET.FiT program only focuses on one province. Also, Poductive Use of Renewable Energy is not featuring prominently in the design.
GET.invest Mozambique[84] **Funding:** Total projected investment volume globally: approximately €3,3 billion (US$3,7 million) **Project executing agency:** EU partners and GIZ	Part of a European flagship program that facilitates investment in renewable energy in sub-Saharan Africa, the Caribbean and the Pacific. GET.invest is a joint initiative of several European development partners, namely the European Union, Germany, Norway, the Netherlands, Sweden and Austria. GET.invest Mozambique is directly financed by the European Union's delegation to Mozambique within the scope of Promove Energia and by the German Federal Ministry of Economic Cooperation and Development. Facilitates private investments in clean energy by building a pipeline of bankable investment projects for financing initiatives. Works with local financiers and public actors to create a financial and regulatory environment to provide access to clean energy for all. **Geographic coverage:** Africa	**Complementarity**: Aligns with finance mobilization goals; complements by providing access to relevant market information, including information about mini-grid companies and PURE suppliers, distributors, operats. **Remaining gaps:** GET.invest can identify relevant private sector actors and provide technical assistance and transaction advice. The initiative does not finance or invest in off-grid companies.
Hardest-to-Reach[85] **Funding:** Total project cost: US$250 million GCF:US$65 million Co-financing: US$185 million **Project executing agency:** Acumen Fund, Inc.	Mobilize a blend of institutional and donor finance to provide over 60 million people in sub-Saharan Africa with clean, off-grid solar energy, contributing to SDG 7. Establish two financing facilities — a US$50 million Market Support Facility (MSF) and a US$200 million Market Expansion Facility (MEF) — to address different investment risk profiles and capital needs of off-grid solar companies. Deploy patient capital, including debt, equity, and grants, through the MSF to	**Complementarity**: The financial instruments offered by the Hardest-to-Reach project could complement the financial instruments considered under the current GCF proposal. To date, there is no public information about companies or projects in Mozambique that have received from the Hardest-to-Reach fund. **Remaining gaps:** Without targeted subsidy mechanisms as envisioned by the current GCF proposal, it might not be viable for mini-

[84] https://www.get-invest.eu/about/country-windows/mozambique/
[85] https://www.greenclimate.fund/project/fp211

	prove market approaches and support companies entering underserved segments. Provide impact-linked debt through the MEF to responsibly expand the reach of off-grid solar technologies, emphasizing inclusion and climate resilience. Deliver technical assistance and invest in ecosystem development to ensure long-term sustainability and impact beyond the lifespan of the funding vehicles. **Geographic coverage:** Lesotho, Malawi, Mozambique, Niger, Sierra Leone, Togo, Uganda, Benin, Zambia, Burundi, Democratic Republic of the Congo, Guinea, Guinea-Bissau, Burkina Faso, Chad and Somalia	grid and PURE developers to make a financially viable business case to be able to tap into Hardest-to-Reach funding (or other programs that offer debt and equity).

Box - Alignment Between the Enabel Project and the World Bank's Ascent and Ascent Green Programme

Currently, there two GCF proposals under preparation, which target the off-grid sector in Mozambique (this current proposal with Enabel as AE and the Ascent Green Program with the World Bank as the AE). Even though the Ascent Program is a regional program targeting 20+ countries and the Enabel project has a national focus, both projects have strong complementarities and provide a unique opportunity to create synergies along the following lines:

Strategic Planning: Both initiatives will use the Least Cost Electrification Plan (LCEP) as the foundational framework for planning and prioritizing interventions. The LCEP identifies optimal areas for grid densification and extension, mini-grid deployment, and stand-alone systems based on least-cost principles. Its preparation is being led by the UIPCE, with technical support from both the World Bank and Enabel. This shared analytical foundation will ensure coherence and complementarity in prioritizing and selecting sites for intervention.

Strengthening FUNAE: Both projects will provide targeted technical assistance to FUNAE to reinforce its role as a national funding vehicle for off-grid energy investments in Mozambique. Throughout implementation, the World Bank and Enabel will coordinate closely to align their technical assistance—particularly embedded advisory support and twinning arrangements—to avoid duplication and maximize institutional strengthening outcomes.

Complementary Technical Solutions: Achieving universal access in rural areas in the short to medium term will require a combination of mini-grid and stand-alone solutions. Enabel's intervention will primarily focus on the deployment of mini-grids and Productive Use of Renewable Energy (PURE) technologies, with limited use of stand-alone systems. The World Bank's ongoing +Energia project and the proposed Ascent Green Program adopt a technology-neutral approach. Opportunities will therefore be explored to deploy stand-alone systems financed through +Energia and Ascent Green Program in areas where Enabel-supported mini-grids are being developed, thereby enhancing complementarity and overall access outcomes.

Alignment of Financing Instruments: Enabel's proposed intervention relies on grant-based instruments, including viability gap financing and results-based financing (RBF) incentives. In contrast, the Ascent Green Programme offers a broader suite of financial instruments delivered through regional platforms—RBF grants, credit lines, and equity financing. Ascent Green's RBF grants are specifically designed to fill market gaps and will target countries or regions where no alternative RBF schemes exist; beneficiaries will therefore need to demonstrate the absence of other accessible RBF mechanisms before accessing Ascent Green funding. Ascent Green's credit lines and equity instruments will be available to Distributed Renewable Energy (DRE) companies, including mini-grid developers, and can therefore complement Enabel's grant-based support in Mozambique. Both the World Bank and Enabel will collaborate to align financing mechanisms and facilitate match-making among financiers, investors, and project developers to increase private-sector participation and leverage additional capital.

Country Platform Engagement: To further harmonize approaches and strengthen sector coordination, both Enabel and the World Bank will actively participate in the Government-led Country Platform, contributing to coherent policy dialogue, planning, and stakeholder alignment.

B.2 (a). Theory of change narrative and diagram (max. 1500 words, approximately 3 pages plus diagram)

Impact: Paradigm shift

44. **IF** FUNAE's capacity is strengthened to mobilize and manage climate finance, a pipeline of eligible and investment-ready mini-grid and climate-smart PURE projects is developed, and RBF mechanisms are deployed to enable implementation; **THEN** Mozambique will be positioned to scale up low-emission, climate-resilient rural electrification through increased private sector participation, improved affordability, and enhanced livelihoods in vulnerable communities; **BECAUSE** the project addresses limited institutional readiness, high project preparation costs, affordability constraints, lack of access to finance, and low energy demand, through an integrated, country-led approach that promotes financial sustainability, regulatory alignment, and long-term transformational change in the off-grid energy sector.

Target communities

45. The proposed project will target local communities in 30-40 mini-grid sites that will be identified starting from the national Least Cost Electrification Plan in rural Mozambique. The communities in these rural areas do not have reliable access to electricity and are particularly vulnerable to the impacts of climate change, including droughts and floods. They need electricity to increase their adaptive capacity and buffer the impacts of climate change on their physical and livelihood security.

Barriers to the implementation of the project

46. **Barrier 1 — Institutional Capacity:** Mozambique's off-grid regulatory framework was updated between 2021 and 2023 but remains untested. The new framework assigns expanded responsibilities to government bodies such as ARENE and the planning and coordination unit (Unidade Integrada de Planificação e Coordenação da Eletrificação–UIPCE) within the Ministry of Mineral Resources and Energy (MIREME). It also foresees for FUNAE to evolve into a **single-purpose national energy fund**, fully equipped to manage large-scale, complex climate finance portfolios. Ongoing capacity-building efforts are underway, but additional support is needed to strengthen FUNAE to effectively fulfil its role as the national off-grid energy fund.

47. **Barrier 2 — Project Preparation:** Developing mini-grid projects requires substantial upfront investment in pre-feasibility studies and project design, often disproportionate to potential revenues. This is due to factors such as the need for in-depth community engagement, the remote location of many sites, and the bespoke nature of mini-grids, which demand site-specific data and analysis for optimal placement. Furthermore, navigating complex regulatory processes—including securing environmental licenses and land titles—presents a significant challenge, particularly for private sector developers. Key barriers for scaling PURE

solutions include high upfront costs, limited financing options, lack of standardized and quality-controlled appliances, insufficient local technical expertise, weak market linkages, inadequate logistics, the need for training in equipment operation, business management, water-efficient practices, and limited manufacturer presence in rural areas.

48. **Barrier 3 — Tariff and Affordability:** Despite declining costs of mini-grid components, cost-reflective tariffs remain beyond the financial reach of most unelectrified households and businesses, particularly in rural areas with high poverty[86]. Without targeted subsidies or financial support mechanisms, affordability will continue to be a significant barrier to access.

49. **Barrier 4 — Access to Finance:** Limited access to finance—especially in local currency—remains a significant constraint for both mini-grid and PURE developers. Securing long-term financing under commercially viable terms is challenging due to perceived high risks, lack of collateral, and limited availability of concessional funds. Currency exchange risks further complicate financing when loans are offered in foreign currency, making projects vulnerable to exchange rate fluctuations. On the demand side, entrepreneurs and small businesses often face difficulties obtaining credit to purchase productive use of renewable energy (PURE) appliances such as milling machines, refrigeration units, or irrigation pumps. Financial institutions may consider these investments too risky due to limited repayment capacity, lack of credit history, and uncertainty about income generation from new productive activities. Additionally, high interest rates and short repayment periods discourage uptake of PURE solutions, even when they could significantly improve livelihoods and economic resilience.

50. **Barrier 5 — Demand and Revenue Risk:** Rural mini-grid customers often have minimal electricity needs, typically limited to lighting and phone charging. This low baseline demand creates uncertainty around future electricity consumption and revenue generation. Furthermore, climate-smart PURE uptake is minimal, with low awareness and limited capacity among rural users. Stimulating demand and supporting PURE adoption will be critical to improving mini-grid financial viability and sustainability.

Overcoming Barriers to Achieve Impact

51. The project will achieve the proposed benefits through four interconnected components, described in detail in Section B.3. The text below describes how the project has been designed to address the described barriers and achieve the paradigm shift impact presented in Figure 9 below.

52. To address **Barrier 1**, the project will strengthen FUNAE's capacity to operationalize its role as Mozambique's national off-grid energy fund and to implement the newly updated regulatory framework effectively. Under Component 1, the project will establish and operationalize the governance and accountability structures within FUNAE (Output 1.1), including strengthening internal policies, fiscal oversight mechanisms, and tailored training programmes to enhance staff's technical, managerial, and fiduciary capacity. Simultaneously, Output 1.2 will enhance FUNAE's strategic frameworks and climate finance mobilization capacity through the establishment of dedicated teams, participation in international climate finance fora, and coordination under the Country Platform. These measures ensure that FUNAE can fulfil its expanded responsibilities within the evolving regulatory environment, while supporting effective collaboration with ARENE and MIREME in alignment with national electrification goals.

53. **Barrier 2** will be addressed via the Project Preparation Facility under Component 2, which is designed to deliver tailored capacity building and awareness raising campaigns for public and private actors, as well as local communities, enabling them to actively engage in the development, financing, and adoption of mini-grid and PURE solutions in Mozambique. The Project Preparation Facility will also support and guide the process of awarding concessions to private sector mini-grid developers in accordance with Mozambique's national off-grid regulations. The project preparation process will be carefully aligned and

[86] Only 22% of households lacking electricity globally can afford the monthly payment required for a Tier 1 solar energy kit on PAYG, while 49% would be able to afford it at a stretch. Source : https://www.gogla.org/wp-content/uploads/2024/10/MTR-Design_Oct8-web.pdf

coordinated under the Country Platform, ensuring policy coherence and consistency among different support programs.

54. The approach to addressing **Barrier 3** includes implementing targeted financial support mechanisms under Components 3 and 4. Through Output 3.1, mini-grid construction will be co-financed through result-based grants disbursed by FUNAE, reducing capital costs for private developers and enabling the application of lower, more affordable tariffs. Additionally, under Output 4.1, RBF incentives will be introduced to support the adoption of climate-smart PURE appliances, which can enhance incomes, thereby improving users' ability to pay for electricity services. These combined subsidy mechanisms ensure that cost-reflective tariffs can be balanced with affordability, expanding access to clean energy for rural, low-income communities while maintaining financial viability for service providers.

55. **Barrier 4** will be addressed through financial instruments and institutional support mechanisms across Components 1, 3 and 4. Under Output 1.2, the project strengthens FUNAE's capacity to mobilize and manage climate finance by developing strategic frameworks and internal structures dedicated to investment planning and partnership engagement. Output 3.1 provides milestone-based grants to private developers to reduce upfront capital requirements and enhance bankability of mini-grid projects, while Output 4.1 establishes a dedicated facility for supporting PURE implementation for PURE developers, with a co-financing mechanism tailored to promote sustainable market entry and local service delivery. By reducing financial risk for developers and prioritizing PURE solutions that serve groups of users, increasing utilization rate, scalability, economic viability, the project facilitates greater access to finance for both infrastructure and appliance uptake, laying the groundwork for more inclusive and commercially viable energy solutions.

56. The project tackles **Barrier 5** through a comprehensive approach under Components 2 and 4, aimed at stimulating the demand for renewable energy and enhancing the uptake of PURE technologies. Through Output 2.1, the project raises awareness and builds capacity among potential mini-grid customers and private sector developers through targeted awareness-raising campaigns and business development training, empowering rural communities to engage with and benefit from electrification. Output 4.1 further incentivizes the uptake of climate-smart PURE technologies by establishing a RBF facility for PURE developers, focusing on applications that deliver adaptation benefits and income-generating potential. Together, these interventions drive demand growth, diversify end-use applications, and strengthen the long-term financial viability of mini-grids in low-income rural areas.

Outputs and activities

57. The project will deliver the following outputs through the associated activities:

58. Output 1.1: FUNAE's governance, accountability and fiduciary systems are reinforced/optimized and operational, supporting transparent, accountable, and efficient management and effective oversight of larger-scale climate finance and broader project portfolios. This will be achieved by providing institutional and capacity building support to FUNAE to operate as an (inter)nationally recognized funding agency (Activity 1.1.1). This will focus on strengthening FUNAE's institutional capacity and technical, managerial and fiduciary responsibilities by consolidating the full operationalization of key governance structures and operational frameworks to enhance transparency and accountability. This will be delivered through a combination of (re-)skilling training sessions and dedicated twinning arrangements (on the job training) between staff members of FUNAE and Enabel. Overall, strategic planning, operational efficiency, and compliance will be improved using best practices.

59. Output 1.2: Strategic and institutional frameworks for mobilizing and deploying climate finance from various sources and for effectively contributing to Mozambique's mini-grid Country Platform are adopted and operationalized by FUNAE, This will be achieved by establishing strategic frameworks and partnerships and strengthening FUNAE's capacity to mobilizes climate finance (Activity 1.2.1). The aim is to enhance FUNAE's capacity to mobilize climate finance by mainstreaming best practices into internal structures, strengthening staff expertise through targeted training, and facilitating participation in strategic

climate finance events. The frameworks and partnerships also support FUNAE's coordination role within Mozambique's Country Platform for the off-grid sector, promoting alignment with national priorities. In addition, support will be provided to the Country Platform and its secretariat for prioritizing policy development, supporting financial mobilization by engaging DFIs and investors, strengthening the development of blended finance models, and strengthening local currency financing using national resources, among others. Finally, technical assistance will be provided to improve policy and regulatory frameworks that enable the uptake of PURE, fostering cross-sectoral collaboration and sustainable rural development.

60. Outputs 1.1 and 1.2 contribute directly to achieving Outcome 1 described below.

61. Output 2.1: Capacity of potential mini-grid and PURE developers and customers is strengthened, and awareness is raised on opportunities for developing mini-grids and PURE solutions in Mozambique. This will be achieved by building capacity and awareness among the private sector of opportunities to develop and finance mini-grids and PURE (Activity 2.1.1). This will focus on engaging stakeholders and the private sector through targeted workshops, knowledge-sharing sessions, and B2B events to promote investment, foster partnerships, and accelerate the development of mini-grid and PURE opportunities. Furthermore, potential customers will be engaged in the benefits and opportunities of mini-grids and PURE (Activity 2.1.2). This will include raising awareness among rural communities about the benefits of PURE technologies and building their capacity for income generation through targeted training on business development and PURE, thereby enhancing livelihoods and climate resilience.

62. Output 2.2: Pipeline of eligible mini-grid projects and PURE opportunities are defined and validated. Under this output, the project will validate and approve the site assessments, including evaluation of PURE opportunities and clustering of mini-grid sites, that will have been carried out by the Government of Mozambique in collaboration with the Swedish-funded +Sol project as part of the Country Platform approach. Data and information that will have been collected and analyzed by the +Sol project will be checked for quality and alignment with GCF requirements. The data and information will serve as a basis for the concession tender procedure that will be launched under Output 2.3.

Output 2.3: Mini-grid concessions are tendered, and concession and grant agreements are concluded. Output 2.3 will be achieved by establishing a collaboration mechanism between the project and ARENE, followed by the awarding of mini-grid concessions (Activity 2.3.1). Formalizing the collaboration with ARENE through an Operational Agreement and supporting the transparent and legally compliant implementation of the mini-grid concession tendering process is included here. Tendering will be organized per cluster. The process includes assisting with all the phases of the public tender, from document preparation to contract finalization, and ensuring bidder selection through a reverse auction based on the lowest tariff and subsidy requirements. Additionally, contractual arrangements between FUNAE and private mini-grid developers will be formalized in line with concession agreements (Activity 2.3.2). Please see additional details on contractual arrangement in Annex 9.

63. Outputs 2.1, 2.2 and 2.3 contribute directly to achieving Outcome 2 described below.

64. Output 3.1: Solar mini-grids constructed by private mini-grid concessionaires. This will be realized through the construction of the mini-grids by the selected mini-grid concessionaire (Activity 3.1.1), with Enabel/FUNAE overseeing milestone-based disbursements and monitoring progress, while the selected mini-grid concessionaires will manage operation and customer connection expansion as per the concession agreements. Furthermore, milestones related to the construction financial support milestones will be verified, followed by the disbursement of funds (Activity 3.1.2). This activity relates to the management of the grant disbursements in accordance with the milestones agreed in the respective Grant Agreements between FUNAE and the respective mini-grid concessionaires. These milestones can be related to the construction and commissioning of the mini-grids and the increase in mini-grid customer connections post-commissioning (exact milestones will be aligned between different funding programs under the Country Platform approach). An independent supervisor will be contracted to verify mini-grid

construction and commissioning milestones through field assessment, with FUNAE approving milestone completion based on official reports, which then trigger the disbursement of corresponding financial support to the mini-grid concessionaire.

65. Output 3.1 contributes directly to achieving Outcome 3 described below.

66. Output 4.1: Climate-smart PURE solutions are installed and operational. This output will be achieved by designing a dedicated facility for financially supporting PURE developers with locally-led PURE implementation (Activity 4.1.1). PURE developers will be required to provide co-financing to encourage sustainable market development and long-term service provision in Mozambique. The implementation of PURE solutions will be site-specific and tailored to the socio-economic context, adaptation needs and characteristics of provincial and district markets. As part of the project preparation work under Component 2, PURE market assessments will be carried out. Specific PURE opportunities and needs will be identified for individual mini-grid sites targeted by the project (see Activity 2.2.1).

67. Output 4.1 contributes directly to achieving Outcome 4 described below.

Outcomes and co-benefits

68. The project will achieve the following outcomes:

69. Outcome 1: Strengthened institutional, organizational, and technical capacities of FUNAE for financing sustainable off-grid energy projects in Mozambique. This will be achieved by: i) reinforcing and fully operationalizing governance, fiduciary and accountability systems and mechanisms in FUNAE. Building on ongoing support being provided to FUNAE under various support programs (Enabel/BE, GCF readiness and SNV) , the project will further strengthen its institutional, organizational and technical capacities for mobilizing and managing funding in support of sustainable off-grid energy projects in Mozambique; and ii) supporting FUNAE to adopt strategic frameworks, standards and procedures to more effectively coordinate the mobilization and management of climate finance . This will strengthen FUNAE's capacity to attract and manage additional climate finance and investments for sustainable energy initiatives, while also enabling effective fulfilment of its mandate as a fund for the off-grid sector.

70. Outcome 2: The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes. This will be achieved by: i) building capacity and awareness among mini-grid and PURE developers and customers on developing mini-grids and PURE in Mozambique. This will empower developers and customers to effectively participate in the development, financing, and uptake of mini-grid and PURE solutions in the country; ii) define a pipeline of eligible mini-grid projects and PURE opportunities. The project will validate and approve the site assessments and clusters of mini-grids sites, including PURE opportunities, resulting from a project preparation initiative led within the Country Platform approach, with support from the Swedish-funded +Sol project , and formalize a pipeline of eligible and investment-ready mini-grid and PURE projects; and iii) tendering mini-grid concessions, and concluding concession and grant agreements. The project will support establishing a system for the transparent and legally compliant competitive tendering and awarding of mini-grid concessions in the country.

71. Outcome 3: Reduced emissions across Mozambique due to mini-grid installation and operation. This will be achieved by private developers fostering the production of solar mini-grids. Mini-grids will be constructed based on the concession and grant agreements concluded under Outcome 2.

72. Outcome 4: Increased resilience and livelihood generation for vulnerable communities in Mozambique. This will be achieved through a dedicated climate-smart PURE Facility to support the implementation of PURE solutions. Results-Based Financing (RBF) incentives will support site-specific PURE deployment at mini-grid sites, fostering inclusive market development and climate-resilient economic growth.

73. The project will achieve the following co-benefits, with additional co-benefits described in Section D.3 of this Funding Proposal:
    - Co-benefit 1: Job creation and local economic development. Deploying mini-grids and PURE solutions will stimulate local economies by enabling new and more efficient income-generating activities, particularly in agriculture, fisheries and small-scale manufacturing.
    - Co-benefit 2: Gender equality and social inclusion. Targeted pure investments and community engagement will offer greater opportunities for women, youth, and marginalized groups to participate in economic activities and influence decision-making processes, promoting social equity. Access to energy will enhance community well-being by unlocking economic opportunities, improving women's mobility and time management, and providing better access to health and education services.

Assumptions

74. Key assumptions underlying the achievement of the project's outputs and outcomes are listed below, with more detailed notes and assumptions presented as required in Section E: Logical Framework.
    1. GoM maintains its commitment to climate change action, including promoting rural electrification using renewable energy sources.
    2. Institutional capacity and intellectual property are maintained and continue to be built in FUNAE to access climate finance and implement related projects.
    3. Availability of access to renewable energy and access to PURE at the mini-grid sites and surrounding areas will stimulate energy demand in the mini-grid project sites.
    4. Local communities buy into and take ownership of PURE solutions and approaches.
    5. +Sol project completes site assessments and mini-grid cluster definition before the start of the GCF-funded project.

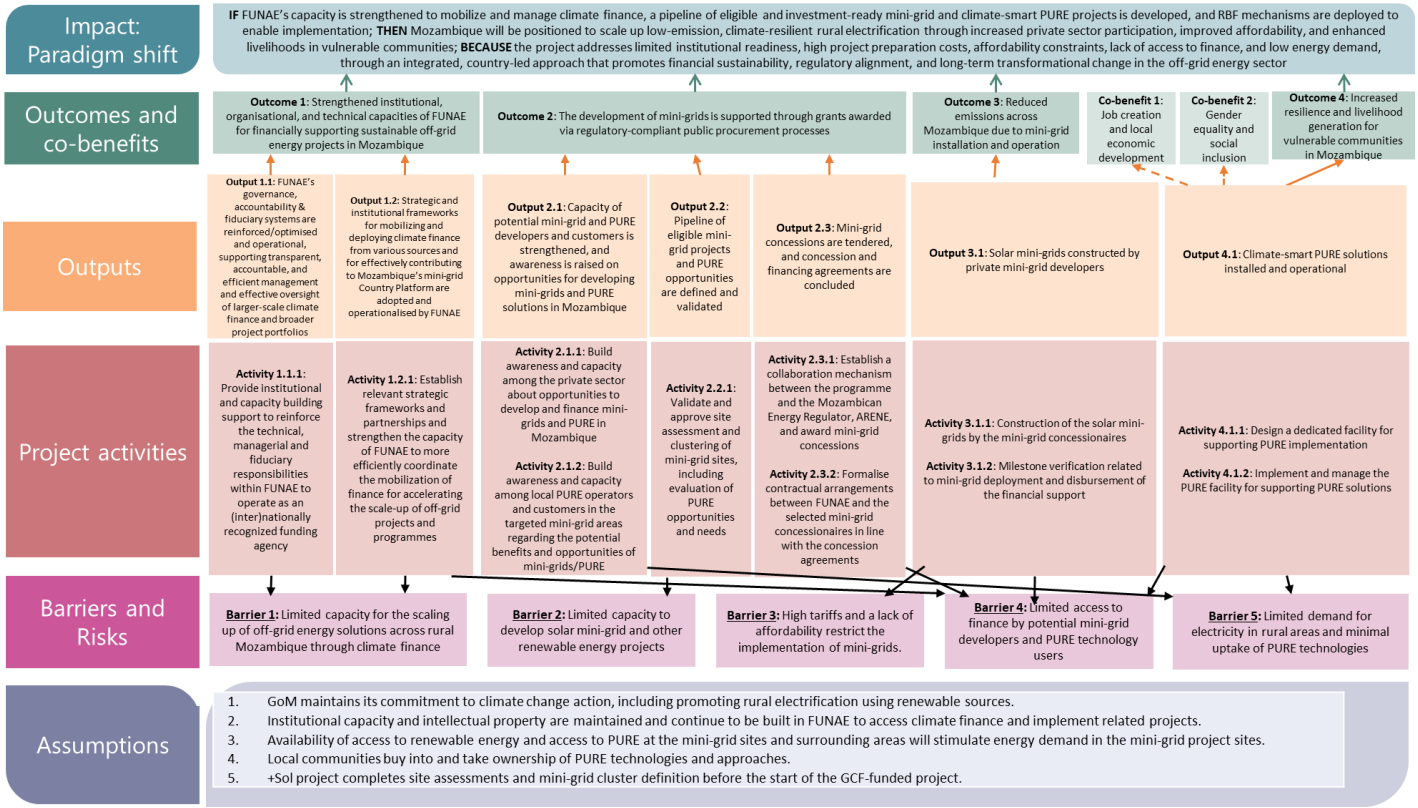


Figure 9. ToC diagram.

B.2 (b). Outcome mapping to GCF results areas and co-benefit categorization

Project outcomes:

- Outcome 1: Strengthened institutional, organizational, and technical capacities of FUNAE for financially supporting sustainable off-grid energy projects in Mozambique
- Outcome 2: The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes
- Outcome 3: Reduced emissions across Mozambique due to mini-grid installation and operation
- Outcome 4: Increased resilience and livelihood generation for vulnerable communities in Mozambique

Outcome number	**GCF Mitigation Results Area (MRA 1-4)**				**GCF Adaptation Results Area (ARA 1-4)**			
	MRA 1 Energy generation and access	**MRA 2** Low-emission transport	**MRA 3** Building, cities, industries, appliances	**MRA 4** Forestry and land use	**ARA 1** Most vulnerable people and communities	**ARA 2** Health, well-being, food and water security	**ARA 3** Infrastructure and built environment	**ARA 4** Ecosystems and ecosystem services
Outcome 1	☒	☐	☐	☐	☐	☐	☐	☐
Outcome 2	☒	☐	☐	☐	☐	☐	☐	☐
Outcome 3	☒	☐	☐	☐	☐	☐	☐	☐
Outcome 4	☒	☐	☐	☐	☒	☐	☐	☐

Project co-benefits:

- Co-benefit 1: Job creation and local economic development.
- Co-benefit 2: Gender equality and social inclusion (to be measured via GAP — Annex 8).

Co-benefit number	**Co-benefit**					
	Environmental	**Social**	**Economic**	**Gender**	**Adaptation**	**Mitigation**
Co-benefit 1	☐	☒	☒	☒	☐	☐
Co-benefit 2	☐	☒	☐	☒	☐	☐

B.3. Project/programme description (max. 2500 words, approximately 5 pages)

75. The project is structured around **four interrelated components**, which will accelerate access to energy by implementing mini-grids and climate-smart productive use of renewable energy (PURE) solutions in rural areas of Mozambique. The components fit within a broader Country Platform approach as referred to in Section B.1.

76. **Component 1** of the project will address one of its core objectives: strengthening the institutional capacity of Mozambique's Energy Fund (FUNAE) to manage financial support mechanisms for the promotion of energy access and climate-resilient Productive Use of Renewable Energy (PURE) as the program phases out (Outcome 1). Support under this component will build further on past and ongoing capacity building activities and focus on consolidating the full *operationalization* of drafted governance and operational instruments and organizational reforms. The support will be delivered through a combination of (re-)skilling and training sessions as well as dedicated twinning arrangement between FUNAE and Enabel staff for the day-to-day implementation of key activities under the project. In addition, under this component, the project will provide support to the secretariat of the Country Platform (CP). The CP discussions are at an advanced stage and an understanding has been reached that the secretariat will be supported by existing donors for the first few years. The project proposes to use GCF finance to continue to support the secretariat when the +SOL programme ends (late 2026 to early 2027).

77. Activities under Outcome 1 are instrumental to the approach's long-term institutionalization and sustainability and directly contribute to reinforcing country ownership and the upscaling and broader adoption of activities under Components 2, 3, and 4.

78. **Component 2** will focus on: (1) building capacity and awareness among private operators and local communities to opportunities and benefits of mini-grids and PURE through targeted outreach, workshops, and marketing activities; (2) validating and approving a pipeline of eligible mini-grid projects and PURE opportunities as prepared by the Government of Mozambique with support from the Swedish-funded +Sol project; and (3) launching and implementing the competitive tender procedure up to the point of signing the concession and grant agreement with the Special Purpose Vehicle ("SPV" – see the definition of that term in Annex 9) of the selected private sector bidder.

79. **Component 3** supports the construction of mini-grids by private concessionaires, contributing to emissions reduction across Mozambique (Outcome 3). Following the award of concessions (under Component 2), the selected private companies will be responsible for constructing, commissioning and operating the mini-grids. The mini-grids will be co-financed through private sector equity/debt contributions and milestone-based financial support from FUNAE, technically supported by Enabel. A key function of Component 3 is to ensure transparent and accountable disbursement of funds, based on verified milestones. An independent supervisor will support Enabel and FUNAE in validating progress on-site.

80. **Component 4**, Climate-Smart Productive Use of Renewable Energy (PURE) Facility aims to enhance climate resilience and livelihoods in vulnerable Mozambican communities by enabling the adoption of renewable energy-powered, income-generating installations and appliances (Outcome 4). A PURE facility will be designed and implemented based on market assessments, prioritizing applications with clear climate change adaptation benefits. PURE solutions that serve groups of users rather than individuals, based on stakeholder consultations and information gathered during the awareness campaigns (demand activation activities, Activity 2.1.2), increasing utilization rates and social inclusion. Financial support will be provided through Results-Based Financing (RBF) incentives to PURE developers, who will be expected to co-finance part of the equipment and installation costs. The initiative will be led by FUNAE with technical support from SEforALL and Enabel.

81. The project's outcomes, outputs, and activities are briefly described below. Annex 2: Feasibility Study, Part C, Section 5 provides further detail on each activity and sub-activity and a detailed description of the baseline for each output.

Component 1. Institutional strengthening and capacity support for FUNAE

Outcome 1. Strengthened institutional, organizational, and technical capacities of FUNAE for financially supporting sustainable off-grid energy projects in Mozambique

82. FUNAE has historically played a dual role: developing and operating renewable energy mini-grids while acting as a public energy fund. Through these efforts, FUNAE pioneered Mozambique's mini-grid market and successfully implemented decentralized energy solutions. Today, Mozambique's revised regulatory framework, energy transition pathway and growing demand for climate finance require FUNAE to evolve into a single-purpose national energy fund, fully equipped to manage large-scale, complex climate finance portfolios. This transformation is strategic and forward-looking, not remedial. It builds on FUNAE's accomplishments and better positions the institution to operate at the scale and sophistication required by international climate finance.

83. The capacity-building under this component is targeted and systemic, enabling FUNAE to professionalize its institutional and management architecture, modernize digital systems, and strengthen technical and regulatory oversight. These upgrades will contribute to transparent, accountable, and efficient management of climate funds and reinforce Mozambique's ability to deliver climate-resilient energy solutions.

84. To fulfil this mandate, FUNAE requires targeted institutional upgrades and upskilling in areas such as fiduciary management, governance, safeguards, digital systems, and monitoring. Component 1 provides the professionalization and system upgrades needed for FUNAE to operate at the scale of this program and future larger climate-finance portfolios.

Output 1.1 FUNAE's governance, accountability and fiduciary systems are reinforced/optimized and operational, supporting transparent, accountable, and efficient management and effective oversight of larger-scale climate finance and broader project portfolios

85. The purpose of activities under this Output is to reinforce and enhance the operationalization of effective governance and accountability structures within FUNAE, thereby strengthening its institutional, organizational, and technical capacities for mobilizing and managing funding to support sustainable off-grid energy projects in Mozambique. These activities will build on and be directly complementary to ongoing efforts undertaken by Enabel (bilateral portfolio 2023-2028 and GCF Readiness Project 2024-2025) and other partners (e.g. SNV, SEforALL) in supporting FUNAE becoming a single-purpose national energy fund.

Activity 1.1.1 Provide institutional and capacity building support to reinforce the technical, managerial and fiduciary responsibilities within FUNAE to operate as an (inter)nationally recognized funding agency

86. Building on the GCF Readiness support and bilateral programs implemented by Enabel and SNV, FUNAE has already benefited from an initial capacity gap assessment and the drafting of several key governance and operational instruments. These include: an Environmental and Social Safeguards Manual and Toolkit, an Institutional Gender Strategy and implementation framework, Project Management and Monitoring & Evaluation (M&E) Manuals, an Ethics Committee Manual and Action Plan, a Grant Management Manual and Matching Grant Toolkit, a Grievance Redress Mechanism with online reporting functionality, an Anti-Money Laundering and Counter-Terrorism Financing Policy, and the institutionalization of an Independent Audit Committee.

87. Complementary support also delivered a comprehensive HR assessment, preparation of organograms, a training roadmap, and tailored capacity building initiatives to underpin the organizational reforms that are required to turn FUNAE into a single-purpose national energy fund. These efforts have been further reinforced by the recent hiring of four professional staff (Fund Manager, Financial Expert, Technical Expert, and MEL Officer) under the Swedish-funded +SOL program.

88. The GCF-funded capacity building will build further on the above-mentioned activities and focus on consolidating the *full operationalization* of the drafted governance and operational structures and mechanisms, particularly with regard to:
    - Optimizing and reinforcing existing procurement, audit, and risk-management processes for larger portfolios.
    - Modernizing financial reporting and contract management tools.
    - Strengthening internal controls and compliance mechanisms to ensure transparent and accountable management of climate funds at this scale.
    - Enhancing the implementation and reporting of environmental, social, and gender safeguards.
    - Strengthening capacity to supervise private sector mini-grid developers and implement Mozambique's regulatory framework.
    - Harmonizing and updating operational guidelines and quality assurance tools for mini-grids projects.
    - Modernizing digital systems for fund and project oversight.
    - Consolidating Monitoring, Evaluation, and Learning (MEL), incorporating climate-resilience indicators and advanced analytics.

89. The support under Activity 1.1.1 will be delivered through a combination of (re-)skilling training sessions and dedicated twinning arrangements between staff members of FUNAE and Enabel.

90. Sub-activity 1.1.1.1. **Twinning Arrangement:** Enabel will provide on-the-job training and hands-on support to FUNAE to fully institutionalize the reforms and fiduciary standards and procedures. The support will be delivered through a combination of embedded staff and dedicated twinning arrangements between staff

members of FUNAE and Enabel. The twinning will be managed by a dedicated capacity-building expert who will liaise and facilitate the collaboration between FUNAE staff and relevant staff members from Enabel. To ensure twinning arrangements are effective, Enabel will make available the required human resources and profiles to deliver on the on-the-job training and to maximize peer learning.

91. Sub-activity 1.1.1.2. **(Re)skilling and training**: On a case-by-case basis, the on-the-job training will be complemented by tailored (re)skilling and training sessions to address specific skills gaps and strengthen competencies. The capacity-building expert will be responsible for engaging with FUNAE staff to identify specific capacity and training needs and to develop training and capacity-building packages tailored to the needs of the individual staff members. A personalized capacity and performance assessment will be carried out on an annual basis to evaluate progress, identify remaining capacity gaps and provide guidance and recommendations for continued capacity building and training efforts.

Output 1.2 Strategic and institutional frameworks for mobilizing and deploying climate finance from various sources and for effectively contributing to Mozambique's mini-grid Country Platform are adopted and operationalized by FUNAE

92. The purpose of activities under this Output is to enhance FUNAE's ability to mobilize and manage additional climate finance and investments for sustainable energy projects in Mozambique and operationalize its mandate of acting as a fund for the off-grid sector within the context of Mozambique's mini-grid Country Platform.

Activity 1.2.1 Establish relevant strategic frameworks and partnerships and strengthen the capacity of FUNAE to more efficiently coordinate the mobilization of finance for accelerating the scale-up of off-grid projects and programmes

93. Sub-Activity 1.2.1.1. **Establishment of Internal Structures for Climate Finance Mobilization**: Dedicated teams or focal points within FUNAE will be established and/or strengthened to focus on climate finance. These will be responsible for identifying investment opportunities, developing and elaborating fund mobilization strategies, including a carbon market strategy for the off-grid sector, and investment plans, preparing funding proposals, and engaging and coordinating with partners including those from the private sector.

94. Sub-Activity 1.2.1.2. **Support FUNAE's Role within the Country Platform**: This includes facilitating dialogue and coordination among partners and stakeholders, aligning investment pipelines and approaches with national priorities, contributing to implementing policy roadmaps, and ensuring transparency and coordination in implementation. Additionally, FUNAE will convene strategic policy dialogues under the Country Platform to disseminate best practices on climate resilience and channel implementation evidence into future investment planning and regulatory updates. In addition, support will be provided to the Country Platform and its secretariat for prioritizing policy development, supporting financial mobilization by engaging DFIs and investors, strengthening the development of blended finance models, and strengthening local currency financing using national resources, among others.

95. Sub-Activity 1.2.1.3. **Participation in Strategic Events and Trainings on Climate Finance**: FUNAE staff will be supported to attend national and international conferences, workshops, and training sessions focused on different finance sources, such as international climate funds (GCF, Adaptation Fund, Global Environment Fund (GEF)), green bonds, carbon markets, and blended finance models. These events will help staff stay informed about evolving funding opportunities and best practices in project design and proposal development.

96. Sub-Activity 1.2.1.4. **Tailored Capacity Building and Training Sessions**: Specialized training programs will enhance the technical and managerial skills of FUNAE staff in areas such as climate finance proposal

writing, financial modelling, and results-based financing. Enabel will deliver these sessions with the support of dedicated external experts with experience in climate finance.

Component 2. Project preparation facility

Outcome 2. The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes

Output 2.1 Capacity of potential mini-grid and PURE developers and customers is strengthened, and awareness is raised on opportunities for developing mini-grids and PURE solutions in Mozambique

The purpose of activities under this Output is to raise awareness and build capacity among potential mini-grid and productive use of renewable energy (PURE) developers and customers, enabling them to actively engage in the development, financing, and adoption of mini-grid and PURE solutions in Mozambique. The project will ensure these processes are locally led, especially for potential customers under Activity 2.1.2, to facilitate enhanced adoption of PURE services in the communities. Under Output 2.1, a sequenced set of studies and stakeholder consultations will generate the analytical and participatory inputs required to design the RBF facility.

Activity 2.1.1 Build awareness and capacity among the private sector about opportunities to develop and finance mini-grids and PURE in Mozambique

97. This activity aims to engage and inform private sector stakeholders about the potential opportunities and benefits of investing in mini-grid and PURE projects in Mozambique. Best practices on climate-resilient design and operations, and lessons learnt from field implementation, will be documented and shared with market actors through structured engagement and private-sector feedback loops (e.g. debriefs after tenders and commissioning, periodic developer roundtables).

98. Sub-Activity 2.1.1.1. **Knowledge sharing and stakeholder engagement**: The project will organize targeted workshops where pre-identified mini-grid clusters and the related PURE opportunities will be presented and discussed.

99. Sub-Activity 2.1.1.2. **Private sector awareness raising and capacity building**: A series of information-sharing sessions and workshops will be conducted to prepare private sector actors for investment. These will include business-to-business (B2B) matchmaking events and presentations on financing options, designed to facilitate partnerships, improve access to finance, and accelerate project development in the mini-grid and PURE sectors. An important element of this sub-activity are the PURE market assessments. The market assessment will result in an indicative list of PURE suppliers, active in different PURE thematics, that will facilitate the B2B matchmaking between regional PURE suppliers, local Mozambican PURE developers and mini-grid developers. The absence of these B2B networks is identified as an important barrier for the deployment of PURE services. In addition, the market assessment will provide important information about the developments in the PURE market that will inform the final design of the PURE facility (Sub-Activity 4.1.1.1). This will include market evolution, affordability considerations, social inclusion, and institutional assessments, complemented by district- and community-level consultations. The resulting deliverables — particularly the consolidated RBF Facility Design Report — will serve as formal inputs to Component 4, guiding the definition of eligibility criteria, incentive structure, performance indicators, and governance arrangements.

Activity 2.1.2 Build awareness and capacity among local PURE operators and customers in the targeted mini-grid areas regarding the potential benefits and opportunities of mini-grids/PURE

100. This activity focuses on raising awareness and strengthening the capacity of local communities and potential end-users regarding the positive impacts and opportunities offered by mini-grid electricity and PURE solutions to strengthen climate resilience.

101. Sub-Activity 2.1.2.1. **Mini-grids/PURE customer awareness raising:** Through community awareness-raising campaigns delivered by local service providers (such as local NGOs, companies or consortium of international NGOs/companies with local ones), rural community residents will gain a better understanding of how PURE technologies can enhance climate resilience through improved agricultural production, economic prospects and quality of life (see Annex 2 for more information).

102. Sub-Activity 2.1.2.2. **Capacity building for livelihood development and income generation:** Capacity-building sessions will be organized for local PURE operators such as farmers groups/cooperatives and small business, providing business development, management skills training and technical skills training regarding maintenance and operation of PURE solutions, as well as guidance and support for benefiting from the incentives that will be available under the PURE facility. This support empowers community members and local actors to effectively leverage access to renewable energy and efficient equipment for income-generating activities and sustainable livelihood improvements.

Output 2.2 Pipeline of eligible mini-grid projects and PURE opportunities are defined and validated

103. The purpose of activities under this Output is to assess and formalizes a pipeline of eligible and investment-ready mini-grid projects and relevant PURE solutions in Mozambique.

Activity 2.2.1 Validate and approve site assessment and clustering of mini-grid sites, including evaluation of PURE opportunities and needs

104. Under this activity, Enabel will evaluate and screen the mini-grid site assessments, including assessment of PURE opportunities and mini-grid cluster definitions, that will have been carried out by the Government of Mozambique with support from the Swedish-funded +Sol program.

105. Sub-Activity 2.2.1.1. **Final quality check on government-defined clusters and mini-grid site assessments to guarantee full alignment with the GCF requirements and criteria defined in this proposal**: Under this activity, the project will validate and approve the site assessments, including evaluation of PURE opportunities and clustering of mini-grid sites, that will have been carried out by the Government of Mozambique in collaboration with the Swedish-funded +Sol project as part of the Country Platform approach. Data and information that will have been collected and analyzed by the +Sol project will be checked for quality and alignment with GCF requirements. Potential gaps will be addressed, and final guidance will be prepared for additional work to be carried out by the preferred bidder under Sub-activity 2.3.1.2. The data and information will serve as a basis for the concession tender procedure that will be launched under Output 2.3. More information regarding the project preparation process is provided in Section 8 of Annex 2.

Output 2.3. Mini-grid concessions are tendered, and concession and financing agreements are concluded

106. The activities under this output are intended to facilitate the competitive tendering and awarding of mini-grid concessions in Mozambique, targeting a tier 5 service level and ensuring a transparent and legally compliant process. Tendering will be organized per cluster (10-20 sites). The majority of the mini-grids expected to be supported are small in size (around 50 kW) and viability can only be achieved through economies of scale by clustering them.

Activity 2.3.1 Establish a collaboration mechanism between the programme and the Mozambican Energy Regulator, ARENE, and award mini-grid concessions

107. This activity will focus on preparing and implementing the competitive tender procedure up to the point of signing the concession agreement with the SPV of the selected private sector bidder. In the context of Mozambique, the process for tendering and awarding concessions for the supply of electricity in off-grid areas is managed by the National Energy Regulator, following the provisions of the Electricity Law (Law 12/2022), the Off-grid Regulations – Decree 93/2021 and in particular also the Mini-grid Concession Regulations (Ministerial Diploma 68/2023) and Public Procurement Regulations (Decree 79/2022). To ensure climate resilience is embedded in the mini-grids' design and construction, the tendering information packages will include all relevant data on key climate hazards identified during site assessments. Developers must demonstrate in their bids how these risks will be addressed in their technical designs. Practical measures are expected to include, but not be limited to: i) reinforced PV-structure foundations and other civil works in cyclone-sensitive areas; ii) adapted civil structures and/or drainage systems in areas exposed to flooding and heavy rains; iii) thermal design of power plant infrastructure, especially battery compartments, to ensure safe operation under extreme heat waves; and iv) reinforced pole foundations for distribution grids, or alternative grid routing where necessary.

108. Sub-Activity 2.3.1.1. **Signing of Operational agreement with ARENE**: Under this activity, the project will validate and approve the site assessments, including evaluation of PURE opportunities and clustering of mini-grid sites, that will have been carried out by the Government of Mozambique in collaboration with the Swedish-funded +Sol project as part of the Country Platform approach. Data and information that will have been collected and analyzed by the +Sol project will be checked for quality and alignment with GCF requirements. Potential gaps will be addressed, and final guidance will be prepared for additional work to be carried out by the preferred bidder under Sub-activity 2.3.1.2. The data and information will serve as a basis for the concession tender procedure that will be launched under Output 2.3. More information regarding the project preparation process is provided in Section 8 of Annex 2.

109. Sub-Activity 2.3.1.2. **Support the implementation of the tendering process up to the conclusion of the concession and grant agreement** In accordance with Mozambique's laws and regulations, the public tender process will at a minimum comprise the following phases: 1) preparation of the tender documents; 2) launch of the public tender; 3) submission of proposals; 4) bid evaluation; 5) ranking of proposals and selection of preferred bidder; 6) preferred bidder performs its own feasibility assessment (including PURE assessment, ESS, etc) ; 7) award to the successful bidder; 8) negotiation and conclusion of the concession agreement and grant agreement; The successful bidder will be selected based on the lowest offer in terms of electricity tariff and subsidy required (reverse auction). The regulator (ARENE) will fix the tariff, and the subsidy will vary accordingly. The tariff set by ARENE will follow the principles as laid out in the mini-grid regulations (i.e. Resolução Normativa 1/ARENE – CA/2022, Regulamento Tarifário para Mini-Redes nas Zonas Fora da Rede), including:

1. the tariffs should be cost-reflective
2. the tariffs should be calculated considering reasonable profit levels
3. the tariffs should balance the "affordability to pay" of the mini-grid consumers and the financial-economic model of the mini-grid concessionaire
4. the tariffs should incorporate a reasonable partitioning of the gains between the mini-grid concessionaire and the mini-grid consumers
5. the tariffs should be transparent

110. The ongoing GET.FIT Program will provide initial lessons and best practices. Where needed, additional technical capacity or other relevant support will be provided to ARENE to ensure the smooth organization of the concession tendering and evaluation process, including the setting of the tariffs. The lessons learned will also be discussed in the context of the Country Platform to ensure policy coherence and consistency in the approaches towards tariff setting across different programs and initiatives.

Activity 2.3.2 Formalize contractual arrangements between FUNAE and the selected mini-grid concessionaires in line with the concession agreements

111. This activity will focus on formalizing the implementation arrangements for the awarded mini-grid concessions—establishing a Special Purpose Vehicle (SPV) and signing the Concession Agreement. In parallel, a Grant Agreement will be entered into between FUNAE and the SPV of the selected bidder. The Concession Agreement will require the developer to implement climate-resilient design features included in the approved bid, ensuring that the constructed mini-grids are robust against identified hazards.

112. Sub-Activity 2.3.2.1. **SPV establishment**: After the concession is awarded, the selected bidder will establish a SPV—a company incorporated in Mozambique—to deliver on the project.

113. Sub-Activity 2.3.2.2. **Concession Agreement Signing**: A Concession Agreement will be signed between the SPV of the selected bidder and the Government of Mozambique (through the Ministry of Mineral Resources and Energy). The Concession Contract will specify the roles and responsibilities of the public and private partners, the tariff, reporting requirements, etc. A template of the Concession Agreement is available as an Annex to the Mini-grid Concession Regulations.

114. Sub-Activity 2.3.2.3. **Grant Agreement formalization**: FUNAE will enter into a Grant Agreement with the SPV of the selected bidder in parallel to the above sub-activities. The Grant Agreement will detail the level of subsidies and performance-based disbursement schedule during the construction and commissioning phase of the mini-grids. The level of subsidy provided will depend on the outcomes of the tender process, but there will be a minimum co-financing requirement from the private sector company. The signing of the Grant Agreement will be conditional upon the confirmed availability of the necessary co-financing on the part of the private sector partner.

Component 3. Solar Mini-Grid Construction Facility

Outcome 3. Reduced emissions across Mozambique due to mini-grid installation and operation

Output 3.1. Solar mini-grids constructed by private mini-grid developers

115. The objective of the activities under Output 3.1 is the construction of the mini-grids based on the concession agreements concluded under Activity 2.3.2.

Activity 3.1.1 Construction of the solar mini-grids by the mini-grid concessionaires

116. This activity includes the construction and operationalization of the solar mini-grids by the SPVs. This activity includes construction, commissioning and operationalization of the solar mini-grids by the selected mini-grid concessionaires.

117. Sub-Activity 3.1.1.1. **Solar mini-grid construction**: The selected mini-grid concessionaire will be responsible for the organization and execution of the construction of the targeted mini-grids. The concessionaires have the obligation to regularly inform FUNAE and Enabel about the updated planning and progress of the ongoing construction works, as well as eventual constraints and risks that could result in a delay compared to the initial planning of the mini-grid construction works.

118. Sub-Activity 3.1.1.2. **Mini-grid operationalization**: After commissioning the mini-grids, the concessionaires will be responsible for operating, managing and eventual densification of the mini-grid customer connections, in line with the Concession Agreements. Concessionaires will be required to implement O&M protocols for extreme weather preparedness, which may include, among other aspects, SOPs for cyclone and flood response, emergency shutdown procedures, and staff safety measures.

Activity 3.1.2 Milestone verification related to mini-grid deployment and disbursement of the financial support

119. This activity relates to the management of the grant disbursements in accordance with the milestones agreed in the respective Grant Agreements between FUNAE and the respective mini-grid developers. These milestones can be related to the construction and commissioning of the mini-grids and the increase in mini-grid customer connections after the commissioning (post-commissioning). Final milestones will be discussed and agreed at the Country Platform level to ensure policy coherence and consistency between different mini-grid support programs.

120. Sub-Activity 3.1.2.1. **Mini-grid construction milestone verification**: An independent supervisor will be contracted via a public tender to verify the mini-grid construction milestones in the field. The mini-grid concessionaires will regularly inform FUNAE about the progress of the mini-grid construction and submit a formal request for verification when a contractual milestone has been reached. After receiving such a request, FUNAE and the independent supervisor will organize a field mission to objectively verify the cited milestone's successful conclusion. The objective verification will be done based on visual verifications, official measurements and consultations with relevant stakeholders. After each field mission, the independent supervisor will prepare an official report to be presented to FUNAE for approval.

121. Sub-Activity 3.1.2.2. **Fund disbursement**: Based on the approved supervision reports, FUNAE initiates the process of disbursing to the mini-grid concessionaires the percentage of the financial support related to the successful conclusion of the respective milestone, with technical support provided by Enabel.

Component 4. Climate-Smart Productive Use of Renewable Energy Facility

122. The PURE facility will be established to accelerate the uptake of productive uses of renewable energy (PURE) in the tendered mini-grid clusters. By incentivizing private sector actors to deploy PURE solutions, the facility aims to strengthen the economic viability of mini-grids, stimulate local income-generating activities, and enhance the climate resilience of rural communities.

123. PURE is in a very early stage in Mozambique with limited number of suppliers, distributors and appliances available. At the same time the potential range of PURE solutions is quite broad so flexibility will be embedded in the facility design and of subsequent calls to tailor and respond to evolving market conditions.

124. RBF incentives could support both larger PURE installations and anchor loads, as well as smaller scale PURE appliances such as refrigerators and freezers, micro-mills, etc. The facility is intended to focus its support to mini grid-connected clients and appliances in the three targeted mini-grid clusters. However, support for standalone solutions will also be provided as stand-alone systems can be considered as supplementary options for mini-grid connected PURE in the area (in line with the GoM Off-Grid Electrification Strategy for SHS and efficient appliances). End users and beneficiaries for the PURE applications are intended as individual households and/or local enterprises that would employ the PURE applications in an income-generating capacity.

125. Selection of the supported PURE interventions by the project will be site specific and will need to be screened for relevance to the socio-economic context and characteristics of provincial and district markets. Annex 2, Sections 2.3.4 and 8 provide an indicative range of PURE products and business models to be supported. These will be further confirmed as market assessments under Component 2 are concluded. Solutions that serve groups of users rather than individuals, based on stakeholder consultations and information gathered during the awareness campaigns (Activity 2.1.2 - demand activation activities) will be

prioritized. This approach enhances scalability and economic viability by spreading costs across multiple beneficiaries, increasing utilization rates, social inclusion and maximizing impact.

Outcome 4 Increased resilience and livelihood generation for vulnerable communities in Mozambique

Output 4.1 Climate-smart PURE solutions installed and operational

126. The activities under this output will focus on designing and operationalizing a PURE Facility to financially support the deployment of PURE solutions across targeted mini-grid sites, tailored to site-specific socio-economic contexts and adaptation needs. The funding will be delivered through Results-Based Financing (RBF) incentives to PURE developers. The design and operationalization of the RBF facility under Component 4 will be directly informed by the analytical studies and consultation outputs generated under Output 2, including the market, affordability, social inclusion, and institutional assessments, as well as the RBF Facility Design Report, ensuring an evidence-based and locally responsive facility architecture. The implementation of PURE solutions will be site-specific and tailored to the socio-economic context, adaptation needs and characteristics of provincial and district markets. For example, PURE solutions in coastal fishery communities will differ from PURE needs and opportunities in inland agricultural economic zones targeting cash crops. As part of the project preparation work under Component 2, PURE market assessments will be carried out. Specific PURE opportunities and needs will be identified for individual mini-grid sites targeted by the project (see Activity 2.3.1).

Activity 4.1.1. Design a dedicated facility for supporting PURE implementation

127. Sub-Activity 4.1.1.1. **PURE Facility design and establishment:** This activity will define and design the structuring and functioning of a PURE Facility, including its governance structure, the final eligibility criteria for the PURE developers and the maximal subsidy levels for the different types of PURE solutions, etc. The design of the facility will be tailored to the opportunities and needs identified across the different mini-grid sites.

128. For the purpose of this proposal, PURE developers will be private sector companies (national or international) that are active in the development, supply, distribution or operation of renewable energy appliances and technologies that enable productive uses of electricity in rural areas.

They may include:

- Mini-grid developers already operating mini-grids under Component 3, wishing to stimulate energy demand in their concession areas through the deployment of renewable energy appliances;
- Aggregators, that is, companies that aggregate raw or semi-processed products in small villages and sell such products in cities or to bigger companies;
- PURE operators, that are companies focused on the operation of PURE solutions, and typically have a strong local anchorage in these communities (e.g Farmers groups/cooperatives, etc);
- PURE suppliers/distributors; and
- Consortia combining several of the above profiles.

129. To maximize the adaptation impact and increase climate-resilient socio-economic development, the facility will prioritize **PURE solutions** with a demonstrable adaptation benefit that serve groups of users rather than individuals.

130. At a minimum PURE solutions need to meet the following requirements:

- Have a demonstrable impact on climate resilient economic development and maximize the number of end-users (beneficiaries);

- Not result in depletion of water resources; and
- Comply with international technical and quality standards related to energy efficiency, safety and operational performance.

131. The project will primarily target PURE solutions that will be connected to the newly constructed mini-grids, while also considering stand-alone systems as supplementary options. Stand-alone systems will be particularly relevant to avoid community conflicts and reduce the risk of excluding vulnerable groups in cases where not all householders and businesses can be connected in the initial design and implementation of the mini-grid (e.g. because of geographic dispersion). Table 3 provides a preliminary list of PURE solutions that will be eligible under the project.

Table 3. Preliminary list of PURE solutions

Type of PURE	Examples	Adaptation Benefit	Challenges	Targeted end-beneficiaries
Agroprocessing	Grain mills, oil expellers, rice/maize threshers, feed mixers, dryers, coffee pulpers, nut shellers	Reduces labor burden, adds value to crops, diversifies income, improves food security	Need for stable power, limited rural suppliers, lack of standardization, need for training and market linkages	Smallholder farmers, farmer cooperatives, women-led processing groups, rural SMEs
Cooling & Conservation	Cold rooms, cold chains for fisheries, ice-making machines	Reduces post-harvest losses, preserves perishables, improves market access	High financing needs, poor cold-chain logistics, coordination gaps in value chains	Fishing community, agribusiness aggregators, Smallholder farmers, farmer cooperatives, women-led processing groups, rural SMEs
Water Pumping & Irrigation	Solar pumps, drip irrigation systems	Increases crop yields, enables multiple cropping cycles, improves water efficiency	High upfront cost, limited financing, lack of technical expertise, risk of water depletion	Smallholder farmers, irrigation cooperatives, women farmers, community water user groups
Manufacturing and Services	Welders, drills, grinders, small machinery	Supports rural Smallholder farmers to diversify their income, improves productivity, reduces reliance on diesel	Limited renewable-ready tools, lack of technical training	Smallholder farmers, rural artisans, micro-enterprises
Electric Mobility	E-motorcycles, cargo bikes, charging hubs	Lowers transport costs, strengthens rural supply chains, enables climate-resilient logistics	Limited charging infrastructure, high initial cost, need for new business models (battery leasing, shared hubs)	Rural delivery service providers, farmer cooperatives, smallholder farmers, farmer cooperatives

Activity 4.1.2. Implement and manage the PURE Facility for supporting PURE solutions

132. This activity covers the operationalization of the PURE Facility, during which PURE developers can submit project proposals for PURE solutions and request RBF incentives

133. Sub-Activity 4.1.2.1. **Evaluating proposals for RBF incentives**: Eligible PURE developers will be able to submit proposals on a regular basis to the PURE Facility. Proposals will need to include the following indicative information:
- Signed Agreement with the mini-grid cluster concessionaire to develop the targeted PURE equipment within the mini-grid concession area;
- Technical data about PURE equipment and conformity with list of eligible PURE solutions and compliance with international technical and quality standards related to energy efficiency, safety and operational performance;
- Number of targeted end-users of the PURE solution;
- Social inclusion (gender, vulnerable groups, disabled persons, etc.) ;
- Business plan for the management and operation of the pretended PURE solution;
- Application of ESS safeguards related to the pretended PURE solution; and
- After sales service and maintenance plan.

134. Regarding social inclusion, considerations will be embedded in both the design and selection process of the RBF facility to ensure equitable access to incentives and adaptation benefits. Eligibility and appraisal criteria will prioritize productive-use investments that demonstrably benefit women, youth, low-income households, and climate-vulnerable livelihoods. Social performance indicators, including support to women- and youth-led enterprises and local job creation, will be incorporated into RBF disbursement conditions. Stakeholder consultations and transparent appraisal procedures will further ensure locally responsive and inclusive investment decisions.

135. Sub-Activity 4.1.2.2. **Signing of PURE grant agreements**: After review and approval of the PURE proposal, grant agreements will be signed between the PURE developers and FUNAE, who is the owner of the PURE Facility. The grant agreements will have details on the RBF incentive amounts and specify monitoring and reporting requirements.

136. Sub-Activity 4.1.2.3. **Installation of PURE equipment and provision of PURE incentives:** PURE developers will be responsible for the procurement, installation and operation of the PURE equipment, and are the assets owners. Once PURE solutions are operational, PURE developers can submit a request for disbursement of the RBF incentives, specifying the type and quantity of PURE solutions that have been installed and are operational. SEforAll, being the fund agent for the PURE Facility, will be responsible for coordinating the verification of the results and information submitted by the PURE developers. FUNAE, in its capacity as fund holder of the PURE Facility will be responsible for processing disbursements. RBF incentives will only partially cover the PURE equipment and installation cost, the remainder of which must be co-financed by the PURE developers. The percentage co-financing will be determined based on the type of PURE solution and will be updated based on developments in the PURE market.

B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)

Implementation arrangements

137. The project has four components, implemented under a single GCF grant to Enabel and with co-financing provided by private sector operators and in-kind co-financing from FUNAE and Enabel.

138. The project will be implemented through a collaboration between Enabel (Accredited Entity and Executing Entity), FUNAE (Executing Entity), and Sustainable Energy for All (SEforALL) (Technical Implementing

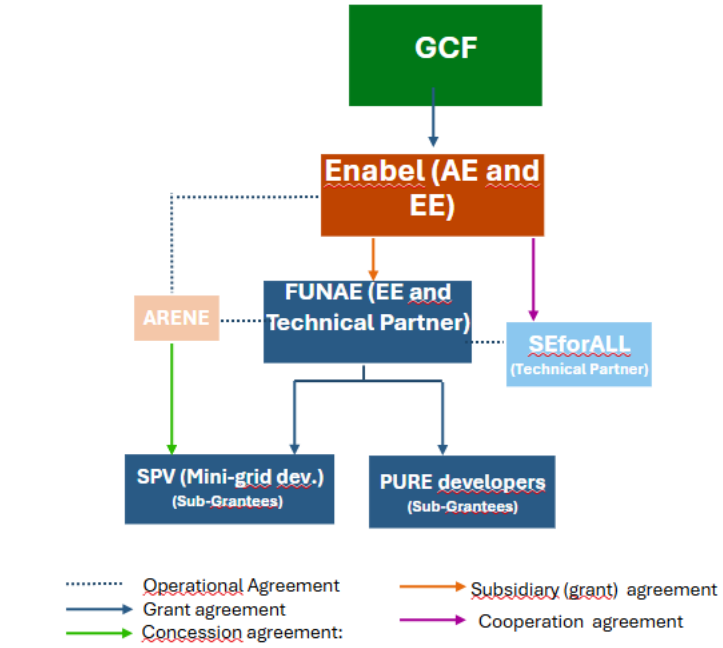
Partner). Enabel, Belgian development agency ("Enabel"), registered under the laws of Belgium as a public-law company with social purposes, has been accredited by the GCF by means of an Accreditation Master Agreement ("AMA") signed by both parties in January 2020. As the AE, Enabel will ensure strategic and fiduciary oversight of the proposed program in accordance with GCF accreditation standards. Enabel will also act as an Executing Entity (EE) for Components 1 and 2 and a co-execution model will be applied in Components 3 and 4, whereby FUNAE is responsible for the delivery of the activities and Enabel for technical assistance and capacity-building of FUNAE as co-Executing Entity ("co-EE"). In these two components, Enabel acts as "technical assistance" EE and FUNAE as "implementing" EE.

139. Enabel has been working with FUNAE and partners since 2015 to develop the mini-grid and productive use sector in Mozambique, including for the elaboration of Mozambique's newly adopted regulatory framework for mini-grids. In addition, Enabel and FUNAE recently commissioned five mini-grids and are collaborating on implementing a remote monitoring system for collecting performance and consumption data from 25 of FUNAE's mini-grids. This exercise has provided essential data points for designing effective financial support mechanisms during the preparation of this GCF proposal preparation phase. In 2023, Enabel started implementing a new 5-year bilateral cooperation project with Mozambique, which is entirely focused on climate change and energy transition. Enabel is providing technical and institutional support to the Ministry of Mineral Resources and Energy and FUNAE as part of the cooperation project. The ongoing support from the bilateral cooperation project can be leveraged for the start-up and inception phases of the proposed GCF-funded project. Finally, Enabel has been co-chairing the climate change donor coordination group for the past two years and is an active member of the energy coordination group, co-chairing the technical assistance sub-group. This puts Enabel in a good position to coordinate and align the proposed project with other ongoing and planned donor support initiatives.

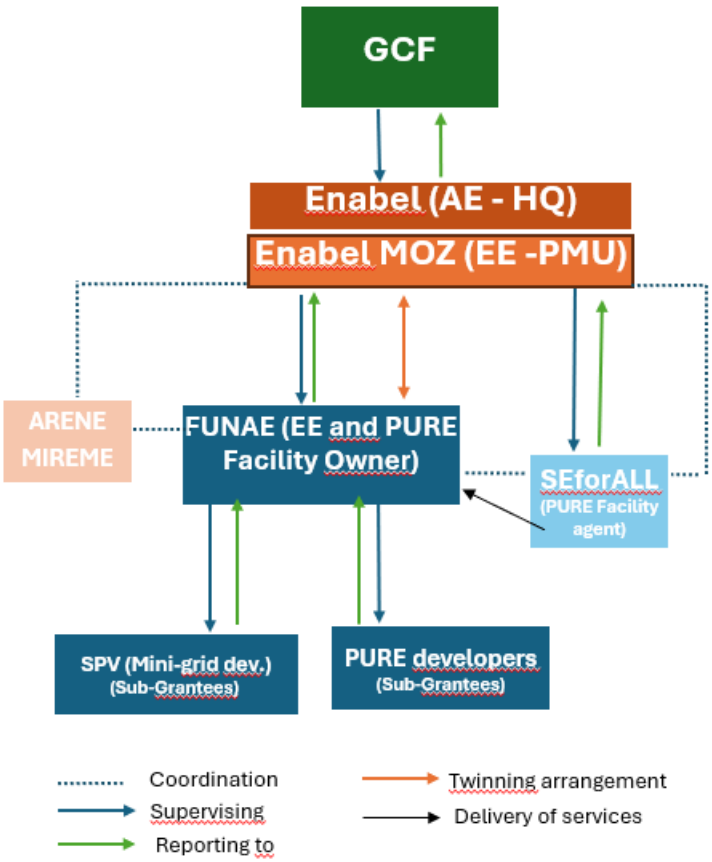
140. FUNAE is Mozambique's National Energy Fund and will act as an EE for the project, executing Components 3 and 4. FUNAE is the public institution responsible for off-grid rural electrification with a special focus on renewable energy. FUNAE was established in 1997 and has developed and implemented more than one hundred publicly funded mini-grids in Mozambique, primarily targeting administrative posts. In 2021, FUNAE's mandate in fund management was significantly expanded and includes specific competencies for mobilizing and administering funds to support and invest in public and private electricity generation and distribution initiatives in off-grid areas. The organization has incorporated its ambition to become a GCF Direct Access Entity in the new 5-year government plan, which will run from 2026–2030.

141. SEforALL is a UNOPS-hosted entity, working with leaders in government, the private sector, financial institutions and civil society to drive further, faster action toward achieving Sustainable Development Goal 7, which calls for universal access to sustainable energy by 2030. SEforALL is currently working with MIREME and Enabel to support the UIPCE (*Unidade Integrada de Planificacao e Coordenacao para Electrificacao*) in preparing a Least Cost Electrification Plan for Mozambique. SEforALL is also implementing a mini-grid project in Zambia and has developed and manages the Universal Energy Facility. SEforALL is a partner in Mission300 and will act as a technical implementing partner focusing on: i) building awareness and capacity among the private sector about opportunities to develop and finance mini-grids and PURE in Mozambique (Activity 2.1.1) ii) the design and establishment of a dedicated PURE facility (Activity 4.1.1), and ii) technically supporting the implementation of the PURE facility as a fund agent (Activity 4.1.2). Enabel and SEforALL will establish a Cooperation Agreement outlining their roles and responsibilities as a technical implementing partner. FUNAE and SEforALL will establish a partnership agreement.

142. The project's implementation arrangements are presented in Figure 10 below and further detailed in Annex 9.



Contractual arrangements and Funding Flows

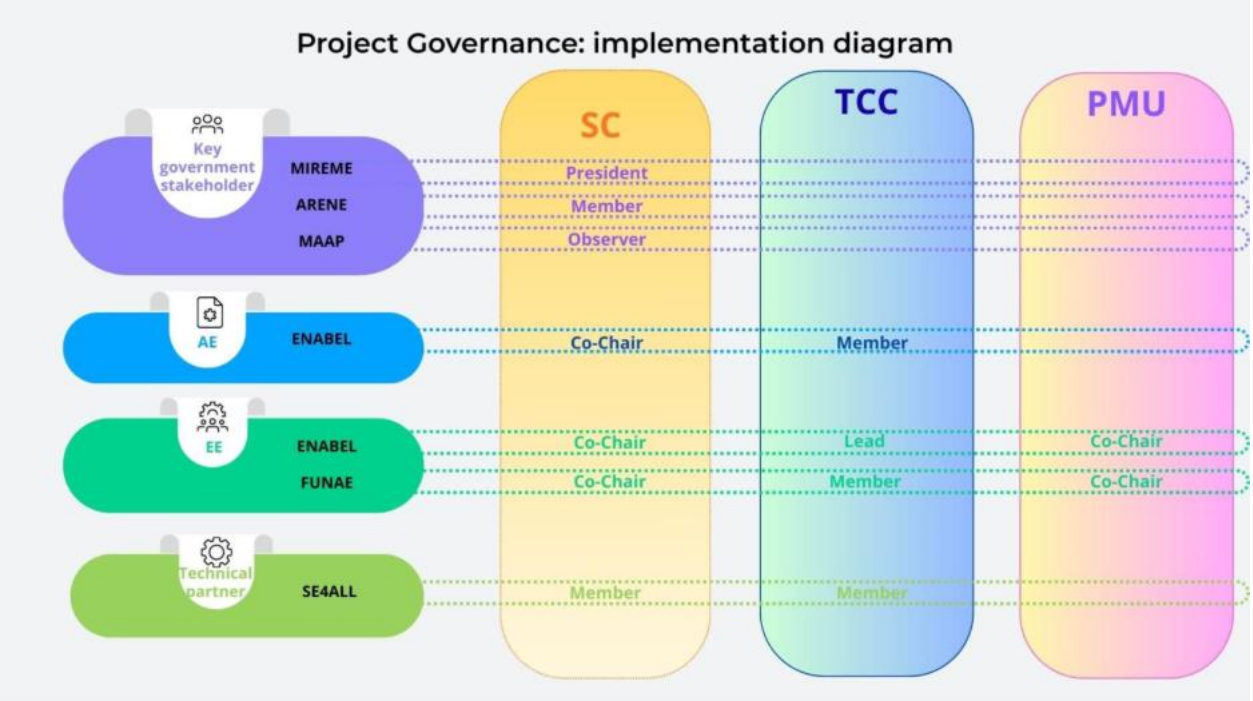


Implementation arrangements

Figure 10. The implementation and contractual arrangements and funding flow of the project.

143. The governance structure of the project comprises three major units: the Steering Committee (SC), the Technical Coordination Committee (TCC), and the Project Management Unit (PMU). The Steering Committee (SC) provides overall oversight and strategic guidance for successful project implementation. Its key responsibilities include ensuring alignment with relevant priorities and policies, identifying synergies with other initiatives, validating annual programming and strategic adjustments, and ensuring stakeholder ownership. The SC also serves as the ultimate mediator for resolving disputes escalated from the TCC or PMU. Decisions are taken by consensus among core members. The SC will be indicatively composed of representatives of key government stakeholders, Enabel in its role of AE, FUNAE and Enabel in its role of EE and the technical implementing partner (SEforAll) and other relevant actors from the public and private sector. In addition to the SC, there is the Project Management Unit (PMU) that oversees the day-to-day management, coordination, and implementation of project operations, ensuring activities meet objectives, donor requirements, and national priorities. Operationalization of the PMU will be supported by Enabel and FUNAE in their roles as EEs and led by the project manager, responsible for day-to-day implementation and stakeholder coordination. The PMU prepares all necessary reports for the GCF, which are validated by the SC and TCC. In its role as AE, Enabel will perform quality assurance and submit the reports to the GCF. Finally, there is the Technical Coordination Committee (TCC) that provides technical oversight, coordination, and quality assurance for project implementation. TCC will be minimally composed of the AE, EE and technical implementing partners of the project.

144. To ensure objectivity and prevent conflicts of interest, the project implements clear separation of management and oversight functions: the PMU is responsible for operational reporting, while the TCC validates technical aspects. Roles within Enabel are clearly defined, with PMU functions focused on implementation and SC roles focused on oversight. All reports for GCF are prepared by the PMU (managed by Enabel as co-chair together, with FUNAE acting as co-chair), reviewed and signed off by the SC and/or TCC, and finally validated and submitted by the AE. Transparent documentation, stakeholder feedback mechanisms, and regular independent audits are in place to ensure accountability and compliance.



Project Steering Committee (SC)

145. *Purpose*: Provides overall oversight and strategic guidance for successful project implementation.

146. Key Responsibilities:

- Ensure alignment with relevant priorities and policies.
- Identify synergies with other projects, donors, and stakeholders; support scaling up of successful initiatives.
- Monitor constraints and opportunities; recommend actions to the PMU.
- Validate annual programming and strategic/technical adjustments proposed by the TCC.
- Take necessary measures for strategic reorientation as needed.
- Serve as the ultimate mediator by resolving potential disputes escalated from the TCC or PMU, ensuring project alignment and stakeholder consensus.
- Ensure ownership of operations by all stakeholders.

147. Composition & Operations:

- The practical operating modalities (duties, responsibilities, operating rules and composition) of the SC will be described in an internal regulations document, to be validated at the first meeting of the committee.

The SC will be minimally composed of:

Organization	**Role in project**	**Potential role in SC**
MIREME	Key government stakeholder	President
Enabel	AE, EE	Co-chair
FUNAE	EE	Co-chair
Se4All	Technical Implementing Partner	Member
ARENE	Key government stakeholder	Member
MAAP	Key government stakeholder	Observer
Civil Society	Stakeholders	Observer
Private Sector	Stakeholders	Observer

148. Meetings can be in person, virtual, or hybrid, and may include observers from relevant organizations (e.g. international agencies, private sector) and convene at least twice per year. Additional meetings may be scheduled as needed. Meeting invitations, agendas, and relevant documents shall be circulated at least one week in advance. The SC will be supported by the Technical Coordination Committee and the Project Management Unit (PMU). Decisions will be taken by consensus among core members.

Technical Coordination Committee (TCC)

149. *Purpose*: The TCC is established to provide technical oversight, coordination, and quality assurance for the implementation of the project. The TCC ensures that all technical activities are aligned with project objectives, national priorities, and donor requirements, and that technical challenges are addressed collaboratively.

150. Key Responsibilities:

- Provide technical guidance and recommendations for project implementation.
- Ensure alignment of technical activities with national strategies and donor requirements.
- Periodically monitor the overall progress of activities and validate operational plans.

- Identify and address technical and operational challenges and risks; seek solutions or mitigation measures.
- Facilitate knowledge sharing and capacity building among partners.
- Support monitoring, evaluation, and learning processes.
- Prepare SC meetings, formulate proposals for strategic or technical modifications, and advise the SC in decision-making.

151. Composition & Operations:

- The practical operating modalities (duties, responsibilities, operating rules and composition) of the TCC will be described in an internal regulations document, to be validated at the first meeting of the committee.
- The TCC will be minimally composed of the AE, EE and technical implementing partners of the project
- Supports the SC and liaises with the PMU.
- Meets on an ad hoc basis.

Project Management Unit (PMU)

152. Purpose: The PMU oversees the daily management, coordination, and implementation of project operations, ensuring all activities meet project objectives, donor requirements, and national priorities. The operationalization of the PMU is supported by Enabel in its role as EE, and be co-chaired by FUNAE, and be responsible for day-to-day implementation and stakeholder coordination. The PMU prepares all necessary reports for the GCF, which are then validated by the SC and TCC

153. Key Responsibilities:

- Led by the project manager, responsible for operational execution.
- Manages a small permanent technical team, experts mobilized on an ad hoc basis, and an administrative and financial support team.
- Implement activities as described in the project description.
- Provide secretariat services to the SC and TCC.

154. Composition & Operations:

- Operationalized by Enabel and FUNAE in their roles of EE.
- The PMU meets weekly, with additional meetings convened as needed to address urgent operational issues or milestones.
- Team composition includes technical, administrative, and financial staff, with flexibility to mobilize expertise as needed.
- Part of the human resources may be shared with other projects implemented by Enabel.

155. *Governance and Reporting Integrity:* To ensure objectivity and prevent conflicts of interest between the governance bodies, the project will implement the following procedures:

- Clear separation of management and oversight functions, with the PMU responsible for operational reporting and the TCC for technical validation.
- The roles and responsibilities of positions within Enabel are clearly defined in the assigned mandates, whereby the functions represented in the PMU have a limited mandate focused on implementation tasks, and the roles represented in the SC and its preparation have a broader mandate focused on oversight. In this way, Enabel guarantees a proper internal control system in which conflicts of interest are excluded.
- All reports for the GCF are prepared by the PMU, managed by Enabel in its role as EE. Before submission, these reports must be reviewed and signed off by the SC and/or the TCC to ensure quality

and compliance. The AE holds the final responsibility for validating and submitting these reports to the GCF, ensuring that reporting is objective and meets all fund requirements.
- Transparent documentation and archiving of all reviews and decisions.
- Stakeholder feedback mechanisms to ensure transparency and accountability.
- Regular independent audits and evaluations.

B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

156. Mozambique remains a low-income country with limited fiscal space and a high risk of debt distress, as confirmed by the IMF's 2024 Debt Sustainability Analysis[87]. Despite GDP growth from USD 14.2 billion in 2020 to USD 22 billion in 2024,[88] the wage bill and debt-service costs have consumed nearly 90% of tax revenue, [89] while non-performing loans hover around 9% constraining domestic credit and public investment capacity[90]. The country therefore lacks fiscal headroom to take on additional sovereign loans for climate-resilient infrastructure. Rural electricity access remains only at 5-10% with sources varying from 4-5 to 8.9% (compared to 36% nationally) [91], and achieving universal access by 2030 requires approximately 4.9 million new connections and USD 6.5 billion in cumulative investment (around USD 540 million annually)[92,93]. Current initiatives such as ProEnergia Plus (USD 343 million) and ASCENT (USD 131 million), together with limited multi-donor trust-fund top-ups, cover less than one-tenth of this annual need[94]. Given Mozambique's macro-fiscal fragility, shallow domestic financial markets, and the high adaptation value of rural energy access, grant-based GCF support is the most appropriate modality to avoid worsening debt vulnerabilities while crowding-in concessional and private capital for decentralized mini-grids and PURE investments[95].

157. There is growing interest from private sector actors in the mini-grid and Productive Use of Renewable Energy (PURE) space, particularly since the adoption of Mozambique's off-grid regulatory framework. However, the mini-grid and PURE sector is still immature. The upfront capital costs, affordability constraints among end-users, and lack of consumer financing make it difficult for private actors to enter the market without public support. The only funding option available for mini-grid developers is through international donor programs, such as Brilho, GET.FiT, +Sol and others (Annex 2: Section 2.3). However, the available funding from such programs is insufficient to build the necessary traction for the market to start scaling up. Potential PURE companies would be able to access equity and debt instruments; however, the cost of finance is high, and all are likely to rely too heavily on donor subsidies to make operations financially viable. A significant challenge in recent years is the fragmentation and lack of coordination among donor subsidy programs, making subsidy schemes difficult to navigate and creating frequent gaps in funding streams.

158. In this context, the project addresses several clear market failures:
- The public good nature of Components 1 and 2, which focus on institutional strengthening of the national Energy Fund (FUNAE), technical assistance, and the development of a pipeline of investment-ready mini-grid and PURE projects—activities that are essential for long-term sustainability but are not commercially viable.
- The market-enabling role of Component 2, which requires concessional finance to de-risk private sector participation, particularly in the early stages of project identification and structuring.
- The financing gap in Component 3, which supports private developers in constructing mini-grids. In Mozambique's nascent mini-grid market, concessional finance is critical to crowd in private capital and address affordability constraints.

[87] IMF (2024). Article IV Consultation and Debt Sustainability Analysis for Mozambique. Washington D.C.
[88] World Bank (2024). World Development Indicators: GDP (current US$).
[89] World Bank (2023). Public Expenditure Review: Mozambique.
[90] Bank of Mozambique (2024). Financial Stability Report 2023/24.
[91] World Bank & IEA (2024). Tracking SDG7 Database.
[92] Government of Mozambique / World Bank (2023). National Energy Compact (Mission 300).
[93] GET.transform (2024). Financing Universal Energy Access in Mozambique.
[94] World Bank (2024). Energy for All – Mozambique Program Portfolio.
[95] ESMAP (2023). Mini-Grids for Half a Billion People: Market Outlook and Capex Benchmarks.

- Component 4's demonstration effect will catalyze the adoption of climate-resilient PURE solutions through Results-Based Financing (RBF), helping companies (PURE developers) overcome cost barriers and reach rural customers.
- Mozambique's constrained public financing capacity limits the government's ability to scale energy access and climate resilience interventions despite strong political will.

159. The GCF grant will be used to:
- Build institutional capacity for FUNAE (Component 1);
- Develop a pipeline of investment-ready mini-grid and PURE projects and enable competitive procurement (Component 2);
- Finance mini-grid construction through milestone-based disbursements and with co-finance in the form of private sector equity (Component 3); and
- Provide targeted RBF incentives to PURE developers and users, with co-finance from the private sector (Component 4).

160. These instruments were selected to ensure that concessionality is targeted, time-bound, and catalytic, aligned with performance and results. No reimbursable GCF instruments are proposed, as this would not be viable in the current market context.

161. The project requests a GCF grant of EUR 37.415 million, representing 89% of the total project cost, used for all four project components, complemented by EUR 3.615 million in co-financing from the private sector for mini-grid construction (component 3) and deployment of PURE (component 4), and in-kind contribution of FUNAE (EUR 0.813 million) and ENABEL (EUR 0.207 million). This structure reflects the minimum concessionality needed to make the investment viable. The grant-based nature of GCF support is justified by the fact that: i) the project targets underserved, low-income rural populations with very limited ability to pay; ii) the economics of mini-grid development remain challenging due to high capital and operating costs and low revenue potential; iii) at very early stage, scaling PURE solutions is constrained by high costs and scarce local expertise, iv) there is insufficient market maturity for commercial investment without concessional support; and v) the financial instruments used—including Results-Based Financing and milestone-based disbursements—are structured to reduce risk and ensure performance-based accountability.

162. All GCF-financed activities are designed to unlock additional investment directly from public and private sources through the Country Platform. Compared to existing donor facilities—often fragmented, smaller in scale, and short-term—GCF funding provides the level of concessionality needed to demonstrate proof of concept and catalyze sustained private sector participation. Donor parallel financing plays a complementary role from the Swedish-funded +Sol project and the EU (EUR 20 million), but the scale and structure of GCF support are essential to overcoming the systemic barriers in this emerging market. Additionally, by supporting the Country Platform, the project will strengthen coordination and alignment among the different funding initiatives in the energy off-grid sector.

163. The project is fully aligned with Mozambique's Energy Transition Strategy and will directly contribute to 9 of 15 interventions under Programme 11 of the strategy. Through the Country Platform, the project is expected to help mobilize up to USD 100 million in public funding, with gradually increasing rates of private sector co-financing and private investment, for a total leveraged amount of USD 200 million.

164. Consequently, the GCF's ability to provide grants offers irreplaceable value. Its involvement is instrumental in demonstrating a scalable model for delivering off-grid renewable energy and climate-resilient productive use solutions. This model empowers rural households and MSMEs—particularly those led by women, youth, and refugees—to adopt climate-resilient practices, fostering stability and growth across Mozambique's provinces.

B.6. Exit strategy (max. 500 words, approximately 1 page)

165. The project's exit strategy is designed to ensure its results and benefits are sustained beyond the implementation period and contribute meaningfully to a paradigm shift in access to renewable off-grid energy and PURE in Mozambique. The strategy is built around long-term institutional capacity strengthening, sustainable business models, public-private collaboration, and community empowerment.

166. A cornerstone of the project is the institutional strengthening of FUNAE, transforming it into an effective national fund for off-grid energy investments. The internal governance structures, accountability mechanisms, and strategic frameworks established under Component 1 will become embedded in FUNAE's operations. Tailored capacity building—aligned with Enabel's ongoing bilateral support and GCF Readiness initiatives—will enable FUNAE to independently manage climate finance, design and evaluate project proposals, and coordinate with national and international stakeholders. This ensures FUNAE can continue attracting and managing climate finance beyond the project's life. FUNAE is also providing co-financing under the project, which demonstrates ownership and commitment.

167. In addition, the Country Platform provides an opportunity to combine and align different financing sources. The participation of the private sector as a stakeholder in the Country Platform allows for a direct dialogue with a stakeholder that will be directly involved in the implementation of programmes. This participation will improve transparency, allow for course corrections and, over time, increase investors' confidence by demonstrating policy coherence and stability, developing a clear investor framework, promoting context-specific derisking instruments, and providing visibility over the project pipeline. This will improve the willingness of the private sector to invest. Furthermore, the Country Platform will also undertake targeted fundraising activities to mobilize a range of financial instrument that go beyond only grants, as well support the mobilization of co-finance from the public sector, DFIs, philanthropic institutions, etc.

168. Under Component 3, the mini-grids will be constructed, operated, and maintained by Special Purpose Vehicles (SPVs)—Mozambican-registered entities created by private developers under formal concession agreements. These agreements, backed by enforceable contracts and supported by performance-based subsidy disbursements, mandate that SPVs operate and maintain the infrastructure, and sell the electricity to customer households (thereby generating revenue), with provisions for densifying customer connections over time. This creates a market-driven, financially viable operational model that ensures the sustainability of the mini-grids beyond the project period. The proposed project also establishes systems for third-party verification of milestone achievements, ensuring accountability and transparency throughout implementation and providing assurance to FUNAE and Enabel for post-project results monitoring. Component 3 will be gradually transferred to the Government of Mozambique as part of the exit strategy through institutional strengthening, capacity building, and structured handover mechanisms led by Enabel and FUNAE. The government, particularly through FUNAE and the national energy regulatory bodies, will play an increasingly active role in monitoring and overseeing the mini-grid developers' concession agreements, milestone verification, and performance monitoring. By the end of the project, FUNAE will be capacitated to independently manage future solar mini-grid development initiatives, regulate SPVs, and ensure the long-term sustainability and scalability of mini-grid deployment across the country.

169. Under Component 4, the PURE facility will be established in FUNAE, being the fund owner. This guarantees strong embedding of the PURE facility in the national government. Enabel will provide technical assistance to FUNAE to grow and evolve in her role as fund owner over the course of the project. The country platform will be used as leverage to explore and attract other PURE financing sources. Specific consultancy and technical support will be provided under component 1.

170. The project's Results-Based Financing (RBF) model for both mini-grid and PURE implementation fosters a self-sustaining market ecosystem. For mini-grids, in combination with a competitive tendering procedure, developers must contribute a minimum co-financing, incentivizing commercially viable operations (see

Annex 3 for further justification). The level of PURE incentives will be based on the type and quantity of PURE solutions, and will follow the market evolution. Co-financing proportion will increase over time as the mini-grid sector increases in maturity. For PURE, RBF subsidies are designed to decline over time as the market matures and co-financing requirements increase, supporting market transformation. Although there is no GCF financial exit through instruments like IPOs or trade sales (as this is a grant-based intervention), the financial exit strategy lies in catalyzing sufficient market development and capacity such that domestic public subsidies and private investments progressively replace international public subsidies. The project paves the way for ongoing investment without concessional finance by encouraging new market entrants and building local value chains.

171. The proposed GCF-supported project is designed to catalyze sustainable market growth by: (i) bundling mini-grid sites into competitive tenders with blended finance to attract private developers; (ii) establishing a dedicated PURE Facility to finance productive-use solutions, stimulate demand and increase load factors; (iii) building local SME and women-entrepreneur capacity for energy-enabled livelihoods; and (iv) supporting ARENE and FUNAE to operationalize transparent concession and, tariff, and grid-takeover procedures.

172. By demonstrating bankable business models that integrate climate-resilient productive uses (agroprocessing, irrigation, cold storage, water supply, manufacturing and services, etc), the project will expand private participation, enhance rural incomes, and strengthen adaptive capacity—laying the foundation for a self-sustaining mini-grid and PURE ecosystem that continues beyond GCF support.

173. FUNAE and ARENE will continue their regulatory and coordination roles. Mini-grid concessionaires will maintain and expand energy services. The Ministry of Mineral Resources and Energy (MIREME) will retain its oversight function. Civil society organizations and local private actors engaged during awareness raising and capacity-building phases will continue offering services, training, and community engagement, contributing to longer-term behavioral change and productive energy use. The PURE Facility will be established at FUNAE, ensuring continuity to support climate-resilient energy use in agriculture, fisheries, and rural enterprises—supporting Mozambique's broader climate and energy goals and reinforcing the project's contribution to a paradigm shift toward inclusive, sustainable, off-grid electrification.

174. In terms of financial sustainability, GCF funded sites should require little or no donor support for future expansions and battery replacements, though subsidies will still be needed for new grids beyond the project. For PURE suppliers, results-based financing (RBF) incentives help build a sustainable stock base and speed growth; these grants are phased out through caps, scheduled reductions, and ceilings per recipient to encourage commercial financing and reduce dependency. Experience from previous RBF and milestone grants across energy sectors, including Mozambique's solar home system and clean cooking markets (BRILHO), shows companies can remain viable after subsidies end. Given the nascent GMG and PURE markets, performance grants will dominate at first; To ensure FUNAE's long-term financial sustainability, Components 1, 3 and 4 of the project will build FUNAE's capacity to design and manage subsidy and incentive mechanisms and mobilize domestic and international funding. On the domestic side, it is important to flag that the Ministry of Mineral Resources and Energy has drafted a regulation for the introduction of a tax on the export of electricity, the proceeds of which will be used to promote universal access to energy in Mozambique. The draft regulation is pending approval from the Council of Ministers.

C. FINANCING INFORMATION

C.1. Total financing

(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)	**Total amount**			**Currency**		
	37.415			million euro (€)		
GCF financial instrument	**Amount**	**Tenor**		**Grace period**	**Pricing**	
(i) Senior loans						
(ii) Subordinated loans						
(iii) Equity						
(iv) Guarantees						
(v) Reimbursable grants						
(vi) Grants	37.415					
(vii) Results-based payments						
(b) Co-financing information	**Total amount**			**Currency**		
	4.635			million euro (€)		
Name of institution	**Financial instrument**	**Amount**	**Currency**	**Tenor & grace**	**Pricing**	**Seniority**
Private sector	Equity	3.615	million euro (€)			
FUNAE	In-kind	0.813	million euro (€)			
ENABEL	In-kind	0.207	million euro (€)			
(c) Total financing (c) = (a)+(b)	**Amount**			**Currency**		
(d)	42.05			million euro (€)		
(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)	The GCF funding will build further on and be aligned with ongoing and planned access to electricity initiatives in Mozambique, including: 1. The ongoing GET.FiT and GET.Transform programmes that pilot the regulatory framework for mini-grid concessions through technical assistance to the national regulator (ARENE) and results-based financing subsidies to private sector mini-grid developers in the province of Nampula. Alignments are being explored by adopting similar concession and tariff setting approaches and targeting part of the PURE support component towards mini-grids funded under the GET.FiT programme. 2. Parallel funding from the recently launched +Sol programme, a US$10 million Swedish-funded programme implemented by SNV and providing results-based financing. 3. The +Sol programme and the proposed GCF programme are closely aligned and coordinated under the emerging Country Platform approach for the off-grid pillar of the country's Energy Transition Strategy. The Country Platform is being led by the Ministry of Mineral Resources and Energy (MIREME) in collaboration with FUNAE and ARENE.					

	Project preparation activities will be realised via the +SOL programm, financed by Sweden,and providing cluster definition and tender infirmation packages 4. Advanced discussions are taking place with the EU Delegation for an additional EUR 20 million of parallel funding to channel through the Country Platform approach. 5. Finally, FUNAE is leading discussions with the World Bank and partners to ensure coordination with the World Bank's Ascent Green programme. 6. Initial discussions with European financial institutions and the IFC to provide private sector co-financing.

C.2. Financing by component

Component	Output	Indicative cost million euro (€)	GCF financing		Co-financing		
			Amount million euro (€)	Financial Instrument	Amount million euro (€)	Financial Instrument	Name of Institutions
Component 1. Institutional strengthening and capacity support for FUNAE	Output 1.1 FUNAE's governance, accountability and fiduciary systems are reinforced/optimized and operational supporting transparent, accountable, and efficient management of larger-scale climate finance	2.723					
	Output 1.2 Strategic and institutional frameworks for mobilizing and deploying climate finance from various sources and for effectively contributing to Mozambique's mini-grid Country Platform are adopted and operationalised by FUNAE (FUNAE + Enabel support)	0.655					
Component 2. Project preparation facility	Output 2.1 Capacity of potential mini-grid and PURE developers and customers is strengthened and awareness is raised on opportunities for developing mini-grids and PURE solutions in Mozambique (Enabel + FUNAE + SEforALL)	4.347					
	Output 2.2 Pipeline of eligible mini-grid projects and PURE opportunities are defined and validated (Enabel + FUNAE)	0.361					
	Output 2.3. Mini-grid concessions are tendered, concession and financing grant agreements are concluded (Enabel / FUNAE)	1.214					
Component 3. Solar Mini-Grid Construction Facility	Output 3.1. Solar mini-grids constructed by selected mini-grid concessionaires (Enabel/FUNAE)	21.807					
Component 4 – Climate-smart PURE Facility	Output 4.1 Climate-smart PURE solutions installed and operational (SEforALL, FUNAE and Enabel)	7.312					
PMC		1.882					
M&E		1.748					
Indicative total cost million EUR		42.050	37.415		4.635		

C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)

C.3.1 Does GCF funding finance capacity building activities?	Yes ☒ No ☐
C.3.2. Does GCF funding finance technology development/transfer?	Yes ☒ No ☐

175. The proposed project includes substantial investments in capacity building and technology transfer to enable Mozambique's transition toward climate-resilient, renewable energy solutions. Approximately EUR 8.913 million of the requested GCF funding will directly support capacity-building and technology-transfer activities across Components 1 and 2.

176. Under Component 1, the project will strengthen FUNAE's institutional, technical, and operational capacities to sustainably manage off-grid energy financing mechanisms and become an effective national entity for climate finance mobilization. This includes establishing internal governance structures, developing operational manuals, and targeted training on subsidy design, project management, financial planning, and environmental and social safeguards. Enabel will implement a hands-on programme by implementing an on-the-job training and mentoring model to build core competencies.

177. Component 2 supports capacity building and technology awareness for private sector developers, local entrepreneurs, and rural communities. Activities include awareness-raising campaigns, technical assistance, and training for deploying and using mini-grids and PURE technologies, focusing on climate resilience. Training will cover business development, operation and maintenance of renewable energy systems, and income-generating applications tailored to local livelihoods.

178. The project will also promote technology transfer by enabling access to renewable energy equipment and climate-smart technologies, supported through RBF for PURE developers. These interventions are expected to strengthen local value chains, promote private sector participation, and enhance the long-term sustainability and replicability of the energy access model in Mozambique.

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's Initial Investment Framework.

D.1. Impact potential (max. 500 words, approximately 1 page)

179. The proposed project is aligned with the GCF's objectives of supporting climate-resilient, low-emission development pathways, delivering measurable benefits across mitigation and adaptation result areas. Specifically, the project will contribute to GCF mitigation and adaptation result areas: i) MRA1 Energy generation and access; ii) ARA1 Most vulnerable people and communities.

Mitigation Impact

180. The project contributes to GCF's mitigation result area of increased low-emission energy access and power generation. It will displace diesel by deploying 30-40 solar mini-grids (50–200 kW), generating an estimated 8,000-9,000 new electricity connections to households, businesses, and critical public services in underserved areas. These systems will reduce GHG emissions by 63,393.44 tCO_2e during the implementation period, and by a cumulative 399,131.26 tCO_2e over the 25-year lifetime of the project (Annex 22). The project will therefore directly contribute to Mozambique's conditional target of reducing GHG emissions by approximately 76.5 million tCO_2e between 2020 and 2030, dependent upon international support[96]. The project supports a long-term shift toward a low-emission energy pathway in rural Mozambique by enabling access to clean electricity through renewable energy mini-grids.

Adaptation Impact

181. The project will strengthen the adaptive capacity of rural communities by directly addressing energy-related barriers to resilience. It will support the distribution of 300-400 climate-smart productive use of renewable energy (PURE) solutions including solar-powered irrigation, refrigeration, solar milling, and cold storage technologies tailored to the needs of smallholder farmers and rural entrepreneurs. These interventions will reduce vulnerability to food spoilage, water scarcity, and income losses associated with climate shocks.

182. Communities will gain reliable access to energy for health facilities, schools, and early warning communications, all essential for adapting to increasing climate risks. The project will directly and indirectly enhance the climate resilience of 66,200 and 158,800 people, respectively, particularly women (50%) and smallholder farmers. These groups are often the most vulnerable due to their dependence on subsistence agriculture and limited access to climate-resilient technologies.

183. To monitor adaptation impact, the proposed project will track indicators including:
- Number of people with reduced exposure and increased adaptive capacity through the adoption of PURE solutions; and
- Increase in productivity and food security.

184. The project aligns with the UAE Framework for Global Climate Resilience by advancing thematic targets on resilient infrastructure/settlements, food systems, water, health, and livelihoods, and by operationalizing the framework's assessment–planning–implementation–MEL cycle. Site-level climate-risk assessments, gender-responsive plans, and hardened mini-grids with climate-smart PURE packages solutions reduce service disruptions and climate-related losses.

Sustainable Development Pathways

185. The project will catalyze inclusive, gender-responsive development by enabling energy access for productive, health, and educational uses. By supporting livelihood diversification and reducing

[96] https://climatepromise.undp.org/what-we-do/where-we-work/mozambique

dependence on climate-sensitive activities, the project contributes to long-term community resilience and sustainable development. (All impact calculations and methodologies are further detailed in Annexes 22 and 23)

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

186. The proposed project represents a critical step toward transforming Mozambique's rural energy sector by scaling up decentralized renewable energy systems and aligning energy access with climate-resilient development. The initiative builds on recent progress in the national mini-grid regulatory environment and introduces innovative linkages between mini-grids and climate-smart PURE, laying the foundation for sustained, systemic change in the energy-access and rural development landscape. By addressing key structural barriers such as institutional readiness, high project preparation costs, and affordability, the project will catalyze a shift from ad hoc electrification efforts to a coherent, country-led and investment-ready approach to rural energy transformation. Anchored in the institutional strengthening of FUNAE as Mozambique's national off-grid energy fund and supported by targeted financial instruments and community-centered PURE solutions, the project embeds a long-term model for inclusive, low-emission and climate-resilient development.

187. The project adopts elements of a Gender Transformative Approach (GTA) that goes beyond gender-responsive activities by addressing the structural and social barriers that limit the participation and beneficiation of women in climate action, whilst recognizing the limitations of a nascent market and Mozambique's entrenched social norms and gender inequality. This includes strategically balancing awareness raising of the market for GESI-integration and gender RBF, with accommodating the maturity and the appetite of the sector whilst also avoiding inadvertently producing backlash or pushback against women beneficiaries and stakeholders. At a minimum, this includes stringent minimum standards for operators and developers on safeguarding, particularly with regards to SEAH and GBV, as well as transformative mechanisms to incentivize participation and beneficiation of women in accessing off-grid energy and PURE technologies.

188. The project is expected to fundamentally contribute to and accelerate a paradigm shift in the mini-grid and PURE sector in the following ways:

- Shift from a 100% publicly-driven mini-grid sector to a mini-grid sector based on private sector concessions. To date, there is only one private sector-financed mini-grid in Mozambique.
- Shift towards the inclusion of PURE in scaling mini-grid programs to strengthen the financial viability of mini-grids, promote the creation of a PURE market, and increase the socio-economic development impacts of energy access initiatives.
- Build institutional capacities within FUNAE to transition from implementing publicly financed mini-grids to acting as a national fund with capabilities to manage subsidy schemes and continue supporting off-grid rural electrification initiatives in the medium to long term (including through domestically sourced funds).
- Build a Country Platform approach to strengthen policy coherence and consistency among different donor support programs, to align financing instruments and leverage private sector investment.

Potential for scaling up and replication:

189. The project will catalyze market development through direct support to 30-40 mini-grid sites, offering scalable technical and financial models that can be replicated across other provinces and countries with similar contexts. It will also facilitate deploying climate-smart PURE solutions to households, businesses, and social institutions, demonstrating the viability of integrated approaches that link energy access with

adaptive livelihood strategies. These solutions will be designed to meet the diverse needs of end-users, including women and vulnerable groups, ensuring the approach is socially replicable.

190. Alignment and coordination under the Country Platform will ensure policy coherence and consistency among different support programs, which will facilitate future parallel financing and private sector investments to drive scaling up and replication.

191. The project is providing a tested methodology for scaling through FUNAE and aligned financing instruments. Lessons will feed into future public-private partnership frameworks, enabling the structured expansion of rural electrification and PURE market development through blended finance.

Potential for knowledge sharing and learning:

192. A robust knowledge and learning component will be embedded across all project components. Technical, institutional, and community-level lessons from mini-grid deployment and PURE adoption will be systematically captured, analyzed and disseminated. Special attention will be given to documenting gender-differentiated impacts, learning from inclusive implementation strategies, and identifying best practices for GESI integration.

193. Knowledge sharing will be targeted at public institutions (e.g., MIREME, ARENE and FUNAE), private developers, and communities, fostering adaptive learning and institutional memory. South-South learning will be facilitated through collaboration with regional networks and other countries implementing off-grid and climate-resilient development strategies and through FUNAE's engagement with the GCF and energy access knowledge-sharing platforms. The project will also support national workshops, linking early adopters with new implementers to foster replication and scale.

Contribution to the creation of an enabling environment:

194. Mozambique's mini-grid regulatory framework (2021-2023) provides a strong foundation for private sector participation in rural electrification. However, its implementation at scale remains limited. This project will operationalize the framework across multiple provinces, the tendering of concessions, and the integration of PURE in partnership with ARENE, FUNAE and MIREME. The project also contributes to an inclusive enabling environment by reinforcing and structuring GESI capacity within FUNAE. It ensures that FUNAE-led processes progressively become more systematically gender-responsive and inclusive.

195. By supporting governance structures and investment planning within FUNAE and facilitating inter-agency coordination across the Country Platform, the project will institutionalize best practices for rural energy planning, financing and monitoring. Tailored capacity building and strategic planning within FUNAE will ensure that the institution can continue to attract and deploy climate finance post-project implementation, expanding the enabling environment for future energy investments. The PURE RBF incentives will further enhance the enabling environment by reducing demand-side risks, stimulating local market development, and fostering an ecosystem of PURE developers, suppliers and operators, that can serve rural areas over the long term.

Contribution to the regulatory framework and policies:

196. The project directly supports the implementation and evolution of Mozambique's mini-grid regulatory framework by testing it at scale and feeding evidence into future policy refinements. It complements government efforts to mainstream decentralized renewable energy into national electrification plans and rural development strategies. It will also inform gender-responsive regulatory adaptations by demonstrating how inclusive energy access contributes to resilience and social equity outcomes. By

formalizing concession processes, facilitating blended finance structures, and linking energy access with adaptation priorities, the project will contribute to the policy integration of energy, climate, and development critical for a sustained paradigm shift.

Overall contribution to climate-resilient development pathways:

197. The project promotes climate-resilient development by directly linking renewable energy access with adaptation-focused economic activity. By deploying mini-grids and PURE solutions such as irrigation, cold storage, agroprocessing and water pumping, the project will increase the adaptive capacity of communities vulnerable to climate shocks, while reducing emissions through renewable energy access. These solutions will be selected and delivered with input from women and vulnerable groups, ensuring that benefits reach those most affected by climate impacts. These efforts support multiple national priorities, including the NDC, the Energy for All Programme (ProEnergia), and the NAPA. The project's targeted support to women and vulnerable groups will ensure that adaptation benefits are equitably distributed, contributing to inclusive, climate-resilient growth.

198. Through its multifaceted contributions to policy, finance, market development, capacity, and community resilience, the project will establish a replicable and scalable model for climate-aligned rural electrification in Mozambique. This will unlock long-term transformational change and position decentralized energy as a cornerstone of sustainable development.

D.3. Sustainable development (max. 500 words, approximately 1 page)

Sustainable development potential

199. The proposed project will deliver a range of sustainable development co-benefits that support Mozambique's national development priorities while directly contributing to achieving several Sustainable Development Goals (SDGs). These include: SDG 1 (No Poverty); SDG 5 (Gender Equality); SDG 7 (Affordable and Clean Energy); SDG 8 (Decent Work and Economic Growth); SDG 9 (Industry, Innovation and Infrastructure); SDG 13 (Climate Action); and SDG 15 (Life on Land). By expanding rural energy access and enabling climate-resilient livelihoods through decentralized solar mini-grids and productive uses of renewable energy (PURE), the project will promote socially inclusive, environmentally sustainable, and economically transformative development pathways, discussed in further detail below.

Economic co-benefits

200. The project will deliver economic co-benefits by strengthening rural livelihoods and contributing to job creation, including green jobs. Specifically, it is expected to:

- Expand income-generating opportunities in agriculture, fisheries, and small-scale manufacturing through PURE support in the targeted value chains.
- Create short-and long-term jobs in mini-grid construction, operation, maintenance, and service provision, including through training and support for local youth and women entrepreneurs.
- Create jobs in PURE local operation and maintenance, including through training and support for local youth and women entrepreneurs
- Reduce the economic burden of energy poverty by enabling affordable, reliable access to electricity for rural MSMEs, 93% of which currently lack access to energy.
- Improve productivity, value addition, and income stability for rural households — contributing to national poverty reduction goals (SDG 1) and rural development strategies.

201. Lessons from comparable interventions in Mozambique and other countries indicate that mini-grid electrification paired with PURE can yield substantial returns in productivity, enterprise development, and local tax revenue. Further information on the economic benefits of the project is presented in Section D.6. Efficiency and effectiveness, and in Annex 3.

Social and health co-benefits

202. The project will generate social co-benefits through improved quality of life, health, education, and service delivery in targeted rural communities. Key benefits include:
- Strengthened public services, such as rural health centres and schools, will gain access to reliable power for lighting, refrigeration for medication, and digital education tools.
- Increased food security through improved agricultural productivity and post-harvest storage, particularly in regions affected by frequent droughts and floods (e.g. Manica, Zambézia).
- Enhanced community safety, particularly for women and girls, through improved street and household lighting.

Gender-sensitive development impact

203. Energy poverty in Mozambique disproportionately affects women, who are primarily responsible for household energy sourcing, face higher health risks from indoor pollution, and have less access to productive resources and decision-making power. The project integrates gender considerations throughout its design and will:

- Promote gender-responsive policy frameworks and regulatory reforms under Component 1.
- Enhance women's participation in energy governance and decision-making, including through capacity-building and community engagement activities led by FUNAE and local NGOs.
- Include gender considerations and incentives during developer and operator eligibility, scoring/selection (5-10% of scores) and contracting (such as gender RBF metrics, forming 5-10% of payment milestones), as well as obligations for SEAH risk reporting and management
- Support women's economic empowerment via strategically designed PURE financing, ownership and entrepreneurship training.

204. These outcomes will have indirect and enduring implications for improving conditions for women, such as reducing women's unpaid labor burden through energy access, and mechanized tools, freeing time for education and income generation.

205. The proposal's Gender Assessment and Action Plan (Annex 8) has assessed gender dimensions. The project includes disaggregated monitoring indicators, targeted outreach and engagement strategies, inclusive training tailored to women and men, and incentives to promote gender integration by private sector actors. These measures align with Mozambique's Gender Policy, the National Adaptation Plan, and the Sustainable Development Goal (SDG) 5 (Gender Equality).

D.4. Needs of recipient (max. 500 words, approximately 1 page)

Mozambique's vulnerability

206. Mozambique is among the world's most climate-vulnerable countries, ranked highest on the 2021 Germanwatch Global Climate Risk Index due to its acute exposure to tropical cyclones, floods, droughts, and sea-level rise — risks heightened by its Indian Ocean coastline and position within nine major river basins, particularly affecting low-lying and rural populations[97,98]. These physical risks are magnified by the socio-economic vulnerabilities of the country's population, with Mozambique ranking 183rd out of 191 countries on the 2023 UNDP Human Development Index[99]. Over 74% of the population lives below

[97] World Bank 2023. Climate Change Knowledge Portal. Mozambique. Available: https://climateknowledgeportal.worldbank.org/country/mozambique/vulnerability
[98] Germanwatch 2021. Global Climate Risk Index. Available: https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_2.pdf
[99] UNDP 2025. Human Development Report 2025. Available: https://hdr.undp.org/sites/default/files/2025_HDR/HDR25_Statistical_Annex_Tables_1-7.pdf

the international poverty line of US$2.15/day, and poverty affects more than 78% of Mozambicans, rising to over 95% in rural areas[100].

207. Women, who make up a large share of the rural workforce, are disproportionately affected: 92.3% are in vulnerable employment, and they face persistent barriers to land ownership, financial services, and participation in decision-making[101]. Women and girls also bear the brunt of energy poverty, spending disproportionate time on unpaid labor like fuel collection, and facing greater exposure to household air pollution. These gender-specific vulnerabilities intersect with geography, age, and disability, compounding barriers to resilience in rural communities. These factors constrain the adaptive capacity of households and communities.

208. Additionally, the livelihoods of most Mozambicans remain closely linked to climate-sensitive sectors. Agriculture employs 70% of the population and contributes over a quarter of GDP, yet is highly vulnerable to climate-induced droughts, floods, and temperature extremes[102]. Mozambique's energy system is similarly exposed: approximately 95% of grid electricity comes from hydropower, making the sector highly sensitive to rainfall variability. Droughts and reduced river flows — projected to reduce hydropower output by up to 20% — pose a risk to energy security[103]. Moreover, in rural areas, energy access remains critically low: around 9% of households have electricity access and depend on unsustainable biomass and charcoal, increasing exposure to economic and environmental shocks[104].

Economic and financial constraints for climate change adaptation in Mozambique

209. Mozambique is a low-income country, and structural economic constraints limit the country's capacity to invest in climate-resilient infrastructure and services. Despite strong labor force participation, the country's GDP per capita remains low (US$623 in 2023), and poverty has deepened in recent years, with the number of poor rising by nearly 6 million between 2014/15 and 2019/20[105,106]. This has coincided with mounting public debt, limited fiscal space, and competing demands for essential public services, including health, education, and food security.

210. In this context, the government has limited resources for off-grid electrification, climate-resilient infrastructure, or productive livelihoods in rural areas. The domestic capital market is underdeveloped, and concessional financing options for climate adaptation remain limited. Additionally, private investment in the off-grid energy sector is constrained by affordability challenges, low demand, and high upfront costs — especially in remote, low-income communities. Targeted financial mechanisms are needed to reduce capital costs for mini-grid developers and support the uptake of climate-smart productive appliances in low-income rural areas. There is also a need to catalyze private sector participation while ensuring affordability for vulnerable end-users. Moreover, Mozambique lacks a robust pipeline of bankable rural energy projects, limiting its ability to attract investment at scale. Given the country's fiscal constraints and the limited availability of concessional financing, GCF support is critical to enable Mozambique to deliver transformative, climate-resilient development pathways.

Need for strengthening institutions and implementation capacity

[100] https://www.worldbank.org/en/country/mozambique/overview
[101] https://genderdata.worldbank.org/en/home?estimate=National
[102] World Bank Group. 2025. The World Bank in Mozambique. Available here.
[103] Uamusse et al. 2020. Climate Change Effects on Hydropower in Mozambique. Available: https://www.mdpi.com/2076-3417/10/14/4842
[104] Deloitte. Africa Energy Outlook Mozambique special report 2024. Available online.
[105] https://data.worldbank.org/country/mozambique
[106] https://www.worldbank.org/en/country/mozambique/overview

211. While Mozambique has made important policy and regulatory advances — including adopting the 2021 Off-Grid Decree — institutional capacity to implement these frameworks remains limited[107]. The Energy Fund (FUNAE), a public agency responsible for off-grid energy, plays a central role in rural electrification, but currently lacks the operational capacity, governance structures, and technical expertise required to manage large-scale investments and climate finance. There is need to enhance FUNAE's internal governance structures, accountability systems, and capacity to mobilize and manage climate finance. Strengthening its technical and institutional capabilities is necessary to enable effective planning, implementation, and monitoring of decentralized renewable energy projects — in alignment with national electrification strategies and Mozambique's NDC commitments. Additionally, improved coordination among key institutions — including the national energy regulator (ARENE), the Ministry of Mineral Resources and Energy (MIREME) and the Ministry of Agriculture Environment and Fisheries (MAAP) — is needed to ensure regulatory compliance, enable private sector engagement, and foster integrated planning across energy and climate sectors.

D.5. Country ownership (max. 500 words, approximately 1 page)

212. The proposed project is fully aligned with Mozambique's national climate strategies and energy sector policies. It has been developed in close coordination with the Ministry of Mineral Resources and Energy (MIREME), the Energy Fund (FUNAE), and the National Designated Authority (NDA). It responds directly to Mozambique's NDC, which identifies renewable energy and decentralized solutions as key pillars of climate mitigation and adaptation[108]. The project also supports the implementation of the NAPA and the Energy Transition Strategy, both of which highlight rural energy access as critical to building resilience and reducing emissions[109,110].

213. During the 2021 GCF-funded consultation process led by OneWorld, renewable and decentralized energy investments were identified by the NDA's inter-sectoral advisory committee as one of six national priority investment areas, particularly for rural and underserved communities (Annex 7). These priorities were reconfirmed in the initial discussions for the proposed project. Energy access—especially when linked with productive uses—was consistently highlighted as a top priority, given its wide-ranging socio-economic and adaptation co-benefits.

214. The project is consistent with Mozambique's updated legal and regulatory framework for mini-grid development (Annex 2: Section 5). This includes the 2022 Electricity Law, which defines the organization and legal framework for electricity supply, including requirements for concessions for both public and private sector operators. In addition, the 2021–2023 Regulation for Access to Energy in Off-Grid Areas sets forth comprehensive guidelines for mini-grids (up to 10 MW) and decentralized energy services. It provides clear direction on licensing, tariff setting, private sector participation, and the integration of off-grid systems with the national grid—establishing a strong enabling environment for implementation and scaling.

215. Enabel, as the Accredited Entity (AE) and Executing Entity (EE), and FUNAE, as EE for component 3 and 4, bring strong institutional capacity and a proven implementation track record. They have worked together since 2012 on rural electrification, including successfully commissioning five pilot mini-grids. Enabel also collaborates with Sustainable Energy for All (SEforALL) to support MIREME's new planning and coordination unit (UIPCE), which is developing an updated Least Cost Electrification Plan (Annex 2: Section 5). These partnerships position the project to contribute meaningfully to national planning processes while strengthening long-term institutional capacity.

[107] Howe, Shenga & Cuvilas 2023. Implementation Challenges for Mozambique's Off-Grid Policy Regulation. Available: https://link.springer.com/chapter/10.1007/978-3-031-57938-7_11
[108] Open.Enabel 2022. Mobilising climate finance for the implementation of Mozambique's Nationally Determined Contributions under the Paris Agreement. Available online.
[109] National Climate Change Adaptation and Mitigation Strategy 2012. Available online.
[110] Comprehensive Analysis of the Energy Transition in Mozambique. 2024. Available online.

216. Stakeholder engagement has been a key feature of project development. Consultations with civil society organizations, donor partners, private sector actors, and communities began in 2021 and have informed project design. The implementing partners will leverage their strong provincial presence to continue inclusive stakeholder engagement, focusing on women, youth, and other vulnerable groups. Targeted consultations with beneficiary communities are planned during project implementation to ensure continued local ownership and relevance (Annex 7).

D.6. Efficiency and effectiveness (max`. 500 words, approximately 1 page)

217. The project is grounded in industry best practices, particularly in using competitive tendering for private sector engagement in the mini-grid space and its climate-smart productive use of renewable energy (PURE) incentives. These approaches are widely recognized as critical to improving financial sustainability and ensuring long-term socio-economic impact in rural electrification initiatives.

Financial Structure and Cost-Effectiveness

218. Due to Mozambique's high rural poverty rates and vulnerability to climate change, the project structure includes targeted concessional funding to ensure the affordability of mini-grid electricity for underserved communities. Without subsidies, mini-grid tariffs can reach €0.80–1.00/kWh—7 to 8 times higher than national grid tariffs—making energy inaccessible for rural households and small enterprises. This deters private investment and limits the viability of PURE, which is essential to improving livelihoods and enhancing the financial sustainability of mini-grids.

219. The project is designed to address this market failure by blending GCF funding with private investment. Concessional finance will be capped at a maximum (for mini-grids), with private developers contributing the remainder through equity or debt financing. This structure, aligned with global benchmarks, offers the minimum concessionality required to de-risk investment while avoiding market distortion or crowding out other funding sources. Private sector developers will be competitively selected, ensuring that public support is efficiently allocated. Additionally, the project adopts a performance-based subsidy model, releasing funds upon delivery of predefined results, which promotes accountability and effective delivery.

220. The cost per direct beneficiary is estimated at EUR81, while the cost per tCO2e is estimated at 49 EUR/tCO2e over the lifetime of the project (25 years), which is slightly below the cost-effectiveness of GCF's wider energy portfolio when total project financing is considered. The Independent Evaluation of the GCF energy sector finds that, on an overall financing basis, energy projects show an average cost-effectiveness of about USD 61–62 per tCO_2e for energy access and power generation activities.

Economic and Financial Viability

221. The hurdle rate for the FIRR is 15% which is consistent with the regulatory prescriptions in Mozambique. It is also consistent with target rates used elsewhere in Africa as evidenced by review of financial models and discussions with developers and financiers of actual projects. The discount rate for the EIRR is assumed to be 5% and is consistent with academic literature. A relatively discount rate (above the real growth in the economy and inflation for the currency used in the evaluation) inappropriately biases government policy against climate mitigation and adaptation investments undervaluing the negative long-term effects of not investing in essential investments.

Use of Best Practices and Innovation

222. The project builds on proven models in sub-Saharan Africa and incorporates innovations in productive use integration, energy-efficient technologies, and digital payment systems (Annex 2: Feasibility Study). Lessons learned from ongoing donor-funded mini-grid pilots in Mozambique are being used to inform

project design, including tariff models, community engagement, and the viability of PURE to strengthen resilience and sustainability. Furthermore, the project aligns with Mozambique's newly established legal framework for off-grid energy and follows international standards for public-private partnerships in rural electrification. It aims to deploy mini-grids and PURE solutions, and catalyze market development by demonstrating the commercial viability of rural electrification models with climate adaptation and mitigation co-benefits.

E. LOGICAL FRAMEWORK

E.1. Project/Programme Focus

☒ Reduced emissions (mitigation)
☒ Increased resilience (adaptation)

E.2. GCF Impact level: Paradigm shift potential (max 600 words, approximately 1-2 pages)

Assessment Dimension	Current state (baseline)		Potential target scenario (Description)	How the project/programme will contribute (Description)
	Description	Rating		
Scale	Mozambique's rural population has limited access to clean, reliable electricity, particularly in remote areas. FUNAE, the national energy fund, lacks full operational capacity to scale investments in off-grid renewable energy solutions. While the updated regulatory framework creates potential, implementation remains nascent, and the pipeline of investment-ready mini-grid and PURE projects is underdeveloped.	Low	The project will significantly enhance Mozambique's ability to scale up low-emission energy access by strengthening FUNAE's institutional and financial capacities, preparing 30-40 mini-grid sites and PURE opportunities, and establishing tailored financing mechanisms to reach underserved communities. Including Results-Based Financing (RBF) and concessional funding will enable rapid deployment and lay the foundation for broader replication beyond the project lifespan.	The project will directly build the enabling institutional infrastructure and financial instruments needed to scale climate-resilient energy solutions nationally. By crowding in private sector investment, streamlining permitting processes, and facilitating the deployment of mini-grids and PURE technologies, the project sets a replicable model for national scale-up.
Replicability	While Mozambique has recently developed policy and regulatory instruments that support off-grid electrification, these remain largely untested and lack	Medium	By piloting integrated approaches that combine institutional strengthening, private sector tendering, and performance-based subsidies, the project will generate models, procedures, and tools that can be replicated within other regions of Mozambique and by	The project includes systematic documentation, knowledge-sharing, and capacity-building components that will ensure lessons learned inform future programming. Standardized tendering procedures, policy guidelines, and implementation models

	strong feedback loops for learning and improvement. Experience with mini-grid and PURE deployment is limited and fragmented.		other countries facing similar rural electrification and climate resilience challenges.	developed under the project will serve as templates for replication at scale.
Sustainability	Mozambique's current institutional and financial systems are insufficient to sustain long-term off-grid electrification efforts without external support. FUNAE is undergoing reforms but requires substantial technical and fiduciary reinforcement to operate as a national climate finance vehicle.	Medium	The project will embed core capacities within FUNAE, institutionalize governance and fiduciary systems, and foster alignment with national coordination platforms, ensuring long-term operationalization. Private sector engagement and co-financing requirements further enhance financial sustainability.	The project creates a pathway for sustained off-grid energy access and climate-smart economic growth beyond the GCF financing period by strengthening the policy environment, enhancing local capacity, and de-risking private investment through blended finance instruments.

E.3. GCF Outcome level: Reduced emissions and increased resilience (IRMF core indicators 1-4, quantitative indicators)

GCF Result Area	**IRMF Indicator**	**Means of Verification (MoV)**	**Baseline**	**Target**		**Assumptions / Note**
				Mid-term	**Final**[111]	
MRA1 Energy generation and access	Core 1: GHG emissions reduced, avoided or removed/sequestered	Emissions modelling reports, SPV generation logs, household and PURE user surveys, and validation by an independent construction and emissions auditor	0 tCO_2e	2,659.69 tCO_2e	7-year implementation period: 63,393.44 tCO_2eq 25-year accounting period: 399,131.26 tCO_{2e}	A: Assumes substituting high-emission fuels with solar mini-grid electricity, average rural household and PURE electricity use, and continuous operation post-commissioning. N: Baseline and target estimations use emission factors from IPCC Guidelines, solar generation modelling using HOMER software, and

[111] The final target means the target at the end of project/programme implementation period. However, for core indicator 1 (GHG emission reduction), please also provide the target value at the end of the total lifespan period which is defined as the maximum number of years over which the impacts of the investment are expected to be effective.

						site-level demand projections from feasibility studies. Data sources include SEforALL assessments, FUNAE records, and field surveys. See additional notes and assumptions in Annex 22. GCF CI1 links with and will be tracked alongside Enabel KDI CI&Env2. Tonnes of CO_2 avoided thanks to Enabel project strategies/actions
MRA1 Energy generation and access	Supplementary 1.3: Installed renewable energy capacity	SPV engineering designs, commissioning reports, inspection logs, and M&E reports.	0 MW	~0.75 MW by year 4	~2,15 MW by year 7	A: Average system size per mini-grid ranges from 30 – 75 kWp. Timely construction and operation are assumed. N: Based on feasibility studies, benchmarked from similar programs. Final sizing verified post-tender.
ARA1 Most vulnerable people and communities	Core 2: Direct and indirect beneficiaries reached	Household connection records, PURE grant records, surveys disaggregated according to sex, age, **and people with disabilities**, training outcome reports, and annual survey data validated by the project M&E team and third-party evaluations.	0 direct or indirect beneficiaries	25,000 direct and 80,000 indirect beneficiaries (52% women) by year 4	66,200 direct and 158,800 indirect beneficiaries (52% women) by year 7	A: Assumes service coverage per cluster areas (average 75,000 people), uptake of PURE equipment, and effectiveness of awareness-raising and capacity-building activities. N: Data derived from demographic profiles of target sites, customer mapping, PURE appliance adoption surveys, and monitoring reports and estimated using project-level field data and extrapolations from comparable mini-grid programs. GCF CI2 links with and will be tracked alongside Enabel KDI

						CL&Env1. Number of people supported (directly) to tackle climate change (M/F).
ARA1 Most vulnerable people and communities	Supplementary 2.5: Beneficiaries (female/male) adopting innovations that stregthen climate change resilience	PURE grant records, surveys are aggregated according to sex, age and people with disabilities, training outcome reports, and third-party evaluations.	0 beneficiary	25,000 beneficiaries (at least 52% women) by year 4	66,200 beneficiaries (at least 52% women) by year 7	A: Outreach and subsidies promote adoption; gender-inclusive strategies ensure balance. N: Based on training participation, field surveys, and PURE uptake. In line with GCF resilience metrics. GCF CI2.5 links with and will be tracked alongside Enabel KDI CL&Env1. Number of people supported (directly) to tackle climate change (M/F).

E.4. GCF Outcome level: Enabling environment (IRMF core indicators 5-8 as applicable)

Core Indicator	Baseline context (description)	Rating for current state (baseline)	Target scenario (description)	How the project will contribute	Coverage
Core Indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner	Mozambique's off-grid electrification framework has been updated recently (notably through the 2021 Off-grid Energy Regulation and 2023 Mini-grid Concession Regulations). Yet, implementation experience remains limited and institutional capacity at FUNAE, ARENE, and MIREME is insufficient to manage the financing, tendering, and coordination mechanisms required for scale. FUNAE is evolving into a functional national	low	By the end of the project, Mozambique will have strengthened institutional frameworks and operational capacities within FUNAE to manage financial support for off-grid energy and climate-resilient PURE technologies. The project will support the adoption of key governance and accountability mechanisms, the development of strategic planning tools, and align with GCF fiduciary, environmental, GESI, and social safeguards standards. These advancements will enable FUNAE to	Component 1 of the project is designed to address this barrier through capacity-building, institutional support, and technical assistance. Key contributions include: • Establishing internal structures and policies within FUNAE (Output 1.1) • Building fiduciary, technical, and management capacity through twinning and training • Supporting FUNAE's coordination role within the Country Platform	National level (one country)

	off-grid energy fund and is pursuing GCF accreditation.		become an effective channel for future climate finance.	• Enabling FUNAE's readiness for GCF accreditation and future climate finance mobilization (Output 1.2) • Supporting regulatory refinement and PURE-enabling policy frameworks • Strengthen ARENE's role in the public tendering for mini-grids.	
Core Indicator 6: Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation	The deployment of renewable energy technologies in Mozambique's rural areas remains limited, especially for income-generating and adaptation-relevant applications. The PURE market is nascent, with limited local presence of suppliers, low consumer awareness, and few support mechanisms to reduce costs or ensure after-sales service. Moreover, weak demand aggregation and financing barriers constrain site-specific deployment of innovations (such as solar-powered cold storage or irrigation).	low	By the end of the project, Mozambique will have strengthened a functioning innovation-enabling ecosystem for climate-smart renewable energy technologies in rural areas. PURE suppliers and mini-grid developers will have entered the market and scaled operations through access to Results-Based Financing (RBF). Tailored PURE facility will help deploy and disseminate climate-resilient technologies across 30-40 mini-grid sites, supported by community training and business development services.	Component 4 of the project focuses on market creation for climate-smart technologies and innovation by: • Designing and operationalizing RBF subsidy windows for PURE technologies (Output 4.1) • Targeting PURE solutions with demonstrated adaptation benefits (e.g., water pumps, cold storage, agri-processing) • Promoting supplier entry and localization through co-financing requirements • Supporting technology adoption through demand stimulation and business training under Component 2 • Encouraging iterative innovation and scaling through calls for proposals and data feedback loops	Multiple sub-national areas within a country

E.5. Project/programme specific indicators (project outcomes and outputs)						
Project/programme results (outcomes/ outputs)	**Project/programme specific Indicator**	**Means of Verification (MoV)**	**Baseline**	**Target**		**Assumptions / Note**
				Mid-term	**Final**	
Outcome 1: Strengthened institutional, organizational, and technical capacities of FUNAE for financially supporting sustainable off-grid energy projects in Mozambique	Number of formal audits or evaluations showing improved compliance with governance and accountability standards within FUNAE	Audit or evaluation reports	0	2 formal audits or evaluations showing improved compliance with governance and accountability standards within FUNAE	4 formal audits or evaluations showing improved compliance with governance and accountability standards within FUNAE	A: Stable staffing and political support; GCF readiness activities are complementary and completed as planned N: Relates to progress on GCF accreditation and Country Platform engagement
Output 1.1: FUNAE's governance, accountability and fiduciary systems are reinforced/optimized and operational, supporting transparent, accountable, and efficient management and effective oversight of larger-scale climate finance and broader project portfolios	Number of relevant governance and accountability structures and mechanisms established and operational within FUNAE with the project's support	Consultations with FUNAE staff; documentation and reports related to accountability structures and mechanisms	0	5 implemented and operational accountability structures and mechanisms within FUNAE	8 implemented and operational accountability structures and mechanisms within FUNAE	A: Structures and mechanisms are actively adopted by FUNAE with no delays in operationalizing them N: Structures and mechanisms include: • Optimizing and reinforcing existing procurement, audit, and risk-management processes for larger portfolios. • Modernizing financial reporting and contract management tools. • Strengthening internal controls and compliance mechanisms to

						ensure transparent and accountable management of climate funds at this scale. • Enhancing the implementation and reporting of environmental, social, and gender safeguards. • Strengthening capacity to supervise private sector mini-grid developers and implement Mozambique's regulatory framework. • Harmonizing and updating operational guidelines and quality assurance tools for mini-grids projects. • Modernizing digital systems for fund and project oversight. Consolidating Monitoring, Evaluation, and Learning (MEL), incorporating climate-resilience indicators and advanced analytics.
Output 1.2: Strategic and institutional frameworks for mobilizing a nd deploying climate finance from various sources and for effectively contributing to	Number of relevant strategic frameworks adopted within FUNAE with the project's support	FUNAE internal policy documents, capacity assessment reports	0	2 frameworks adopted	4 frameworks adopted	A: Political continuity and staffing retention at FUNAE, linked to progress on the GCF accreditation roadmap

Mozambique's mini-grid Country Platform are adopted and operationalized by FUNAE	Institutional frameworks include e.g a) institutional coordination mechanism/governance structure for the Country Platform and b) internal structures for climate finance mobilization (see Sub-activity 1.2.1.1) Strategic frameworks include e.g. a) climate finance mobilization strategy and b) carbon market strategy for the off-grid sector. This has been included in Section E.5 Logical Framework					N: Dedicated teams or focal points within FUNAE will be established and/or strengthened to focus on climate finance. These will be responsible for identifying investment opportunities, elaborating fund mobilization strategies and investment plans, preparing funding proposals, and engaging and coordinating with partners including those from the private sector
Outcome 2: The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes	Number of mini-grids confirmed for construction as a result of grants awarded through regulatory-compliant public procurement processes	ARENE tender reports, signed concession agreements, and Grant Agreements, independent verification reports	0	16 mini-grids built or under construction	38 mini-grids built	A: Feasibility fieldwork completed without disruption; Government validates documentation
Output 2.1: Capacity of potential mini-grid and PURE developers and customers is strengthened, and awareness is raised on opportunities for developing mini-grids and PURE solutions in Mozambique	Number of local PURE operators and community stakeholders reached through the community awareness raising events	Awareness-raising campaign event planning and implementation reports, workshop reports	0	At least 20 local pure operators will be reached, and 600 community members	76 local pure operators 1900 community members	A: High attendance and feedback inform project design N. Number of local PURE operators are still limited – early-stage market/sector Estimated 50people per mini-grid site reached One potential local operator per PURE solution category,

						considering two categories per site
Output 2.2: Pipeline of eligible mini-grid projects and PURE opportunities are defined and validated	Number of complete and validated tender information packages	Tender information packages (per cluster, covering 10-20 sites) ready to launch the tender procedure	0	3 tender information packages are validated	3 tender information packages are validated	A: The process of carrying out mini-grid site assessments in preparation of the concession tender.are not delayed
Output 2.3: Mini-grid concessions are tendered, and concession and financing agreements are concluded	Number of mini-grid concessions awarded and grant agreements concluded	ARENE tender reports, signed concession agreements, and Grant Agreements	0	16 mini-grid (concessions awarded and grant agreements concluded	38 mini-grid concessions awarded and grant agreements concluded	A: Procurement process remains transparent, and bidders meet eligibility; co-financing secured by the mini-grid concessionaires
Outcome 3: Reduced emissions across Mozambique due to mini-grid installation and operation	Emissions reduced through mini-grid installation and operation	Emissions modelling reports, SPV generation logs, household and PURE user surveys, and validation by an independent construction and emissions auditor	0 tCO_2e	2,659.69 tCO_2e	7-year implementation period: 63,393.44 tCO_2eq 25-year accounting period: 399,131.26 tCO_2eq	A: Assumes substituting high-emission fuels with solar mini-grid electricity, average rural household and PURE electricity use, and continuous operation post-commissioning. N: Baseline and target estimations use emission factors from IPCC Guidelines, solar generation modelling using HOMER software, and site-level demand projections from feasibility studies. Data sources include SEforALL assessments, FUNAE records, and field surveys. See additional notes and assumptions in Annex 22. GCF CI2 links with and will be tracked alongside Enabel KDI CI&Env2. Tonnes of CO_2 avoided thanks to Enabel project strategies/actions

Output 3.1: Solar mini-grids constructed by private mini-grid developers	Number of solar mini-grids constructed and operational as a result of project support	Construction completion certificates, SPV operations logs, and site visits	0	16 mini-grids	38 mini-grids	A: Construction is not delayed due to external market or climatic shocks
Outcome 4: Increased resilience and livelihood generation for vulnerable communities in Mozambique	Total number of vulnerable people in local communities with increased climate resilience resulting from PURE solutions (direct beneficiaries: people who use the services)	Key informant interviews Focus group discussions Field verification Socio-economic impact surveys	0 people	25,000 people 52% women	66,200 people 52% Women	A: Demand for energy is stimulated by availability and value of use for PURE technologies; uptake and use of PURE technologies is autonomous, spreading through communities and builds climate resilience; increased income equates to increased adaptive capacity; all PURE solutions will support resilience building as detailed in Section B.3
	Number of households adopting water-efficient irrigation practices and improving productivity via PURE solutions under drought conditions	Key informant interviews Focus group discussions Field verification Socio-economic impact surveys	0 households	200 households (at least 52% women beneficiaries)	400 households (at least 52% women beneficiaries)	A: PURE solutions are used for irrigating subsistence farming areas and result in increased productivity despite drying conditions
	% of households in mini-grid areas reporting improved food security under climate change conditions due to reliable PURE services/solutions	Key informant interviews Focus group discussions Field verification Socio-economic impact surveys	0%	25% (at least 52% women) beneficiaries)	25% (at least 52 % women beneficiaries)	
Output 4.1: Climate-smart PURE solutions installed and operational	Number of climate-smart PURE solutions deployed and operational via the RBF Facility established under the project	PURE supplier delivery logs, subsidy disbursement records	0	150 PURE solutions deployed and operational	400 PURE solutions deployed and operational	A: Suppliers can meet demand; users are supported in co-financing contributions

Project/programme co-benefit indicators						
Co-benefit 1: Job creation and local economic development	Number of jobs (part-time or full-time, formal and informal jobs) created through mini-grid and PURE deployment	Contractor and SPV employment records and interviews, PURE developer reports, community business surveys	0	300 jobs (construction, operation, services) created, with at least 15% held by youth and/or women	500 jobs created or sustained, with at least 15% held by youth and/or women	A: Mini-grids and PURE facilities stimulate demand for local labour and services across construction and O&M N: Job estimates will follow ILO methodology for renewable energy employment accounting; figures disaggregated by sex, age, and employment type (temporary/permanent)
Co-benefit 2: Gender equality and social inclusion	Proportion of PURE participants (developers, local operators, beneficiaries) who are women Other activity-level indicators (see GAP) will also contribute to this co-benefit	PURE facility application records, training attendance sheets, and gender analysis reports; In addition, qualitative monitoring tools such as focus group discussions and community scorecards will be used to capture the perspectives of marginalized groups and support inclusive and adaptive project implementation.	PURE developers: local operators that are women 0% PURE beneficiaries that are women: 0%	PURE developers, local operators that are women: 7.5% PURE beneficiaries that are women: 30%	PURE developers, local operators that are women: 15% PURE beneficiaries that are women: 52%	A: GAP actions are sufficient to produce shifts in participation, without producing backlash or pushback (or with significant mitigation measures to prevent so) N: Sub-activities/indicators to be measures via GAP indicators and targets (Annex 8).

E.6. Project/programme activities and deliverables

Activities	**Description**	**Sub-activities**	**Deliverables**
Activity 1.1.1 Provide institutional and capacity building support to reinforce the technical, managerial and fiduciary responsibilities within FUNAE to operate as an (inter)nationally recognized funding agency	To strengthen FUNAE's institutional capacity, a series of foundational and developmental sub-activities will be implemented. These aim to enhance both	**Sub-activity 1.1.1.1 Twinning arrangements:** Enabel will provide on-the-job training and hands-on support to FUNAE to fully institutionalize the reforms and fiduciary standards and procedures. The support will be delivered through a	1.1.1.1 One set of internal policies and operational manuals (including Grant Award Manual)

	internal governance and the professional skills competencies of its staff.	combination of embedded staff and dedicated twinning arrangements between staff members of FUNAE and Enabel. The twinning will be managed by a dedicated capacity-building expert who will liaise and facilitate the collaboration between FUNAE staff and relevant staff members from Enabel. To ensure twinning arrangements are effective, Enabel will make available the required human resources and profiles to deliver on the on-the-job training and to maximize peer learning. **Sub-activity 1.1.1.2: Re-Skilling and training** On a case-by-case basis, the on-the-job training will be complemented by tailored (re)skilling and training sessions to address specific skills gaps and strengthen competencies. The capacity-building expert will be responsible for engaging with FUNAE staff to identify specific capacity and training needs and to develop training and capacity-building packages tailored to the needs of the individual staff members. A personalized capacity and performance assessment will be carried out on an annual basis to evaluate progress, identify remaining capacity gaps and provide guidance and recommendations for continued capacity building and training efforts.	1.1.1.2a Terms of reference for key governance bodies within FUNAE 1.1.1.2b Constitution and operationalization of the Internal Audit Committee
Activity 1.2.1 Establish relevant strategic frameworks and partnerships and strengthen the capacity of FUNAE to more efficiently coordinate the mobilization of finance for accelerating the scale- up of off-grid projects and programs	This activity aims to strengthen FUNAE's capacity to mobilize and manage climate finance and play a leadership role in Mozambique's off-grid energy sector. Dedicated climate finance teams will be established within FUNAE to identify funding opportunities and coordinate with key stakeholders, including the private sector. Staff will benefit from participation	**Sub-Activity 1.2.1.1. Establishment of Internal Structures for Climate Finance Mobilization:** Dedicated teams or focal points within FUNAE will be established and/or strengthened to focus on climate finance. These will be responsible for identifying investment opportunities, developing and elaborating fund mobilization strategies, including a carbon market strategy for the off-grid	1.2.1.1 Climate finance teams or focal points; Climate finance mobilization strategy; Carbon market strategy for off-grid sector 1.2.1.2 FUNAE is a member of the Country Platform; number of strategic dialogues supported and facilitated by FUNAE

	in strategic climate finance events and tailored training on proposal development, financial modelling, safeguards, and RBF. The project will also support FUNAE's coordination role within the Country Platform, enhancing sector-wide alignment and transparency. Lastly, technical assistance will be provided to develop enabling policies and regulatory frameworks that promote the uptake of climate-resilient PURE.	sector, and investment plans, preparing funding proposals, and engaging and coordinating with partners including those from the private sector. **Sub-Activity 1.2.1.2. Support FUNAE's Role within the Country Platform:** This includes facilitating dialogue and coordination among partners and stakeholders, aligning investment pipelines and approaches with national priorities, contributing to implementing policy roadmaps, and ensuring transparency and coordination in implementation. Additionally, FUNAE will convene strategic policy dialogues under the Country Platform to disseminate best practices on climate resilience and channel implementation evidence into future investment planning and regulatory updates. In addition, support will be provided to the Country Platform and its secretariat for prioritizing policy development, supporting financial mobilization by engaging DFIs and investors, strengthening the development of blended finance models, and strengthening local currency financing using national resources, among others. **Sub-Activity 1.2.1.3. Participation in Strategic Events and Trainings on Climate Finance:** FUNAE staff will be supported to attend national and international conferences, workshops, and training sessions focused on different finance sources, such as international climate funds (Green Climate Fund (GCF), Adaptation Fund, Global Environment Fund (GEF)), green bonds, carbon markets, and blended finance models. These events will help staff stay informed	1.2.1.3 Conferences/workshops/Training reports and attendance registers 1.2.1.4 Training reports and attendance registers

		about evolving funding opportunities and best practices in project design and proposal development. **Sub-Activity 1.2.1.4. Tailored Capacity Building and Training Sessions:** Specialized training programs will enhance the technical and managerial skills of FUNAE staff in areas such as climate finance proposal writing, financial modelling, and results-based financing. Enabel will deliver these sessions with the support of dedicated external experts with experience in climate finance.	
Activity 2.1.1 Build awareness and capacity among the private sector about opportunities to develop and finance mini-grids and PURE in Mozambique	This activity aims to engage and inform private sector stakeholders about the potential opportunities and benefits of investing in mini-grid projects and PURE solutions in Mozambique.	**Sub-Activity 2.1.1.1. Knowledge sharing and stakeholder engagement:** The project will organize targeted workshops where pre-identified mini-grid clusters and the related PURE opportunities will be presented and discussed. **Sub-Activity 2.1.1.2. Private sector awareness raising and capacity building:** A series of information-sharing sessions and workshops will be conducted to prepare private sector actors for investment. These will include business-to-business (B2B) matchmaking events and presentations on financing options, designed to facilitate partnerships, improve access to finance, and accelerate project development in the mini-grid and PURE sectors. An important element of this sub-activity are the PURE market assessments. The market assessment will result in an indicative list of PURE suppliers, active in different PURE thematics, that will facilitate the B2B matchmaking between regional PURE suppliers, local Mozambican PURE developers and mini-grid developers. The	2.1.1.1 Workshop reports and attendance registers 2.1.1.2 Information-sharing session reports and attendance registers 2.1.1.2 Market assessments/signals reports

		absence of these B2B networks is identified as an important barrier for the deployment of PURE services. In addition, the market assessment will provide important information about the developments in the PURE market that will inform the final design of the PURE facility (Sub-Activity 4.1.1.1).	
Activity 2.1.2 Build awareness and capacity among local PURE operators and customers in the targeted mini-grid areas regarding the potential benefits and opportunities of mini-grids/PURE	This activity focuses on raising awareness and strengthening capacity among local communities and potential end-users about the positive impacts and opportunities offered by mini-grid electricity and PURE solutions to strengthen climate resilience.	**Sub-Activity 2.1.2.1. Mini-grids/PURE beneficiaries awareness raising:** Through community awareness-raising campaigns delivered by local service providers (such as local NGOs, companies or consortium of international NGOs/companies with local ones), rural community residents will gain a better understanding of how PURE technologies can enhance climate resilience through improved agricultural production, economic prospects and quality of life (see Annex 2 for more information). **Sub-Activity 2.1.2.2. Capacity building for livelihood development and income generation:** Capacity-building sessions will be organized for local PURE operators such as farmers, cooperatives and small business, providing business development, management skills training and technical skills training regarding maintenance and operation of PURE solutions. This support empowers community members to effectively leverage access to renewable energy and efficient equipment for income-generating activities and sustainable livelihood improvements.	2.1.2.1 Community awareness raising campaigns, reports, and list of participants 2.1.2.2 Training reports and attendance registers
Activity 2.2.1 Validate and approve site assessment and clustering of mini-grid sites, including evaluation of PURE opportunities and needs	Under this activity, data collection and site assessments will be carried out to prepare comprehensive data and information packages that will be the basis for the mini-	**Sub-Activity 2.2.1.1 Final quality check on the clusters and sites to guarantee full alignment with the GCF and this proposal criteria:** Under this activity, the	2.2.1.1 Quality check reports per cluster site with feedback against GCF and proposal criteria

	grid tender procedure under Output 2.3 below and the design of the PURE funding windows under Component 4.	project will validate and approve the site assessments, including evaluation of PURE opportunities and clustering of mini-grid sites, that will have been carried out by the Government of Mozambique in collaboration with the Swedish-funded +Sol project as part of the Country Platform approach. Data and information that will have been collected and analyzed by the +Sol project will be checked for quality and alignment with GCF requirements. Potential gaps will be addressed and final guidance will be prepared for additional work to be carried out by the preferred bidder under Sub-activity 2.3.1.2. The data and information will serve as a basis for the concession tender procedure that will be launched under Output 2.3. More information regarding the project preparation process is provided in Section 8 of Annex 2.	
Activity 2.3.1 Establish a collaboration mechanism between the programme and the Mozambican Energy Regulator, ARENE, and award mini-grid concessions	This activity will focus on launching and implementing the competitive tender procedure up to the point of signing the concession agreement with the SPV of the selected private sector bidder. In the context of Mozambique, the process for tendering and awarding concessions for the supply of electricity in off-grid areas is managed by the National Energy Regulator, following the provisions of the Electricity Law (Law 12/2022), the Off-grid Regulations – Decree 93/2021 and in particular also the Mini-grid Concession Regulations (Ministerial Diploma 68/2023) and Public Procurement Regulations (Decree 79/2022). To ensure climate resilience is embedded in the mini-grids' design and construction, the tendering information packages will include all	**Sub-Activity 2.3.1.1 Signing of Operational agreement with ARENE**: Under this activity, the project will validate and approve the site assessments, including evaluation of PURE opportunities and clustering of mini-grid sites, that will have been carried out by the Government of Mozambique in collaboration with the Swedish-funded +Sol project as part of the Country Platform approach. Data and information that will have been collected and analyzed by the +Sol project will be checked for quality and alignment with GCF requirements. Potential gaps will be addressed and final guidance will be prepared for additional work to be carried out by the preferred bidder under Sub-activity 2.3.1.2. The data and information will serve as a basis for the concession tender procedure that will be launched	2.3.1.1 Signed operation agreement 2.3.1.2a Tender documents 2.3.1.2b Signed contracts and Tender award notice 2.3.1.2.c List/log of successful bidders

	relevant data on key climate hazards identified during site assessments.	under Output 2.3. More information regarding the project preparation process is provided in Section 8 of Annex 2. **Sub-Activity 2.3.1.2 Support the implementation of the tendering process up to the conclusion of the concession and grant agreement**: In accordance with Mozambique's laws and regulations, the public tender process will at a minimum comprise the following phases: 1) preparation of the tender documents; 2) launch of the public tender; 3) submission of proposals; 4) bid evaluation; 5) ranking of proposals and selection of preferred bidder; 6) preferred bidder performs its own feasibility assessment (including PURE assessment, ESS, etc) ; 7) award to the successful bidder; 8) negotiation and conclusion of the concession agreement and grant agreement; The successful bidder will be selected based on the lowest offer in terms of electricity tariff and subsidy required (reverse auction). The regulator (ARENE) will fix the tariff, and the subsidy will vary accordingly. The tariff set by ARENE will follow the principles as laid out in the mini-grid regulations (i.e. Resolução Normativa 1/ARENE – CA/2022, Regulamento Tarifário para Mini-Redes nas Zonas Fora da Rede), including: 1. the tariffs should be cost-reflective 2. the tariffs should be calculated considering reasonable profit levels 3. the tariffs should balance the "affordability to pay" of the mini-grid consumers and the financial-economic model of the mini-grid concessionaire	

		4. the tariffs should incorporate a reasonable partitioning of the gains between the mini-grid concessionaire and the mini-grid consumers 5. the tariffs should be transparent The ongoing GET.FIT Program will provide initial lessons and best practices. Where needed, additional technical capacity or other relevant support will be provided to ARENE to ensure the smooth organization of the concession tendering and evaluation process, including the setting of the tariffs. The lessons learned will also be discussed in the context of the Country Platform to ensure policy coherence and consistency in the approaches towards tariff setting across different programs and initiatives.	
Activity 2.3.2 Formalize contractual arrangements between FUNAE and the selected mini-grid concessionaires in line with the concession agreements	This activity will focus on formalizing the implementation arrangements for the awarded mini-grid concessions—establishing a Special Purpose Vehicle (SPV) and signing the Concession Contract. In parallel, a Grant Agreement will be entered into between FUNAE and the SPV of the selected bidder. The Concession Contract will require the developer to implement climate-resilient design features included in the approved bid, ensuring that the constructed mini-grids are robust against identified hazards.	**Sub-activity 2.3.2.1 SPV establishment:** After the concession is awarded, the selected bidder will establish an SPV—a company incorporated in Mozambique—to deliver on the project. **Sub-activity 2.3.2.2 Concession agreement signing:** A Concession Contract will be signed between the SPV of the selected bidder and the Government of Mozambique (through the Ministry of Mineral Resources and Energy). The Concession Contract will specify the roles and responsibilities of the public and private partners, the tariff, reporting requirements, etc. A template of the Concession Agreement is available as an Annex to the Mini-grid Concession Regulations. **Sub-activity 2.3.2.3 Grant agreement formalization:** FUNAE will enter into a Grant Agreement with the SPV of the	2.3.2.1 SPVs are established 2.3.2.2 Signed concession contracts 2.3.2.3 Signed Grant Agreements

		selected bidder in parallel to the above sub-activities. The Grant Agreement will detail the level of subsidies and performance-based disbursement schedule during the construction and commissioning phase of the mini-grids. The level of subsidy provided will depend on the outcomes of the tender process, but there will be a minimum co-financing requirement from the private sector company. The signing of the Grant Agreement will be conditional upon the confirmed availability of the necessary co-financing on the part of the private sector partner.	
Activity 3.1.1 Construction of the solar mini-grids by the mini-grid concessionaires	This activity includes the construction and operationalization of the solar mini-grids by the SPVs.	**Sub-Activity 3.1.1.1. Solar mini-grid construction:** The selected mini-grid concessionaire will be responsible for the organization and execution of the construction of the targeted mini-grids. The concessionaires have the obligation to regularly inform FUNAE and Enabel about the updated planning and progress of the ongoing construction works, as well as eventual constraints and risks that could result in a delay compared to the initial planning of the mini-grid construction works. **Sub-Activity 3.1.1.2. Mini-grid operationalization:** After commissioning the mini-grids, the SPVs are responsible for operating them and eventual densification of the mini-grid customer connections, per the concession agreements. Developers will be required to implement O&M protocols for extreme weather preparedness, which may include, among other aspects, SOPs for cyclone and flood response, emergency shutdown procedures, and staff safety measures.	3.1.1.1 Constructed mini-grids 3.1.1.2 Generation and supply of power from mini-grids

Activity 3.1.2 Milestone verification related to mini-grid deployment and disbursement of the financial support	This activity relates to managing the grant disbursements in accordance with the milestones agreed in the respective Grant Agreements. These milestones relate to the initial construction of the mini-grid infrastructure (pre-commissioning) and the increase of mini-grid customer connections after the commissioning (post-commissioning).	**Sub-Activity 3.1.2.1. Mini-grid milestone verification**: An independent supervisor will be contracted via a public tender to verify the mini-grid construction milestones in the field. The SPVs will regularly inform FUNAE about the progress of the mini-grid construction and submit a formal request for verification when a contractual milestone has been reached. After receiving such a request, FUNAE and the independent supervisor will organize a field mission to objectively verify the cited milestone's successful conclusion. The objective verification will be done based on visual verifications, official measurements and consultations with relevant stakeholders. After each field mission, the independent supervisor will prepare an official report to be presented to FUNAE for approval. **Sub-Activity 3.1.2.2. Fund disbursement**: Based on the approved supervision reports, FUNAE initiates the process of disbursing the SPVs the percentage of the financial support related to the successful conclusion of the respective milestone, with technical support provided by Enabel.	3.1.2.1 Independent verification reports 3.1.2.2 Fund disbursement receipts/records
Activity 4.1.1. Design dedicated facility for supporting PURE implementation	The implementation of PURE solutions will be site-specific and tailored to the socio-economic context, adaptation needs and characteristics of provincial and district markets. For example, PURE opportunities in coastal fishery communities will differ from PURE needs and opportunities in inland agricultural economic zones targeting cash crops. As part of the project preparation work under Component 2,	**Sub-activity 4.1.1.1. Pure facility design and establishment:** This activity will be dedicated to defining and design the structuring and functioning of the facility, including its governance structure, the final eligibility criteria for the PURE developers, maximal subsidy levels for the different types of PURE solutions, etc. The design of the facility will be tailored to the	4.1.1.1 PURE facility documentation

	PURE market assessments will be carried out. Specific PURE opportunities and needs will be identified for individual mini-grid sites targeted by the project (see Activity 2.2.1).	opportunities and needs identified across the different mini-grid sites.	
Activity 4.1.2. Implement and manage the PURE facility for supporting PURE solutions	This activity covers the operationalization of the PURE facility, during which PURE developers can submit project proposals for PURE solutions and request RBF incentives.	**Sub-activity 4.1.2.1 Evaluating proposals for RBF incentives:** Eligible PURE developers will be able to submit proposals on a regular basis to the PURE Facility. Proposals will need to include the following indicative information: • Signed Agreement with the mini-grid cluster concessionaire to develop the targeted PURE equipment within the mini-grid concession area; • Technical data about PURE equipment and conformity with list of eligible PURE solutions and compliance with international technical and quality standards related to energy efficiency, safety and operational performance • Number of targeted end-users of the PURE solution • Social inclusion (gender, vulnerable groups etc.) • Business plan for the management and operation of the pretended PURE solution • Application of ESS safeguards related to the pretended PURE solution • After sales service and maintenance plan **Sub-activity 4.1.2.2 Signing of the PURE grant agreements:** After review and approval of the PURE proposal, grant agreements will be signed between the PURE developers and FUNAE, who is the owner of the PURE Facility. The grant agreements will have details on the RBF	4.1.2.1 Proposals for RBF subsidies 4.1.2.2 Signed PURE grant agreements 4.1.2.3 PURE equipment installed

		incentive amounts and specify monitoring and reporting requirements. **Sub-activity 4.1.2.3 Installation of PURE equipment and provision of PURE incentives:** PURE developers will be responsible for the procurement, installation and operation of the PURE equipment. Once PURE solutions are operational, PURE developers can submit a request for disbursement of the RBF incentives, specifying the type and quantity of PURE solutions that have been installed and are operational. SEforAll, being the fund agent for the PURE Facility, will be responsible for coordinating the verification of the results and information submitted by the PURE developers. FUNAE, in its capacity as fund holder of the PURE Facility will be responsible for processing disbursements. RBF incentives will only partially cover the PURE equipment and installation cost, the remainder of which must be co-financed by the PURE developers. The percentage co-financing will be determined based on the type of PURE solution and will be updated based on developments in the PURE market.	

E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

223. Enabel will monitor progress against the project's results-based indicators during implementation. For on-the-ground monitoring of project interventions, a full-time Monitoring Officer will be employed to conduct and coordinate monitoring and evaluation (M&E) activities for the project. At the start of project implementation, the Monitoring Officer will design and operationalize a performance monitoring framework to track the project's progress towards achieving its targets. This will include: i) measuring performance against the project indicators (Sections E.3–5) to evaluate the progress of the project; ii) reporting the project's performance to Enabel, FUNAE and SEforALL; and iii) providing technical support to the PC.

224. Additionally, the Monitoring Officer will be responsible for overseeing and monitoring the application of gender- and socially disaggregated indicators and ensuring that all gender and social inclusion targets are met, in close coordination with the GESI Expert.

225. In line with the Gender Assessment and Action Plan (Annex 8), the M&E framework will apply an intersectional lens — capturing data disaggregated by gender, age, and disability — and will use participatory methods to gather feedback from women, youth, and other vulnerable groups.

226. At particular milestones throughout the project — including annual performance reports, interim evaluations, and project conclusion — the project team will undertake evidence-gathering exercises to verify progress. These internal reports will be further validated by reviews at the mid-term and end of the project implementation, as described below. Enabel will be responsible for managing the interim and final evaluation of the project.

Interim Evaluation

227. Enabel will contract an external independent consultant to conduct the interim evaluation, who will assess project performance against its targets at the project's mid-point. This will be a formative exercise and will include analyzing whether the project is on track, what problems and challenges the project is encountering, and what corrective actions are required so that the project will achieve its intended outcomes by project completion most efficiently and sustainably. Enabel, SEforALL and FUNAE will participate in the interim evaluation and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of Enabel to monitor whether the agreed recommendations are being implemented during the remainder of the project's operational life.

Final Evaluation

228. Enabel will contract an independent consultant to conduct the final evaluation at the end of project implementation. Enabel will oversee the final evaluation at the end of project implementation, which is a summative evaluation. An independent assessment of project performance against standard evaluation criteria (e.g., strategic relevance, effectiveness, efficiency, likelihood of impact and sustainability) will be made based on documentary evidence, stakeholder interviews and, in most cases, a field mission. The evaluation criteria will align with the criteria in the GCF Evaluation Policy. Each evaluation criterion will be rated using a six-point rating scheme. and a weighted average will be determined to provide an overall performance rating for the project as a whole. Where there are any differences in ratings between the evaluation team and Enabel, Enabel will decide when the evaluation report is finalized.

229. The draft final evaluation report will be sent to project stakeholders during a commenting process managed by Enabel. Enabel will share formal comments on the report openly and transparently. This evaluation report will be publicly disclosed and followed by a recommendation on compliance processes. The costs for results monitoring and performance evaluation are included in the project budget (Annex 4).

230. Enabel and FUNAE, as Executing Entities, will be responsible for producing and consolidating semi-annual progress reports and quarterly financial statements, with direct inputs from the technical implementing partner (SEforALL). Enabel (as AE) will submit annual performance reports and semi-annual financial reports and annual audited financial reports to GCF. The indicative reporting timelines are as follows[1]:

231. The EE and technical implementing partners will be required to report to Enabel as follows:
a. Progress reports: by 30 July for January to June;
b. Annual Performance reports on or before 1 February;
c. Quarterly financial reports by 15 January, 15 April, 15 July, and 15 October;
d. Annual audited statements by 30 April;
e. Final report: within 6 months of project completion

232. Enabel (AE) reports to the GCF:
a. Annual Performance Reports by 1 March;
b. Semi-annual Financial Information by 1 March and 30 Sept;
c. Mid-Term Assessment report: halfway through project;
d. Final APR: within 6 months of project completion;
e. Final Evaluation report: within 12 months of project completion.

[1] Detailed reporting timelines will be defined in the project FAA

233. Monitoring will also be undertaken by the AE through supervision visits and field missions to track implementation progress and challenges and strategically plan the way forward.

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures (max. 3 pages)

Selected Risk Factor 1		
Category	**Probability**	**Impact**
Technical and operational	Low	Medium
Description		
Challenges in selecting and training skilled local teams for overseeing and delivering operations.		
Mitigation Measure(s)		
Private operators will be selected based on their technical, operational and implementation experiences. Private operators will therefore have primary responsibility for addressing key operating risks. Opportunities will be explored to design and implement specific capacity building and training programs supported by donors in the context of the Country Platform approach that is being established.		
Selected Risk Factor 2		
Category	**Probability**	**Impact**
Technical and operational	Medium	Medium
Description		
The slow import process, lack of clarity on tax exemptions, and high levels of red tape slow down construction processes. In addition, access routes to identified mini-grid locations are mostly in very bad conditions, increasing transport costs and slowing down construction processes.		
Mitigation Measure(s)		
Logistical requirements will be part of the Tendering information packages available for the different clusters. The related additional costs will be included in the CAPEX estimates. Potential logistical challenges will be addressed and coordinated with the respective authorized Mozambican authorities, such as ANE, without any commitment or assumption regarding government coverage of these costs.		
Selected Risk Factor 3		
Category	**Probability**	**Impact**
Technical and operational	Medium	Medium
Description		
Challenges in selecting and training skilled local teams for overseeing and delivering operations.		
Mitigation Measure(s)		
Private operators will be selected based on their technical, operational, and implementation experiences. They will, therefore, have primary responsibility for addressing key operating risks. Opportunities will be explored to design and implement specific capacity building and training projects supported by donors in the context of the Country Platform approach that is being established.		
Selected Risk Factor 4		
Category	**Probability**	**Impact**
Credit	High	High
Description		

Local currency financing is not available, and hedging is expensive. Absence of guarantee mechanisms for local commercial finance institutions.
Mitigation Measure(s)
The project will coordinate with developers, investors, and financial institutions under the Country Platform to improve access to blended finance and share risk insights. It will also align with government and donor-led efforts to explore guarantee mechanisms or local currency instruments. Lessons from GCF and other climate finance facilities will be applied to strengthen Mozambique's enabling environment for local finance.
Selected Risk Factor 5

Category	**Probability**	**Impact**
Credit	Medium	High

Description
Delays in the disbursement of co-financing from donors or the private sector could impede program implementation.
Mitigation Measure(s)
Enabel, as the Accredited Entity and Executing Entity, with FUNAE as Executing Entity for component 3 and 4, will manage financial flows through milestone-based tranches tied to verified performance indicators (e.g., construction milestones, capacity-building completion). To avoid overlap with project barriers, these fiduciary measures focus on the use of approved co-finance rather than resolving systemic credit barriers that the project itself addresses. Enabel will coordinate closely with FUNAE and co-financiers through quarterly financial-management reviews to ensure predictability, early identification of disbursement delays, and contingency planning. This approach preserves the need for grant funding to de-risk liquidity shortfalls and maintains implementation momentum when market finance is not immediately accessible. For component 4, the implementation and management of the PURE facility will be supported by SEforALL, acting as fund agent and verifying the results before disbursement.
Selected Risk Factor 6

Category	**Probability**	**Impact**
Governance	Medium	Medium

Description
The regulatory framework for mini-grids is new and has not been tested yet.
Mitigation Measure(s)
Two ongoing mini-grid projects will pilot the new regulatory framework, including concession and tariff procedures. These include embedded capacity-building activities for ARENE (the national regulator) to strengthen their oversight, tendering, and tariff-setting capabilities. Lessons from these pilots will inform this program. Close collaboration will be maintained with ARENE through an operational agreement and formal coordination mechanisms during the tender and implementation phases.
Selected Risk Factor 7

Category	**Probability**	**Impact**
Governance	Medium	Medium

Description
Macroeconomic stability or shifts in government could affect energy sector reforms or funding availability from FUNAE.
Mitigation Measure(s)
The project will maintain structured coordination with MIREME, FUNAE and ARENE through a Project Steering Committee that reviews reform progress and funding allocations each semester. By directly linking project milestones to national electrification and PURE-promotion targets, the project keeps government ownership strong even if fiscal or policy conditions shift. At the local level, early community participation and communication

of tangible livelihood benefits reinforce continuity and social legitimacy, reducing political-change risk. These measures explicitly connect the identified reform and financing risk to corresponding institutional and participatory mitigants.

Selected Risk Factor 8		
Category	**Probability**	**Impact**
Governance	Low	Medium
Description		
Public procurement procedures may be slow, non-transparent, or poorly aligned with concession timelines.		
Mitigation Measure(s)		
The project will establish an operational agreement with ARENE and adopt standardized tendering procedures based on existing off-grid regulations, which are being further streamlined and operationalized under the Country Platform. Enabel will provide technical and fiduciary oversight, while independent third-party experts will support bid evaluations. Procurement milestones and roles will be clearly defined and monitored to avoid procedural delays or conflicts.		

Selected Risk Factor 9		
Category	**Probability**	**Impact**
Reputational	Medium	Medium
Description		
PURE suppliers and developers may hesitate to enter the Mozambican market due to high perceived risks and fragmented demand.		
Mitigation Measure(s)		
The project will support both Mozambique-domiciled firms and new entrants willing to establish local subsidiaries or partnerships. Targeted RBF incentives, regular intakes of project proposals, and technical-assistance support will reduce entry risk and demonstrate commercial viability. Market-building activities (supplier training, matchmaking, and communication of successful pilots) will further enhance investor confidence. Re-classifying this as a market-entry risk clarifies that mitigation focuses on de-risking participation rather than reputational management per se.		

Selected Risk Factor 10		
Category	**Probability**	**Impact**
Other	Low	Medium
Description		
If not adequately managed, mini-grid construction or PURE deployment could have unintended negative environmental or social impacts.		
Mitigation Measure(s)		
The project will follow national regulations and GCF ESS standards. Environmental and social assessments will be carried out early in the project cycle, and ESMPs will be prepared as required. FUNAE and Enabel will implement stakeholder consultations and establish grievance redress mechanisms. Monitoring and reporting will include compliance with safeguards.		

Selected Risk Factor 11		
Category	**Probability**	**Impact**
Other	Medium	High
Description		
Floods, cyclones, or extreme weather events may damage infrastructure and disrupt electricity access.		

Mitigation Measure(s)		
Site selection will be informed by climate vulnerability analysis, prioritizing resilient locations. Mini-grid design standards will incorporate climate-proofing measures (e.g., elevated equipment, durable structures). Mini-grid conscessionaires must include operation and maintenance plans with disaster preparedness protocols. Emergency response plans and insurance mechanisms will also be explored.		
Selected Risk Factor 12		
Category	**Probability**	**Impact**
Forex	Medium	Medium
Description		
The GCF contribution will be denominated in EUR, while procurement, construction, and operating costs will occur primarily in Mozambican meticais (MZN). Exchange-rate volatility could affect available funding in LC terms and introduce uncertainty in private-sector cash-flows.		
Mitigation Measure(s)		
Grant tranches will be disbursed in EUR but converted promptly into MZN to reduce exposure. Budgets include a contingency margin for currency movements, and contracts may allow indexed price adjustments where justified. Enabel's financial unit will monitor FX trends using IMF and Bank of Mozambique data and coordinate with co-financiers to align currency assumptions. As the GCF contribution is fully grant-based, residual FX exposure will not increase sovereign debt obligations.		
Selected Risk Factor 13		
Category	**Probability**	**Impact**
ML/FT	Medium	High
Description		
Inherent exposure to money laundering, terrorist financing and prohibited practices arising from infrastructure and construction activities, public-sector counterparties, subcontracting chains and disbursement of grant funds in the Mozambican energy sector, including risks of procurement manipulation, false invoicing, diversion of funds or misuse of subcontractors.		
Mitigation Measure(s)		
All counterparties and relevant managers subject to KYC, integrity and sanctions screening prior to contract negotiations, in line with GCF ML/FT standards. Institutional, fiduciary and internal-control strengthening of FUNAE under Component 1 to address identified governance and capacity gaps. Transparent and competitive tendering for mini-grid concessions conducted with ARENE, subject to Enabel non-objection at key stages. Milestone-based disbursement mechanisms vis-à-vis private developers, tied to verified technical progress. Vis-à-vis PURE developers, independent on-site verification by SEforALL prior to each disbursement. Mandatory co-financing by private developers to ensure financial commitment and reduce incentives for fund misuse. Private procurement by developers subject to transparency, equal treatment and value-for-money principles, embedded contractually.		

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

234. According to the GCF project classification, the project is being proposed as a Category B or 'moderate risk'. This classification is because potential adverse environmental or social risks of project activities will have impacts that are site-specific, reversible and readily addressed through mitigation measures. Mitigation measures are well known and should not represent a challenge for their implementation. Justification for this is provided in the environmental and social safeguards documentation prepared for the Project - an Environmental and Social Management Framework (ESMF), with the elements for Environmental Social Management Plans (ESMP) to be prepared during site specific project activities - in Annex 6. The main risks anticipated are summarized below in Table 4, along with mitigation measures to address them.

Table 4. Summary of environmental and social risks and mitigation measures.

Summary of risks	Mitigation factors or measures and management strategies
Environmental	
The risk of changes to the landscape and natural drainage systems.	Through the correct selection of intervention sites related to project activities and the adoption of appropriate implementation protocols and engineering measures providing details of the interventions before implementation, substantial changes to biophysical features of the landscape will be avoided or kept to an absolute minimum. International best practices for ecosystem restoration and erosion control will be adopted. To ensure that these best practices are adhered to, project planning and implementation and supervision teams will be trained on guidelines and techniques, that will be detailed in site specific Environmental and Social Management Plans (ESMPs)
The risk of solid and liquid waste generation	Procedures and products will be used to reduce the production of liquid or solid waste, including the limited use of single-use plastics and the use of water-efficient appliances. Proper liquid and solid waste containers will be installed, and workers will be trained on correct disposal procedures. All construction machinery, such as cement mixers, generators, etc., will receive periodic maintenance to ensure efficient performance and avoid leakage and spills. The maintenance will be undertaken off-site in specialized maintenance stations to avoid the release of liquid waste. All construction or domestic liquid and solid waste from worksites will be collected and disposed of according to environmental legislative requirements and international best practices. This includes recycling and reusing as much solid waste as possible, avoiding solid waste burning, and having professional waste management companies remove it. All temporary solid waste dumping sites will be rehabilitated after construction is complete.
The risk of e-waste generation	The Project will give preference to the procurement of use recoverable/recyclable and least contaminating materials to facilitate the recycling of PV modules and other recyclable materials and reduce pollution risks. Furthermore, contract terms regarding the disposition of a system at end of the contract, contract terms for safe storage, safe transport, and handover to authorized or otherwise verifiable handlers. Finally, the project will have plans for a contingency if the contractor is out of business or neglects the project
The risk of air and noise pollution	To reduce emissions, excavated material will be avoided from being transported from construction sites over long distances. This will be accomplished by synchronizing excavating and filling processes, which will additionally reduce the accumulation of excavated material near the intervention site. Furthermore, watering of service roads and construction sites will be carried out as needed during construction phase of PV mini grids. Excavation machinery will be maintained to ensure efficient performance, reducing air and noise pollution. Activities will be avoided at night to reduce noise generation during these times. The eventual operation of gensets will observe national and international standards regarding noise levels and operating times.
The risk of natural ecosystem deterioration and fragmentation	Government-approved procedures will be used to screen and assess potentially adverse project impacts. Any facilities required for project management and support will be located as far as possible from ecologically sensitive areas. Workers will be trained on ecosystem monitoring and assessments using a set of clear and specific ecological indicators.

The risk of disturbance of ecological corridors and the removal of vegetation	Ecological corridors will be mapped to inform project interventions and avoid project interventions that may lead to disturbing ecological corridors and to the removal of natural vegetation. Contractor and their workers will be informed about the locations and sensitivities of these ecological corridors. Signs will be placed around ecologically sensitive areas within the project implementation sites. Natural vegetation removal will be prohibited or kept to an absolute minimum. All contracts and work orders will include specific instructions and safeguards for natural vegetation and other natural habitats (e.g. wetlands).
The risk of disturbance of wildlife, including breeding or migratory birds	Signs prohibiting the killing or disturbance of wildlife will be placed in project sites. Stakeholders will be trained on the importance of wildlife and the correct method of dealing with their presence. Cooperation with law enforcement agencies will be ensured for temporary protection schemes at project sites preventing illegal hunting.
Social	
The risk of damage to known and unknown archaeological sites.	A cultural assessment of all new sites for which information is unavailable will be undertaken as part of the ESMPs preparation. Any construction or excavation activities will be halted if any antiquities or archaeological items are discovered and will be reported to the government. No removal or change to cultural sites or artefacts will be permitted in project intervention sites.
Risks of the disturbance of local traditions and customs.	Special training will be provided to all contractors and workers on the respect of local traditions and customs. Local communities can submit complaints or report any intrusion on their local customs and norms by providing a clear and straightforward reporting mechanism. (Grievance Redress Mechanism).
Risks to labor and working conditions	The project will involve small-scale work activities and temporary employment. To prevent the potential of forced or child labor, the project's procurement plan will strictly adhere to Enabel and the GCF's procurement principles and national laws. Compliance with labor and working conditions standards will be monitored by the Project regularly and in pace with other contract obligations by Contractors
Risks to gender equality	The project incorporates a Gender Analysis and Action Plan with specific gender-targeted activities built into the project design, to ensure that the different interests, roles and responsibilities of both women and men are assessed during the planning and implementation phases. Furthermore, the project´s ESMF outlines the procedures for preventing and handling Sexual Exploitation, Abuse and Harassment (SEAH) occurrences within its Grievance Redress Mechanism (GRM)
Risk of armed conflict	Conflict exposure is considered as part of existing site and cluster selection, validation, and consultation processes for both mini-grid and PURE activities. At the project preparation stage, contextual security conditions relevant to the local operating environment would be reviewed to inform site selection decisions. Where conflict or security risks are assessed as unacceptable, sites will not be supported. Where risks are elevated but considered manageable, they will be addressed through explicit inclusion of community safety, access, grievance handling, and implementation arrangements within site-level ESMPs, and through closer monitoring during implementation.

235. The risks considered in the risk screening checklist have been further elaborated in the Environmental and Social Management Plan Framework (ESMFP) in Annex 6. This demonstrates how these risks have been considered in the fundamental design of the project and any additional mitigation measures that may be required. In addition, given the structure of the project, whereby the exact siting and detailed design of the project interventions are being determined as part of the project itself (through the integrated landscape and water resources management processes), the specific nature of any residual environmental and social risks that remain will be assessed as part of project implementation.

236. Risks will be managed as described in the list below.

- Undertaking planning, design and implementation processes with close involvement of an experienced environmental and social safeguards specialist.
- Ensuring the project officers recruited onto the project are sufficiently experienced in safeguards relevant to their specialist technical areas.
- Establishing methodologies for the environmental and social assessment of each of the activities under the project.

- Ensuring the M&E process includes adequate review of environmental and social risks (an M&E specialist will do this with specific experience in reviewing environmental and social considerations).
- Assigning formal roles and responsibilities for environmental and social management across the project team.
- Establishing a reporting procedure for environmental and social concerns related to the interventions.
- Incorporating environmental and social safeguard considerations in the training, capacity building and technical assistance delivered through the project.

237. The environmental and social management processes will draw upon the following documents:
- GCF Environmental and Social Management System;
- Enabel safeguards systems;
- summaries of stakeholder consultations;
- baselines of environmental and social conditions;
- project ESMFP, including specific management frameworks and baselines (Annex 6);
- project-level GRM (see Annex 6); and
- project Gender Assessment and Action Plan (Annex 8).

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

238. A comprehensive Gender Assessment and Action Plan (GAAP) has been developed for the proposed project. The GAAP is aligned with the GCF Gender Policy and aims to ensure that the project contributes to gender equality and social inclusion (GESI) while mitigating any gender-related risks.

239. The Gender Assessment highlights that embedded and pervasive social norms in Mozambique shape access to resources, livelihoods and participation in decision-making. These inequalities contribute to, and compound how climate change in Mozambique disproportionately affects women, youth, and other marginalized groups, especially in rural areas with limited energy access. Women represent a majority of the rural labor force and are primarily responsible for household energy, water, and food systems. However, they face restricted access to education, land, credit, and decision-making platforms, and are often excluded from the energy sector both as consumers and entrepreneurs.

240. To address these intersecting vulnerabilities, the GAAP applies a three-part framework: (i) drivers and outcomes of gender inequality; (ii) domains of access, control, and engagement; and (iii) the GESI mainstreaming spectrum. The methodology combined policy analysis with stakeholder consultations held during year 1 of the project, involving key government agencies (e.g. MIREME, MGCAS), FUNAE (EE), civil society, and private sector stakeholders. Their inputs were integrated into the GAP, with specific actions designed to ensure inclusive participation, address harmful norms, and promote equitable access to project benefits.

241. Key recommendations include:
- Recruiting a full-time GESI specialist, with authority to oversee gender mainstreaming. - Embedding GESI responsibilities in job descriptions, training curricula, and institutional policies within FUNAE and other project partners.
- Institutional strengthening activities including developing gender-responsive operational manuals, governance structures with GESI oversight, and staff training
- Including gender-focused indicators in monitoring and evaluation frameworks, with disaggregated data collection and reporting across all components.
- Designing inclusive community outreach and capacity-building strategies that overcome barriers to participation (e.g. time poverty, mobility, childcare).

- Incorporating GESI considerations in mini-grid site selection, tendering processes, and PURE technology design and funding mechanisms, supporting with awareness raising amongst private sector and customers to support gender uptake and understanding obligations
- Prioritizing inclusive mini-grid and PURE technology deployment, supported by GESI-responsive eligibility, scoring and contracting and through Results-Based Financing (RBF) indicators, to support the participation of women as operators and customers

242. Expected gender-related results include: 66,200 direct beneficiaries, with at least 50% women; increased participation of women and youth in decision-making bodies and enhanced access to climate-resilient energy services and income-generating opportunities for female entrepreneurs and consumers.

243. The AE (Enabel) has established internal mechanisms to ensure effective implementation and oversight of the GAP. The GESI specialist will support implementation, while the Project Steering Committee will include gender and social inclusion representatives. Gender-specific risks (e.g. SEAH, exclusion, backlash) will be monitored through safeguard systems and addressed via the project's Gender Risk Mitigation Plan and specific mechanisms in the ESMF.

244. In summary, the project integrates gender equality as a core principle, advancing inclusive climate resilience and equitable energy access across Mozambique's rural communities.

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

245. The implementation of the project will be carried out under the responsibility of Enabel, in partnership with the national and local authorities concerned, and with the close involvement of other actors from the (semi-)public sphere, civil society, and the private sector.

246. In accordance with the AMA, in addition to **direct implementation by its intervention teams and the provision of its own expertise**, depending on the applicable legislative and regulatory framework, Enabel may:

- subcontract operations (services, works and supplies) to Economic Operators via public procurement;
- award grants for which public or private bodies are specifically mandated or competent
- use non-institutionalized horizontal cooperation by means of two instruments:
    - Cooperation Agreements with Belgian or European public-law entities at the domains level of the Cooperation Program for which these entities have a specialized expertise of added value;
    - Cooperation Agreements with UN organizations at the domains level of the Cooperation Program for which they are specifically mandated or competent.

247. Enabel distinguishes two levels of monitoring, namely operational monitoring and results monitoring.

248. Operational monitoring is carried out continuously as part of sound project management. Alongside this continuous monitoring, Enabel requires a complete operational monitoring and planning exercise twice a year.

249. This monitoring and (re)planning exercise includes the following dimensions: monitoring and planning of the project, covering activities, procurement, grants, specific cooperation agreements, financial flows, risk management and internal support needs.

250. The objective of this exercise is to have a complete view of the progress of the project and its financial or human resource needs, as well as to make the necessary decisions to resolve operational problems and prevent the occurrence of risks.

251. All financial management is integrated into Enabel's ERP system, UBW (Unit4 Business World), through which the projects assess their results achievement, analyze their intervention logic, learn lessons from implementation, identify factors of success and difficulties, and, consequently, recommend reorientations. This monitoring of results is carried out once a year and ensures traceability, real-time budget control, and centralized accounting. The accounts are consolidated annually and subject to an independent audit by the Belgian Court of Auditors.

252. Project funds are initially received in a centralized bank account managed by Enabel headquarters in Brussels. Disbursements to projects are made periodically based on cash flow needs. To minimize exchange rate losses, funds are transferred in local currency to project accounts quarterly, aligned with forecasted needs for the upcoming quarter (T+1).

253. Financial monitoring includes the regular updating and review of budget execution, cash planning, and verification of expenditures in relation to results. As part of this process, Enabel, as the AE, reviews and approves the work plans and budgets of executing entities and implementing partners before any funds are disbursed. The annual results monitoring includes an in-depth analysis of the results and the learning achieved during the execution of the project, project performance, achievements, and budget absorption, and is presented in an annual report.

254. The interim and final reports (both narrative and financial) will be produced and submitted in accordance with contractual requirements. These reports provide a comprehensive overview of operational and financial execution, as well as lessons learned throughout the implementation of the Action

255. Three external audits of the project will be conducted by a consultancy firm selected under Enabel's existing framework contract, ensuring full independence and objectivity. In addition, a mid-term review and a final evaluation will be carried out by an external Monitoring & Evaluation (M&E) service provider. These evaluations make it possible to assess the project's performance, results, and sustainability.

256. Procurement will be carried out in compliance with the Belgian and European legal frameworks, specifically:

- The Law of 17 June 2016 on public procurement;
- The Law of 17 June 2013 on motivation, information and remedies in respect of public contracts and certain works, supply and service contracts;
- The Royal Decree of 18 April 2017 concerning the award of public works, supply and service contracts in the classical sector;
- The Royal Decree of 14 January 2013 establishing the General Implementing Rules of public contracts
- Circulars of the Prime Minister with regards to public contracts;
- Enabel's Policy regarding sexual exploitation and abuse – June 2019;
- Enabel's Policy regarding fraud and corruption risk management – June 2019;
- Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data (General Data Protection Regulation – 'GDPR'), and repealing Directive 95/46/EC.
- Law of 30 July 2018 on the protection of natural persons regarding the processing of personal data.
- All Belgian regulations on public contracts can be consulted on www.publicprocurement.be; Enabel's Code of Conduct and the policies mentioned above can be consulted on Enabel's website via https://www.enabel.be/who-we-are/integrity

257. Further details on procurement implementation and risk mitigation are outlined in Annex 10 (Procurement Plan). Procurement risks are identified as part of project risk management, and mitigation measures include segregation of duties, transparent procedures, and close monitoring by the finance and contract teams.

258. All procurement and grant-related transactions will be executed and recorded through the ERP system to maintain full auditability and compliance.

G.4. Disclosure of funding proposal

☐ No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.
☒ With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence (**see the list of Annexes under point H hereunder, some of which have been marked as confidential**). Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- full copy for internal use of the GCF in which the confidential portions are marked accordingly (again, cf. the annexes marked as confidential in the list under point H below), together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

H. ANNEXES

H.1. Mandatory annexes

☒	Annex 1	NDA no-objection letter(s)
☒	Annex 2	Feasibility study - and a market study, if applicable
☒	Annex 3	Economic and/or financial analyses in spreadsheet format - **CONFIDENTIAL**
☒	Annex 4	Detailed budget plan **(template provided)**Detailed budget plan **(template provided)** - **CONFIDENTIAL**
☒	Annex 5	Implementation timetable including key project/programme milestones **(template provided)**
☒	Annex 6	E&S document corresponding to the E&S category (A, B or C; or I1, I2 or I3): **(ESS disclosure form provided)** - ☐ Environmental and Social Impact Assessment (ESIA) or ☒ Environmental and Social Management Plan (ESMP) or ☐ Environmental and Social Management System (ESMS) ☐ Others (please specify – e.g. Resettlement Action Plan, Resettlement Policy Framework, Indigenous People's Plan, Land Acquisition Plan, etc.)
☒	Annex 7	Summary of consultations and stakeholder engagement plan
☒	Annex 8	Gender assessment and project/programme-level action plan **(template provided)**
☒	Annex 9	Legal due diligence (regulation, taxation and insurance) - **CONFIDENTIAL**
☒	Annex 10	Procurement plan **(template provided)** - **CONFIDENTIAL**
☒	Annex 11	Monitoring and evaluation plan **(template provided)** - **CONFIDENTIAL**
☒	Annex 12	AE fee request **(template provided)** - **CONFIDENTIAL**
☒	Annex 13	Co-financing commitment letter, if applicable **(template provided)** - **CONFIDENTIAL**
☒	Annex 14	Term sheet including a detailed disbursement schedule and, if applicable, repayment schedule - **CONFIDENTIAL**

H.2. Other annexes as applicable

☐	Annex 15	Evidence of internal approval **(template provided)**
☒	Annex 16	Map(s) indicating the location of proposed interventions
☐	Annex 17	Multi-country project/programme information **(template provided)**
☐	Annex 18	Appraisal, due diligence or evaluation report for proposals based on up-scaling or replicating a pilot project
☐	Annex 19	Procedures for controlling procurement by third parties or executing entities undertaking projects financed by the entity
☐	Annex 20	First level AML/CFT (KYC) assessment
☐	Annex 21	Operations manual (Operations and maintenance)
☒	Annex 22	Assessment of GHG emission reductions and their monitoring and reporting (for mitigation and cross cutting-projects)[112]
☒	Annex 23	Beneficiary calculations

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

[112] Annex 22 is mandatory for mitigation and cross-cutting projects.

No-objection letter issued by the national designated authority(ies) or focal point(s)

REPUBLIC OF MOZAMBIQUE
MINISTRY OF PLANNING AND DEVELOPMENT
National Directorate of Climate Change

TO:
The Green Climate Fund ("GCF")

Maputo, Mozambique 10th of December 2025

Re: No-objection letter in respect of the funding proposal titled *"'PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy"* submitted by Enabel

Dear Madam / Sir,

We refer to the funding proposal titled *"Driving Climate Resilience through Energy Access and Climate-Smart Productive Use of Energy in Mozambique"* submitted by Enabel to us on 4th of December 2025.

The undersigned is the duly authorized representative of the Ministry of Planning and Development, the National Designated Authority (NDA) of Mozambique.

Pursuant to GCF Decisions B.08/10, B.37/22, and B.41/02, the content of which we acknowledge to have reviewed, in my capacity as NDA, we hereby communicate our **no-objection** to the Proposal titled *"Driving Climate Resilience through Energy Access and Climate-Smart Productive Use of Energy in Mozambique.*

By communicating our no-objection, it is implied that:

(a) The Government of Mozambique has no objection to the Proposal;

(b) The Proposal is in conformity with the national priorities, strategies, and plans of Mozambique, including the country's Energy Transition Strategy, the Nationally Determined Contribution (NDC), the National Climate Finance Strategy, the national development strategy 2025-2044 and the Government 5 year plan.

We also confirm that our national process for ascertaining no-objection to the Proposal has been duly followed

Notwithstanding the foregoing, we expect Enabel to take the necessary measures to ensure that the Proposal, as described in the Proposal document, is implemented in a manner consistent with applicable national laws.

We acknowledge that this letter will be made publicly available on the GCF website.

Yours sincerely

Alband Manjate
National Director & NDA Focal Point

Environmental and social safeguards report form pursuant to para. 17 of the IDP

Basic project or programme information	
Project or programme title	PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy
Existence of subproject(s) to be identified after GCF Board approval	No
Sector (public or private)	Public
Accredited entity	Enabel
Environmental and social safeguards (ESS) category	Category B
Location – specific location(s) of project or target country or location(s) of programme	Republic of Mozambique
Environmental and Social Impact Assessment (ESIA) (if applicable)	
Date of disclosure on accredited entity's website	Friday, February 20, 2026
Language(s) of disclosure	English and Portuguese
Explanation on language	Portuguese is the official language of Mozambique.
Link to disclosure	English: https://www.enabel.be/app/uploads/2026/02/Annex-06-Enabel-Mozambique-18-Feb-2026-for-disclosure-Clean-EN-Version.pdf Portuguese: https://www.enabel.be/app/uploads/2026/02/Annex-06-Enabel-Mozambique-18-Feb-2026-for-disclosure-clean-PT-version.pdf
Other link(s)	Enabel's official website: PURE Rural Mozambique Climate Project - Enabel - Belgian Agency for Development Cooperation FUNAE's website: https://funae.co.mz/pure-rural-mozambique-climate-project/
Remarks	N/A
Environmental and Social Management Plan (ESMP) (if applicable)	
Date of disclosure on accredited entity's website	Friday, February 20, 2026
Language(s) of disclosure	English and Portuguese
Explanation on language	Portuguese is the official language of Mozambique.
Link to disclosure	English: https://www.enabel.be/app/uploads/2026/02/Annex-06-Enabel-Mozambique-18-Feb-2026-for-disclosure-Clean-EN-Version.pdf Portuguese:

	https://www.enabel.be/app/uploads/2026/02/Annex-06-Enabel-Mozambique-18-Feb-2026-for-disclosure-clean-PT-version.pdf
Other link(s)	Enabel's official website: PURE Rural Mozambique Climate Project - Enabel - Belgian Agency for Development Cooperation FUNAE's website: https://funae.co.mz/pure-rural-mozambique-climate-project/
Remarks	N/A
Environmental and Social Management System (ESMS) (if applicable)	
Date of disclosure on accredited entity's website	N/A
Language(s) of disclosure	N/A
Explanation on language	N/A
Link to disclosure	N/A
Other link(s)	N/A
Remarks	N/A
Any other relevant ESS reports, e.g. Resettlement Action Plan (RAP), Resettlement Policy Framework (RPF), Indigenous Peoples Plan (IPP), Indigenous Peoples Planning Framework (IPPF) (if applicable)	
Description of report	N/A
Date of disclosure on accredited entity's website	N/A
Language(s) of disclosure	N/A
Explanation on language	N/A
Link to disclosure	N/A
Other link(s)	N/A
Remarks	N/A
Disclosure in locations convenient to affected peoples (stakeholders)	
Date	Monday, February 23, 2026
Place	MIREME's office in Maputo ARENE's office in Maputo MAAP's office in Maputo FUNAE's office in Maputo
Date of Board meeting in which the FP is intended to be considered	
Date of accredited entity's Board meeting	N/A
Date of GCF's Board meeting	Wednesday, March 25, 2026

Note: This form was prepared by the accredited entity stated above.

Secretariat's assessment of FP290

Proposal name:	PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy
Accredited entity:	Enabel
Country/(ies):	Mozambique
Project/programme size:	Small

I. Overall assessment of the Secretariat

1. The funding proposal is presented to the Board for consideration with the following remarks:

Strengths	Points of caution
Alignment with the Country Platform approach of Mozambique enhances country ownership by embedding the project within a nationally coordinated framework for off-grid electrification and climate finance mobilization. This ensures project activities are fully consistent with national priorities and the least-cost electrification plan, while at the same time promoting the inclusion of climate risk and vulnerability criteria in the selection and design of mini-grids beyond the GCF project.	The design of the project represents a shift from the fully publicly owned mini-grid development model historically utilized in Mozambique towards a public-private partnership approach. This new model may present challenges in engaging the private sector and structuring incentives that accurately reflect market requirements for mini-grids and PURE. These complexities will be addressed through systematic private sector engagement and a dedicated activity focused on developing the PURE facility, based on comprehensive market assessments and community consultations.
By introducing integrated approaches, such as institutional strengthening, competitive private sector engagement, and performance-linked subsidies, the project establishes practical models and operational frameworks that can be replicated by relevant national institutions in their efforts to advance access to decentralized renewable energy with specific focus on underserved, climate-vulnerable populations.	
Financing modalities were designed with the objective of overcoming affordability barriers and stimulating private sector entry in a nascent rural energy market. Competitive tendering, including reverse-auction selection of mini-grid concessionaires based on lowest subsidy, milestone-based disbursements, and results-based subsidies	

for productive use of renewable energy (PURE) developers ensure the efficient allocation and minimum concessionality required to achieve the project's objectives.	

2. The Board may wish to consider approving this funding proposal in accordance with the term sheet agreed between the Secretariat and the accredited entity (AE) and, if considered appropriate, subject to the conditions set out in annex II of document GCF/B.44/02.

II. Summary of the Secretariat's assessment

2.1 Project background

3. Mozambique ranks among the most climate-vulnerable countries globally, facing escalating risks from floods, droughts, cyclones and temperature extremes. Rural communities, which make up over 60 per cent of the population, are particularly exposed due to widespread energy poverty and reliance on rain-fed agriculture and unsustainable biomass. With only 9 per cent of rural households having electricity access, adaptation capacity remains critically low, and climate hazards continue to undermine livelihoods, food security and economic stability.

4. The PURE Rural Mozambique Climate Project project adopts an integrated approach to strengthen resilience and accelerate the energy transition in underserved rural areas. Its core interventions include deploying 30–40 solar-powered mini-grids, promoting climate-smart productive use of renewable energy (PURE) technologies and fostering inclusive community engagement. These measures aim to diversify income sources, improve food and water security and enhance access to essential services. The project is expected to directly benefit approximately 66,200 people and indirectly reach 158,800, while contributing to Mozambique's national climate adaptation and energy strategies.

5. GCF funding will play a catalytic role in creating an enabling environment for decentralized renewable energy, building institutional capacity and unlocking private sector participation through innovative financing and regulatory reforms. By integrating climate adaptation into energy access, the initiative seeks to reduce vulnerability to climate hazards and ensure long-term sustainability for rural communities.

6. GCF categorizes the project as Category B (moderate) for its environmental and social safeguards (ESS).

2.2 Component-by-component analysis

Component 1: Institutional Strengthening and Capacity Support for Fundo de Energia (FUNAE)

Outcome 1: Strengthened institutional, organizational and technical capacities of FUNAE for financially supporting sustainable off-grid energy projects in Mozambique.
(total cost: EUR 3.38 million; GCF cost EUR 3.08 million)

7. This component is foundational for transforming FUNAE into a robust national energy fund capable of managing large-scale climate finance portfolios. The focus is on professionalizing internal structures, modernizing digital systems, and reinforcing governance and accountability mechanisms. Through targeted capacity-building, including twinning arrangements with Enabel, FUNAE staff will gain technical, managerial and fiduciary expertise to oversee complex climate projects and ensure transparent, efficient fund management.

8. The component also supports the operationalization of strategic frameworks for climate finance mobilization, enabling FUNAE to coordinate effectively within the Mozambique Country Platform for off-grid energy. This includes developing internal policies, strengthening compliance, and facilitating participation in international climate finance.

9. By consolidating these reforms, FUNAE will be positioned to attract and manage additional climate finance, supporting the long-term sustainability and scaling of off-grid energy investments.

Component 2: Project Preparation Facility

Outcome 2: The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes
(total cost: EUR 5.92 million; GCF cost EUR 5.84 million)

10. This component builds capacity and awareness among private sector operators and local communities, equipping them to engage in the development and adoption of mini-grids and PURE solutions. Activities include market assessments, targeted outreach and technical training to foster investment in renewable energy and build the capacity of communities to leverage energy access to improve the climate resilience of their livelihoods.

11. The project will validate and approve a pipeline of eligible mini-grid projects, building on-site assessments, evaluation of PURE opportunities and clustering carried out by the Government of Mozambique under the Country Platform approach.

12. Competitive tendering processes will be launched for mini-grid concessions, with transparent and legally compliant procedures to select private sector partners. The requirement for climate-resilient design features of the mini-grids will be embedded in the tender documents. This approach de-risks early-stage investments and accelerates the deployment of climate-smart energy solutions in underserved rural areas.

Component 3: Solar Mini-Grid Construction Facility

Outcome 3: Reduced emissions across Mozambique due to mini-grid installation and operation
(total cost: EUR 21.81 million; GCF cost EUR 19.71 million)

13. Under this component, 30–40 solar mini-grids will be constructed and commissioned by competitively selected private concessionaires. Independent supervisors will verify construction milestones, and operational protocols will be established for extreme weather preparedness.

14. The deployment of mini-grids will reduce reliance on diesel generation, wood fuel and charcoal, thereby lowering greenhouse gas emissions, while providing reliable electricity that enhances the resilience of rural livelihoods and supports both mitigation and adaptation objectives.

Component 4: Climate-smart Productive Use of Renewable Energy (PURE) Facility

Outcome 4: Increased resilience and livelihood generation for vulnerable communities in Mozambique
(total cost: EUR 7.31 million; GCF cost EUR 5.37 million)

15. The PURE facility is designed to accelerate the uptake of income-generating, climate-resilient solutions such as solar irrigation, cold storage and agro-processing in mini-grid areas. Results-based financing incentives will be provided to PURE developers, with a focus on solutions that deliver clear adaptation benefits and promote social inclusion.

16. Market assessments and stakeholder consultations will guide the selection of PURE technologies, ensuring that interventions are tailored to local needs and maximize impact. The facility prioritizes group-based solutions to enhance scalability and economic viability.

17. By supporting the adoption of climate-smart technologies, this component strengthens rural value chains, diversifies incomes and enhances the adaptive capacity of vulnerable communities.

Monitoring and evaluation (total cost: EUR 1.75 million; GCF cost EUR 1.75 million)

18. Monitoring and evaluation activities are embedded throughout the project lifecycle, ensuring relevant frameworks are in place to track progress against the targets set out in the logical framework and support adaptive management.

Project management (total cost: EUR 1.88 million; GCF cost EUR 1.68 million)

19. Project management provides operational, financial, and administrative support to ensure seamless coordination among Enabel, FUNAE, Sustainable Energy for All (SEforALL), and other partners. The management structure is designed to facilitate timely implementation, rigorous oversight, and adaptive learning across all project components.

III. Assessment against investment criteria

3.1 Impact potential *Scale: N/A*

20. The project is designed to deliver climate mitigation and adaptation benefits by deploying 30–40 solar-powered mini-grids and climate-smart PURE solutions in underserved rural communities. Over the 25-year lifetime of the mini-grids, the project is expected to contribute to avoiding approximately 399,131 tonnes of carbon dioxide equivalent (t CO_2 eq) by replacing diesel generation and unsustainable biomass with clean solar energy. By prioritizing decentralized solar mini-grids and integrating climate-resilient design features, the project avoids lock-in of long-lived, high-emission and climate-vulnerable infrastructure, shifting the energy sector towards low-carbon, resilient pathways.

21. The project will increase access to low-emission energy, targeting between 8,000 and 9,000 new electricity connections and benefiting approximately 66,200 direct and 158,800 indirect beneficiaries. The interventions will focus on the most vulnerable groups such as smallholder farmers, women and youth. The installed renewable energy capacity is projected to reach 2.15 megawatts, with 400 climate-smart PURE solutions (e.g. solar irrigation, cold storage, milling) deployed to strengthen rural livelihoods and food security. By supporting the adoption of productive energy uses, the project will stimulate local economies, create jobs and enhance adaptive capacity of climate-vulnerable rural communities.

22. The project will contribute to an enabling environment for off-grid electrification by strengthening FUNAE's institutional capacity, implementing robust governance and fiduciary systems, and operationalizing an updated mini-grid regulatory framework for Mozambique in partnership with the national energy regulator (ARENE) and the Ministry of Mineral Resources and Energy (MIREME). These measures will facilitate transparent and predictable procurement processes, thereby encouraging private sector investment, and supporting effective mobilization and management of climate finance. In parallel, the project establishes a framework for scaling up productive uses of energy in rural areas, with suppliers entering the market and scaling operations through results-based financing, complemented by targeted community training and business development services.

3.2 Paradigm shift potential *Scale: N/A*

23. The project is positioned to substantially expand access to low-emission energy in Mozambique by equipping FUNAE with the necessary institutional and financial capabilities, operationalizing the mini-grid concession award process, and implementing financing strategies that target underserved populations. These efforts are expected to accelerate the roll-out of decentralized renewable energy solutions, enabling Mozambique to reach a broader segment of rural communities and support national climate objectives.

24. By introducing integrated approaches, such as institutional strengthening, competitive private sector engagement and performance-linked subsidies, the project establishes practical models and operational frameworks that can be applied by FUNAE, MIREME and ARENE in their efforts to achieve universal energy access. This, coupled with a strong emphasis on knowledge transfer and capacity-building, ensures that the lessons and methodologies developed can inform similar initiatives both within Mozambique and in comparable international contexts.

25. The project's design embeds long-term viability by reinforcing governance structures, financial oversight and alignment with national coordination mechanisms. Engagement with private sector partners and requirements for co-investment help to secure ongoing financial health, while regulatory certainty and use of blended finance to improve financial viability create a supportive environment for continued growth. These elements collectively ensure that the benefits of the project will persist beyond the initial funding period, advancing Mozambique's mitigation and adaptation goals.

3.3 Sustainable development potential *Scale: N/A*

26. By expanding rural energy access through decentralized solar mini-grids and promoting productive uses of renewable energy, the project will foster inclusive, climate-resilient development pathways thereby contributing to the following Sustainable Development Goals (SDGs): SDG 1: No poverty; SDG 2: Zero hunger; SDG 5: Gender equality; SDG 7: Affordable and clean energy; SDG 8: Decent work and economic growth; and SDG 13: Climate action).

27. The project will reduce greenhouse gas emissions by replacing diesel generators and traditional biomass with clean solar energy. Improved energy access will also reduce deforestation pressures linked to charcoal use, supporting biodiversity conservation in vulnerable ecosystems. By integrating climate-resilient planning and design, the project strengthens adaptive capacity in regions highly exposed to floods and droughts.

28. Reliable electricity will transform the livelihoods of rural communities. Enhanced lighting will improve community safety, particularly for women and girls, while reducing reliance on kerosene and charcoal will improve indoor air quality and lower respiratory health risks. Households will also benefit from increased food security through improved agricultural productivity and storage.

29. The project will stimulate rural economies by creating jobs in mini-grid construction, operation and maintenance, alongside entrepreneurship opportunities in energy services and productive sectors. PURE interventions will enable income diversification in agriculture, fisheries, and small-scale manufacturing, improving productivity and value addition. Affordable, reliable electricity will reduce energy poverty for micro, small and medium-sized enterprises, 93 per cent of which currently lack access, boosting competitiveness and local tax revenues.

30. The project integrates gender considerations across all components, promoting women's participation in energy governance, providing targeted training, and supporting female entrepreneurship through PURE financing and ownership models. Gender-responsive

policies and monitoring frameworks will ensure equitable benefits, reducing unpaid labour and freeing time for education and income generation.

3.4 Needs of the recipient *Scale: N/A*

31. Mozambique is among the world's most climate-vulnerable countries, ranking 156th on the Notre Dame Global Adaptation Initiative index due to its high exposure to tropical cyclones, floods, droughts and sea level rise. Socioeconomic conditions compound this vulnerability: Mozambique is classified as a least developed country, ranking 182nd out of 193 on the United Nations Development Programme Human Development Index, with over 81 per cent of its population living below the international poverty line of USD 3 per day. Despite a labour-force participation rate of 78.4 per cent, gross domestic product (GDP) per capita remains low at USD 647 (2024). Agriculture – employing 70 per cent of the population and contributing over a quarter of GDP – is highly sensitive to climate hazards, while rural energy access is critically low at just 9 per cent of households electrified. Heavy reliance on hydropower further exposes the economy to rainfall variability, leaving most Mozambicans vulnerable to environmental and economic shocks with limited adaptive capacity.

32. Mozambique faces significant economic and financial constraints for climate adaptation and mitigation. The country's fiscal space is limited by high levels of public debt and competing demands for essential services. The International Monetary Fund classifies Mozambique as being at high risk of overall debt distress. The domestic capital market is underdeveloped, and concessional financing options for climate adaptation are scarce. Private investment in off-grid energy is constrained by affordability challenges, low demand, and high upfront costs, particularly in remote communities. In this context, GCF support is critical to enable transformative, climate-resilient electrification of rural areas.

33. Women, who constitute a large share of the rural workforce, are disproportionately affected by climate and economic shocks. Over 92 per cent of working women are in vulnerable employment, facing persistent barriers to land ownership, financial services and participation in decision-making. Women and girls also bear the brunt of energy poverty, spending significant time on unpaid labour, such as fuel collection, and facing greater exposure to household air pollution. These gender-specific vulnerabilities intersect with geography, age and disability, further constraining the adaptive capacity of rural communities.

34. While Mozambique has made important policy and regulatory advances, institutional capacity to implement these frameworks remains limited and the regulations largely untested. Strengthening FUNAE's internal governance, accountability and technical capabilities is essential for effective planning, implementation and monitoring of decentralized renewable energy projects. Improved coordination among key institutions, including ARENE and MIREME, is also needed to ensure regulatory compliance, enable private sector engagement and foster integrated planning.

3.5 Country ownership *Scale: N/A*

35. The proposal directly supports the nationally determined contribution priorities of Mozambique on renewable energy and decentralized solutions, while advancing the objectives of the National Adaptation Plan and the Energy Transition Strategy, which emphasize access to renewable energy in rural areas as a cornerstone of resilience and low-carbon development. The programme is also coherent with the updated legal and regulatory framework for mini-grids, including the 2022 Electricity Law and the 2021–2023 Regulation for Access to Energy in Off-Grid Areas, which provide a framework for licensing, tariff setting and private sector participation.

36. Alignment with the Country Platform approach of Mozambique further enhances country ownership by embedding the project within a nationally coordinated framework for off-grid electrification and climate finance mobilization. Led by MIREME, the Country Platform convenes government, donors and private sector actors to harmonize funding, technical support and policy development. This ensures project activities are fully consistent with national priorities and the least-cost electrification plan, which will guide site selection. This approach strengthens institutional capacity, avoids duplication and enables inclusive, country-driven solutions for climate resilience and energy access.

37. Enabel and FUNAE bring a proven track record in rural electrification and mini-grid deployment, complemented by partnerships with SEforALL. These actors have been actively involved in shaping the project through consultations with government, civil society, private sector and communities since 2021, ensuring that it remains aligned with the country's needs and priorities. Continued engagement with stakeholders during implementation through community consultations, market assessments and coordination mechanisms under the Country Platform, will promote relevance and local ownership, and create feedback loops to inform adaptive management and updates to regulations.

3.6 Efficiency and effectiveness *Scale: N/A*

38. The project's financial structure is reflective of the fiscal constraints and market development stage in Mozambique, with a GCF grant covering 89 per cent of the EUR 42.05 million envelope and the remainder co-financed by private developers, FUNAE and Enabel. This high level of concessionality is justified by the need to overcome affordability barriers and stimulate private sector entry in a nascent rural energy market while concurrently strengthening capacity within FUNAE to mobilize and deploy climate finance. Competitive tendering, including reverse-action selection of mini-grid concessionaires based on lowest subsidy, milestone-based disbursements, and results-based subsidies for PURE developers, ensure efficient allocation and minimum concessionality required to achieve the project's objectives.

39. Lifetime cost per t CO_2 eq avoided is estimated at EUR 70.31/t CO_2 eq. Beyond direct emissions reductions, the project will also strengthen capacity within FUNAE by establishing frameworks and systems to mobilize climate finance, enabling replication of the financing models developed here in future initiatives by creating a robust platform for scaling up decentralized renewable energy solutions.

40. The economic analysis indicates that the project will yield a positive economic internal rate of return of 14 per cent for mini-grids and 32 per cent for PURE interventions versus recommended social discount rates of 5–7 per cent, driven by resilience gains, livelihood improvements and reduced reliance on biomass and diesel. The financial internal rate of return (FIRR) for mini-grids is negative in the absence of concessional support, reflecting the high capital costs and limited revenue potential in small, dispersed communities. However, under the proposed viability gap funding structure, the FIRR becomes viable at 15 per cent for private investors while maintaining affordable tariffs for end users. The FIRR for productive uses will vary between applications, with maximum results-based grants to be determined based on specific market studies during the design of the PURE facility.

IV. Assessment of consistency with GCF safeguards and policies

4.1 Environmental and social safeguards

41. **Environmental and social (E&S) risk category and safeguard instrument**. The project is classified as Category B with moderate risk, reflecting that anticipated environmental and social risks are site-specific, largely reversible, and can be managed through known mitigation measures. The project is implemented in a fragile and conflict-affected setting, with contextual risks from insecurity and displacement, but the technical footprint of mini-grids and PURE investments remains small-scale. An Environmental and Social Management Framework (ESMF) with embedded Environmental and Social Management Plan (ESMP) elements (hereinafter ESMF) has been prepared as the primary safeguards instrument, complemented by a Stakeholder Engagement Plan (SEP). The ESMF applies the GCF Environmental and Social Policy and the International Finance Corporation Performance Standards (IFC PS) as the reference framework, takes the national legal system as a minimum regulatory baseline, and confirms that the more stringent of national, GCF or Enabel requirements will be followed.

42. Compliance with GCF ESS standards. The following paragraphs describe how the project complies with these standards.

43. **ESS 1: Assessment and management of E&S risks and impacts**. The AE has prepared an ESMF which presents a project-level risk-screening and typology of anticipated risks and impacts across solar mini-grids and PURE activities. The screening confirms Category B and identifies key risk areas, such as community engagement and land access, labour conditions, community health and safety, including in a context of fragility, conflict and violence, and sexual exploitation, abuse and sexual harassment (SEAH) risks, e-waste and hazardous waste, localized biodiversity interactions, pollution prevention, and inclusion of women and vulnerable groups. Given that specific sites are not yet selected but the technology and risk profile will be broadly similar across clusters, the AE has prepared an ESMF with ESMP elements embedded upfront (ESMF). The ESMF defines a safeguards screening and decision pathway, combining upstream cluster-level screening with site-level screening using Enabel's E&S screening checklist. Screening outcomes determine whether a full site ESMP is required, or whether standard mitigation measures embedded contractually are sufficient for lower-risk, small-scale activities. Overall, for a Category B multi-site project, the ESMF and an embedded ESMP template provide a coherent framework for risk identification, management and monitoring, aligned with ESS1. The Grant Award Manuals, the Operational Agreement and the PURE facility design report that will be developed during implementation will translate ESMF, SEP and Gender Assessment and Action Plan requirements into concrete eligibility criteria, screening and exclusion rules, non-objection steps, verification checks, and disbursement conditions for all mini-grid and PURE subgrants. Effective implementation will depend on consistent application of screening rules, preparation and approval of site-level ESMPs for higher-risk subactivities, and close supervision of contractors and developers across dispersed rural sites.

44. **ESS 2: Labour and working conditions**. Project activities will be implemented primarily through private mini-grid concessionaires, contractors and PURE developers, under the oversight of Enabel as AE and with FUNAE as executing entity (EE). Occupational health and safety risks identified include manual handling, work at height on photovoltaic arrays and structures, electrical works, traffic and transport of materials, exposure to dust and noise, and fire risk. Detailed occupational health and safety mitigation measures are provided, including appointment of Safety, Health and Environment Officers, Health and Safety Plans, including baseline risk assessments and fall protection plans, method statements for high-risk activities, provision and use of appropriate personal protective equipment, emergency drills, first aiders and kits, safety signage, and safe work procedures for live electricity. The ESMF also establishes minimum standards for worker sanitation, including sex-disaggregated toilet ratios, positioning, maintenance and provision of sanitary bins for women. The ESMF contains a template Code of Conduct, applicable to all project workers, including contractors, concessionaires, PURE developers and subcontractors, which addresses acceptable behaviour, respect for communities, prohibition of child and forced labour and SEAH, non-discrimination and consequences of breaches, to be signed alongside employment contracts. Contractors and

developers are required to put in place worker grievance mechanisms, operating separately from community grievance redress mechanism (GRM) intake channels but linked to the project-level GRM for oversight and escalation where necessary. Overall, arrangements for labour and working conditions are consistent with ESS2.

45. **ESS 3: Resource efficiency and pollution prevention.** The primary ESS 3 issues arise from construction-phase pollution such as waste, effluents, dust, noise, hazardous materials including e-waste, refrigerants in cooling applications, and resource use related to irrigation and agro-processing under the PURE facility. The ESMF set out detailed mitigation measures for soil and water pollution, wastewater and effluent, air and noise emissions, and solid and hazardous waste. These include erosion control, temporary and permanent drainage structures, spill prevention and response procedures for fuels and lubricants, avoidance of invasive species for re-vegetation, dust suppression and noise management, and comprehensive waste management planning, with waste segregation, recycling and prohibition of on-site burning or burying of waste. On hazardous waste and e-waste, the ESMF recognizes that national e-waste regulations are still under development and commits the project to apply Good International Industry Practice aligned interim measures, including safe collection, storage and transport of batteries, photovoltaic modules and other hazardous components, and handover to authorized or otherwise verifiable handlers, in line with the polluter-pays principle. For PURE activities, the ESMF recognizes that multiple irrigation pumps in water-scarce areas or poorly controlled pyrolysis units could exert significant local impacts if not managed. It therefore commits to screen these applications more stringently and to manage them through eligibility criteria, Exclusion List thresholds and ESMP measures, including water-use assessments, effluent control and adherence to national and international guidelines on waste and emissions. The Exclusion List additionally restricts support for activities involving banned chemicals and hazardous materials such as asbestos and equipment containing polychlorinated biphenyl. No significant increase in overall energy or water demand at regional scale is anticipated relative to the baseline, given the small size of installations and the project's focus on efficiency and climate-resilient value chains.

46. **ESS 4: Community health, safety and security.** Community health and safety risks stem from construction activities, interaction with electrical infrastructure, and contextual security dynamics, including theft of equipment, local conflict and the broader insurgency context in parts of northern Mozambique. The ESMF includes measures to ensure safe design and siting of mini-grid infrastructure, fencing or signage where appropriate, community awareness on electrical safety, and traffic management and site controls during construction. Security risks are addressed both through the Exclusion List, which precludes activities in areas with unacceptable security conditions, and through community health and safety measures. The ESMF recognizes that the project operates in a fragile and conflict-affected context and clarifies that conflict exposure will be considered in site and cluster selection. Sites where conflict/security risks are assessed as unacceptable will not be supported, and elevated but manageable risks will be addressed through enhanced community engagement, transparent information on project benefits, strengthened GRM access, and closer monitoring. Construction camps are anticipated to be temporary and non-permanent, with siting, design and decommissioning requirements. Where security personnel are engaged, their conduct will be governed by contractual conditions and codes of behaviour aligned with community safety and SEAH prevention. Nevertheless, the ESMF anticipates that, where security personnel are engaged, their conduct will be governed by contractual conditions and codes of behaviour aligned with community safety and SEAH prevention. This is generally consistent with ESS 4 expectations for community health, safety and security in a Category B context.

47. **ESS 5: Land acquisition and involuntary resettlement.** The project intends to avoid involuntary resettlement, permanent land acquisition and permanent restriction of access. Mini-grids are expected to be sited on state land or on land subject to Direitos de Uso e Aproveitamento da Terra (DUAT – Right to Use and Benefit from Land) agreements reached

through consultations with affected communities and land users. The ESMF recognizes that temporary access restrictions and minor disturbance to livelihoods may still occur during construction and operation (e.g. trenching, pole erection, small facility footprints). It commits to manage such impacts through careful site selection and design to avoid or minimize displacement; agreements with affected communities based on free, prior and informed consent; compensation at full replacement cost for any loss of land use, crops or assets; and livelihood restoration measures where relevant. While there is no separate Resettlement Policy Framework, the ESMF integrates approaches aligned with IFC PS5 into its treatment of land and livelihoods and links these to DUAT procedures and GRM use for dispute resolution. Given the small scale of anticipated land requirements and the project's explicit exclusion of activities entailing significant resettlement, this integrated framework is considered proportionate for a Category B operation, provided that any unexpected land-related impacts are handled in line with the ESMF and notified to GCF if they go beyond existing assumption.

48. **ESS 6: Biodiversity conservation and sustainable management of living natural resources**. The project has triggered ESS 6 on a precautionary basis. The ESMF and Exclusion List confirm that mini-grids and PURE activities will not be sited in protected areas, critical habitats, or areas of high conservation value, and that activities likely to significantly affect such areas are ineligible. At the same time, taking a conservative approach, the ESMF recognizes that localized biodiversity interactions may occur, including vegetation clearance in modified habitats and potential avian collision or electrocution associated with overhead distribution lines. These risks will be managed through siting/routing to avoid sensitive features, adherence to Good International Industry Practice for line design, minimization of clearance, erosion control, and restoration of disturbed areas. While the ESMF does not mandate detailed biodiversity baseline studies for all sites, it requires screening to identify any proximity to sensitive habitats or cultural and/or natural features, with more detailed assessment where warranted. This approach is considered commensurate with the expected magnitude of impacts and consistent with ESS 6.

49. **GCF Indigenous Peoples Policy and ESS 7 (Indigenous Peoples)**. No potential impacts have been identified for Indigenous Peoples. The AE committed to ensure systematic screening prior to implementation to identify Indigenous Peoples, and that if any are identified, appropriate frameworks and mitigation measures will be developed in line with GCF Policy.

50. **ESS 8: Cultural heritage.** The project is not expected to be located within known cultural heritage sites. Nonetheless, the ESMF acknowledges that excavation and civil works for mini-grids and some PURE infrastructure may uncover physical cultural resources such as graves, artefacts or sacred sites. It includes a chance-find procedure requiring immediate suspension of works in the area, notification of competent authorities, assessment by qualified specialists as needed, consultation with affected communities, and implementation of agreed measures for protection, relocation or documentation, with full records kept. The Exclusion List also screens out activities that could significantly damage cultural heritage. These measures are consistent with ESS 8 for a Category B project with small-scale activities.

51. **Implementation arrangements**. Enabel, as the AE, retains overall responsibility for E&S risk management, approval of safeguards instruments, and reporting to GCF. The Project Management Unit (PMU), hosted by Enabel, includes safeguards specialists responsible for day-to-day implementation of the ESMF, including screening support, review of draft site-level ESMPs, monitoring, incident reporting, and coordination of the GRM. FUNAE acts as EE and is responsible for integrating E&S requirements into site identification, community engagement, DUAT processes and subgrant management, and for facilitating local disclosure and grievance intake through its provincial structures. ARENE, the energy regulator, manages tendering and concessions for mini-grids. Its role in integrating E&S criteria into tenders and licence conditions will be defined in the Operational Agreement to be agreed with Enabel and FUNAE.

For PURE, SEforAll will act as fund agent and support verification of results, including compliance with applicable E&S requirements.

52. **Stakeholder engagement**. Stakeholder engagement has been undertaken at national and sector levels during project design, including key informant interviews and workshops with ministries, regulators, donors, private sector actors, financial institutions and civil society, as well as gender-focused consultations with women's organizations and gender focal points. The SEP provides a comprehensive stakeholder mapping and details on engagement modalities for national institutions, provincial/district authorities, private sector, civil society organizations and affected communities. It emphasizes inclusivity, with targets for women's and youth participation and specific measures to facilitate participation of vulnerable groups and persons with disabilities. Community-level consultations for specific sites will be undertaken once sites are identified, and are to be integrated into site selection, free, prior and informed consent processes, ESMP preparation and DUAT agreements, as set out in the SEP and ESMF. The Operational Agreement will further define community-level stakeholder mapping, minimum consultation requirements and documentation as part of the application and selection processes for mini-grids and PURE. This is consistent with the GCF RESP, which requires meaningful, inclusive and gender-responsive stakeholder engagement throughout the project cycle.

53. **Grievance redress mechanism.** A project-level GRM will be established and maintained, building on FUNAE's local presence and Enabel's institutional mechanisms. The project will establish a multi-tiered GRM with a dedicated SEAH channel. The ESMF lays out a project-level GRM with local intake through FUNAE and community structures, central oversight by the PMU at Enabel, separate worker grievance mechanisms, and escalation pathways to Enabel's Integrity Office and the GCF Independent Redress Mechanism. Worker grievances will be handled through contractor/special purpose vehicle worker GRMs, with unresolved cases feeding into the project-level system. The GRM is designed to be accessible, free of charge and non-retaliatory, and does not preclude access to judicial or administrative remedies. SEAH-related grievances are explicitly excluded from standard GRM handling and are instead addressed through dedicated survivor-centred procedures, which are guided by principles of safety, informed consent, confidentiality, non-retaliation and non-discrimination, with adaptations for children and persons with disabilities. The GRM/SEAH specialist has a clear mandate to maintain awareness of the mechanisms among women, youth and vulnerable groups, to verify that SEAH-related mitigation measures are implemented and understood, and to monitor whether grievance channels are trusted and used. The ESMF commits to disclose GRM arrangements to communities and workers using culturally appropriate communication channels and to monitor GRM performance, including types of grievances, resolution times and systemic issues, with annual reporting.

54. **Sexual exploitation, abuse and harassment (SEAH) safeguarding**. In accordance with the revised GCF Environmental and Social Policy and the revised GCF Policy on the Prevention and Protection from Sexual Exploitation, Sexual Abuse, and Sexual Harassment, the AE has recognized SEAH as a relevant safeguard issue for this project, given the nature of activities involving construction and operation of mini-grids in remote rural communities, labour influx, engagement with vulnerable rural populations, and gender and power asymmetries in access to energy and services. The ESMF outlines key SEAH risk factors associated with remote worksites, male-dominated workplaces, inadequate facilities for women and weak local safeguarding mechanisms. The SEAH risk is categorized as high during the construction phase and moderate during operations, maintenance and PURE development, with low but non-negligible risks during planning and consultations. SEAH prevention and mitigation measures are integrated in both the ESMF and the gender assessment and action plan. The ESMF requires that all contracts financed with GCF funding include explicit prohibitions of SEAH, obligations for immediate reporting of suspected incidents to Enabel or the government, and the possibility of immediate contract termination in cases of proven SEAH. It also mandates SEAH risk-screening as part of the preparation of site-level ESMPs and sets out a menu of

mitigation measures by project phase. These include stakeholder mapping to identify women and vulnerable groups, culturally sensitive communication of project gender goals and women's rights, SEAH induction for all managers and workers, adoption and enforcement of Codes of Conduct, and systematic communication to communities about the existence of the GRM and SEAH-specific channels. The gender assessment and action plan reinforces these measures through safeguarding actions that call for SEAH-specific training, household-level communication with men and male partners to mitigate backlash, and monitoring of SEAH-related grievance handling in collaboration with the GRM specialist. Through the Grant Award Manuals, Operational Agreement and PURE facility design, the AE is expected to operationalize SEAH risk management across, inter alia, eligibility and cluster and site validation, results-based financing (RBF) milestones, monitoring, reporting and subgranting arrangements. Overall, the approach to SEAH risk management is consistent with the provisions of the GCF revised Policy on the Prevention and Protection from Sexual Exploitation, Sexual Abuse, and Sexual Harassment.

4.2 Gender policy

55. The funding proposal demonstrates alignment with the requirements of the GCF Updated Gender Policy. The AE has provided a gender assessment and action plan tailored to the context of rural electrification and climate-resilient productive use of energy in Mozambique. The gender assessment identifies how entrenched social norms and unequal gender roles shape exposure to climate risks and access to project benefits. It focuses on the intersection of gender, poverty and climate vulnerability in rural Mozambique, particularly in relation to access to modern energy, time poverty and constrained income-generation opportunities for women, youth and other marginalized groups in off-grid areas. Women are recognized as primarily responsible for household energy, water and food systems, with lower access to land, credit, education and decision-making spaces, and limited representation in the energy sector as employees, entrepreneurs or regulators. Youth and persons with disabilities are also recognized as facing structural exclusion in labour markets and entrepreneurship, with compounded barriers for young women and women with disabilities. This creates differentiated vulnerability to climate impacts and constrained ability to benefit from mini-grid and PURE opportunities.

56. Key gender and inclusion challenges identified for the project context include:

(a) Limited access by rural women to modern energy services and climate-resilient infrastructure, translating into sustained time poverty and exposure to health and safety risks;

(b) Structural barriers to women's economic empowerment in energy and agriculture value chains, including lack of collateral and financial products, limited access to information and extension services, and social norms that restrict women to low-value, informal segments of the chain;

(c) Underrepresentation of women and youth in decision-making and governance structures in the energy sector and local institutions, despite positive examples of women leaders (e.g. within FUNAE and MIREME);

(d) Elevated exposure to gender-based violence and SEAH risks in fragile and rural settings, and in male-dominated work environments with limited safeguarding mechanisms; and

(e) Skills and knowledge gaps among women and youth in technical, financial and business domains necessary to participate as mini-grid developers, operators, technicians or PURE entrepreneurs.

57. The Gender Action Plan (GAP) builds on these findings with targeted measures integrated across all project components and outputs. The GAP takes a holistic approach to gender equality and social inclusion (GESI), combining institutional reform, market incentives and community-level measures to shift both who benefits from the project and how decisions are made. It aims to strengthen the capacity and accountability of key institutions, including FUNAE and the PMU, to integrate gender in their governance, planning, financing and oversight, while at the same time hard-wiring GESI into the design of mini-grid and PURE investments through GESI-weighted tender scoring, eligibility requirements, contracting clauses and RBF indicators linked to women's leadership, employment and customer base. The GAP promotes inclusive outreach, facilitation and capacity-building so that women, youth and other vulnerable groups are actively identified, informed and supported to participate as consumers, employees and entrepreneurs, with measures such as tailored training, mentoring, matchmaking and gender-responsive funding windows to help build a pipeline of women- and youth-led businesses. These qualitative measures are complemented by quantitative targets for women's participation as beneficiaries, workers and operators, and for the inclusion of women, youth and persons with disabilities in consultations and monitoring, in order to translate institutional GESI commitments into measurable changes in access, agency and livelihood opportunities.

58. The project aims to establish a Project Steering Committee with the participation of gender focal points from key public institutions and the possibility to consult the Ministry responsible for gender and social action, to consider a standing agenda item on GESI, and to appoint a full-time Gender and Social Inclusion Specialist in the PMU with a defined mandate, budget and responsibility to support both technical and institutional work. Monitoring and evaluation arrangements foresee the integration of gender- and age-disaggregated data and indicators into the project's M&E framework, as well as involvement of women and youth in data collection and analysis.

59. While community-level consultations have not yet been carried out, the proposal and the GAP specify that cluster-level pre-feasibility work and stakeholder engagement under Component 2 will be used to refine baselines, validate gender gaps and inform site-specific design, including SEAH risk-screening and the tailoring of PURE opportunities to local women, youth and other vulnerable groups. This is an appropriate sequencing choice given that the exact clusters and PURE pipeline will be defined during implementation. The AE has committed to an inclusive outreach and training approaches that take into account mobility restrictions, language, time poverty and care responsibilities. Dedicated measures include the use of gender- and disability-sensitive facilitation, safe-space sessions for women and vulnerable groups, and targeted awareness-raising and capacity-building for women and youth in business, technical and leadership skills relevant to mini-grid and PURE opportunities.

60. During preparation and approval of the Grant Award Manual, Operational Agreement and PURE facility design report, the AE is has committed to ensure the GESI commitments already articulated in the funding proposal and GAP are translated into the financing and implementation architecture, including: (i) eligibility and, where applicable, scoring criteria for mini-grid and PURE applicants; (ii) linkage between safeguards outcomes and site and cluster validation and award decisions; (iii) definition of RBF milestones and third-party verification processes; (iv) articulation of how safeguards and GESI considerations are taken into account in monitoring and reporting; and (v) clarification of governance and roles and responsibilities across Enabel, FUNAE, ARENE, SEforALL and subgrantees.

61. Overall, the proposal demonstrates gender responsiveness, with a coherent GAP that integrates gender and inclusion considerations into governance, employment, service delivery, capacity-building and monitoring. The Secretariat supports the AE's commitment to maintain close alignment between the GAP and the project's results framework and to use data emerging from cluster-level assessments and implementation to iteratively refine gender and inclusion measures, including for intersectional groups such as persons with disabilities and conflict-

affected households, so that project benefits and protections are realized as intended across diverse rural communities.

4.3 Risks

4.3.1. Accredited entity/executing entity capability to execute the current project (medium risk)

62. Enabel is the development agency of the Federal Government of Belgium and implements Belgian international development policy. It has been present in Mozambique for over 20 years with a portfolio of 30 projects, including two recent projects focused on rural electrification. As the AE and co-EE, Enabel brings extensive experience in Mozambique's mini-grid sector, local context and constraints, having worked with FUNAE on regulatory frameworks, project implementation and technical support in the sector. Enabel's ongoing bilateral cooperation and leadership in donor coordination further reinforce its ability to ensure strategic oversight, technical assistance and alignment with national priorities.

63. FUNAE, Mozambique's National Energy Fund, will be responsible for executing the mini-grid and PURE components. Drawing upon its record of implementing over 100 mini-grids and its mandate for mobilizing and managing funding for off-grid electrification, FUNAE's capacities will be further strengthened through targeted capacity-building under Component 1. Enabel will also support the implementation of Components 3 and 4 through a twinning arrangement. SEforALL complements the partnership as a technical implementing partner for Component 4 (PURE RBF facility), contributing global expertise in sustainable energy access, capacity-building, and RBF.

64. The design of the proposed funded activity represents a shift from the fully publicly owned mini-grid development model historically utilized in Mozambique towards a public-private partnership approach. This new model entails awarding concessions via competitive tenders and utilizing blended finance, which may present challenges in engaging the private sector and structuring incentives that accurately reflect market requirements for mini-grids and PURE. These complexities will be addressed through systematic private sector engagement, including workshops, feedback mechanisms (Component 2), and a dedicated activity in Component 4 focused on developing the PURE facility based on comprehensive market assessments and community consultations. Such measures are intended to ensure that facility structures are responsive to actual market conditions.

4.3.2. Project-specific execution risks (medium risk)

65. Mini-grids are long-term endeavours with a high level of reliance on regulatory stability. As such, political instability and changing regulations can deter the private sector from engaging in mini-grids or developing PURE-based enterprises. To address these potential issues, the project is anchored in national electrification and PURE-promotion targets, and will maintain close collaboration with relevant government stakeholders, including MIREME and ARENE to ensure ownership and stability throughout implementation. Another important execution risk is related to the low availability of local currency financing and hedging instruments which may impact the ability of mini-grid developers and PURE companies to raise financing required to match the concessional funds provided by the project. With these limitations in mind, the minimum co-financing requirements for both mini-grids and PURE solutions reflect the early development stage of the market in Mozambique. In addition, Enabel and FUNAE will manage financial flows through milestone-based tranches tied to verified performance indicators and availability of financing will be tested at an early stage of the tender process to avoid delays. Finally, the risk of low uptake of PURE solutions in the targeted communities may undermine the financial viability of the mini-grids resulting in pressure on tariff or subsidy increase. To

reduce this risk, the PURE facility design to be developed under Component 4 will incorporate solutions identified through detailed site assessments and community consultations to ensure they respond to community needs and socioeconomic profiles. Capacity-building for communities embedded within Component 2 will clarify benefits and build capacity for livelihood development and income generation with PURE. Additionally, PURE funding will be provided through RBF incentivizing suppliers to support uptake and sustainability of interventions.

4.3.3. Compliance risk (medium risk)

66. The inherent risks of money-laundering/terrorist-financing (ML/TF) and other prohibited practices (PP) are relatively elevated for certain project activities, including the procurement and construction of solar mini-grids. As such, the AE has assessed the inherent risk of ML/TF/PP and other compliance risks as moderate but residual risk was assessed as low to moderate due to mitigation measures including the following: counterparty due diligence and screening prior to contract signing; transparent and competitive tendering for mini-grid concessions; milestone-based disbursements linked to verified technical progress; and independent on-site verification by SEforAll prior to each disbursement. Moreover, the AE's internal controls include regular reporting obligations in its grant agreements, as well as on-site verification and independent audits.

67. In addition, the project feasibility study noted that FUNAE requires institutional and management capacity-strengthening, including in relation to risk management and monitoring/evaluation/reporting. This is mitigated by the institutional capacity-building of FUNAE that will be conducted as part of Component 1. The AE also confirmed that FUNAE has already developed key governance and operational tools, including an anti-money-laundering/countering the financing of terrorism policy, which will be operationalized as part of Component 1.

68. As a result of the mitigation measures and internal controls to be implemented to address the inherent risks associated with certain proposed activities, the overall residual risk is determined to be medium.

4.3.4. GCF portfolio concentration risk (within monitoring threshold)

69. In case of approval, the impact of this proposal on the GCF concentration risk remains within the monitoring thresholds of the Risk Appetite Statement in terms of results areas, single proposal limit and AE concentration.

4.3.5. Recommendation

70. It is recommended that the Board consider the above factors in its decision.

Summary risk assessment	
Overall project	Medium
Accredited entity (AE)/executing entity (EE) capability	Medium
Project-specific execution	Medium
Compliance	Medium
GCF portfolio concentration	Within monitoring threshold

4.4 Fiduciary

71. The project will be implemented by Enabel, acting both as AE and EE, in partnership with FUNAE, serving as a co-executing entity for Components 3 and 4. Enabel will retain overall

fiduciary oversight in line with the accreditation master agreement, including administration of project proceeds, quality assurance and reporting functions. Legal arrangements will comprise the funded activity agreement between GCF and Enabel, a subsidiary agreement between Enabel and FUNAE, defining FUNAE's execution responsibilities, fiduciary and procurement obligations, reporting and monitoring duties, and conditions governing the transfer and use of GCF proceeds, including in relation to anti-money-laundering/countering the financing of terrorism, anti-bribery and prohibited practices. In addition, Enabel will also enter into a grant agreement with FUNAE as beneficiary under Components 1 and 2 and a cooperation agreement with United Nations Office for Project Services hosting SE4All.

72. The governance structure of the project comprises three major units: the Steering Committee, the Technical Coordination Committee, and the Project Management Unit. The Steering Committee provides overall oversight and strategic guidance for successful project implementation. Its key responsibilities include ensuring alignment with relevant priorities and policies, identifying synergies with other initiatives, validating annual programming and strategic adjustments, and ensuring stakeholder ownership. The PMU oversees the day-to-day management, coordination and implementation of project operations, ensuring activities meet objectives, donor requirements and national priorities. Finally, the Technical Coordination Committee provides technical oversight, coordination and quality assurance for project implementation.

73. In terms of financial controls, the project will be integrated into Enabel's enterprise resource planning system with accounts being consolidated annually and subject to an independent audit by the Belgian Court of Auditors. Financial monitoring includes regular updates and review of budget execution, cash planning and verification of expenditures in relation to results. Funds are received in a centralized account managed by Enabel's headquarters in Brussels and managed through dedicated ledger accounts. Disbursements to the project are made quarterly, aligned with forecasted cash needs.

74. Procurement will be carried out in compliance with the Belgian regulations on public contracts, relevant European legal frameworks and in line with the project's procurement plan. In relation to the process of awarding grants to mini-grid and PURE developers, no-objection by Enabel will be required to ensure that principles of transparency, equal treatment and best value for money are embedded in the subgrant agreements.

4.5 Results monitoring and reporting

75. This is a cross-cutting project that aims to build climate resilience through generation and use of renewable energy in Mozambique. It targets Mitigation Results Area 1 (energy generation and access) and Adaptation Results Area 1 (most vulnerable people and communities). The project is expected to mitigate 63,393 t CO_2 eq during the implementation period and 399,131 t CO_2 eq over the 25-year accounting period, and benefit 66,200 individuals directly (representing 0.18 per cent of the national population) and 158,800 individuals indirectly (representing 0.44 per cent of the population).

76. The GCF Secretariat has engaged extensively with the AE over five rounds of review to refine various aspects of the funding proposal related to performance and results management. The current theory of change is coherent and provides a clear results chain, the main project outcomes and co-benefits, barriers facing the sector, and the assumptions underpinning the project. The logical framework is on the prescribed GCF template and outlines the relevant core and supplementary indicators in line with the Integrated Results Management Framework, and additional project indicators.

4.6 Legal assessment

77. The legal arrangements for the project will be based on the accreditation master agreement between GCF and the Accredited Entity which has been signed and is effective (the "**AMA**"). Consequently, they will consist of a project-specific funded activity agreement which incorporates the AMA.

78. The Accredited Entity has not provided a legal opinion/certificate confirming that it has obtained all internal approvals and it has the capacity and authority to implement the project.

79. The proposed project will be implemented in the Republic of Mozambique (the "Host Country"), country in which GCF is not provided with privileges and immunities. This means that, amongst other things, GCF is not protected against litigation or expropriation in this Host Country, which risks need to be further assessed. Moreover, the ability of GCF to undertake redress activities and/or investigations in the Host Country may be hindered due to the absence of privileges and immunities for relevant GCF personnel.

80. Therefore, it is recommended that the Board considers whether disbursements of GCF proceeds should only be made after GCF has obtained satisfactory protection against litigation and expropriation in the Host Country, or has been provided with appropriate privileges and immunities for GCF and its personnel.

81. GCF does not hold industrial property protection for its combined logo (sphere with the words "Green Climate Fund") in the Host Country. This means that, while industrial property protection is pending, (i) GCF's combined logo could be used by other entities or individuals (including those seeking to impersonate GCF) and (ii) there could be legal claims by entities or individuals asserting their protected trademark, opposing GCF using its combined logo in the country. In both cases, this may lead to reputational risk.

82. To address the matters raised in this section and facilitate prompt implementation of the project, it is recommended that any approval by the Board is made subject to the following conditions:

(a) Submission by the Accredited Entity to GCF of a certificate or legal opinion, in form and substance satisfactory to the GCF Secretariat, within 120 days after Board approval, confirming that the Accredited Entity has obtained all final internal approvals needed by it and has the capacity and authority to implement the proposed project;

(b) Signature of the funded activity agreement in a form and substance satisfactory to the GCF Secretariat within 180 days from the date of Board approval, or the date the Accredited Entity has provided a certificate or legal opinion confirming that it has obtained all final internal approvals, whichever is later; and

(c) Completion of the legal due diligence to the satisfaction of the GCF Secretariat prior to the signature of the funded activity agreement.

Independent Technical Advisory Panel's assessment of FP290

Proposal name:	PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy
Accredited entity:	Enabel
Country/(ies):	Mozambique
Project/programme size:	Small

I. Assessment of the independent Technical Advisory Panel

1.1 Overview

1. The proposed project, titled "PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy", is submitted by the Belgian Development Agency (Enabel) as the accredited entity (AE), with the Fundo de Energia (FUNAE) (the national energy fund of Mozambique) acting as executing entity (EE). The project seeks EUR 37.415 million in GCF grant funding (89 per cent of total project cost) to expand access to clean, reliable electricity in underserved rural areas of Mozambique through the deployment of 30–40 solar mini-grids and the promotion of climate-smart productive use of renewable energy (PURE) technologies. The AE expects to raise EUR 813,449 (~2 per cent of total project cost) in co-financing from FUNAE (in-kind staff costs), EUR 3,614,625 in co-financing from the private sector (8.6 per cent of total project cost) and EUR 206,531(or less than 0.5 per cent of total project cost) in co-financing from the AE, The project builds on recent regulatory reforms introduced by ARENE, the energy regulator of Mozambique, and aims to enhance the climate resilience of rural livelihoods while contributing to low-emission development pathways.

2. The funding proposal is structured around four components:

(a) Component 1 focuses on institutional transformation, with targeted support to strengthen the governance, fiduciary and fund management capacities of FUNAE. This includes a structured "learning-by-doing" approach through twinning arrangements with the AE;

(b) Component 2 aims to stimulate community awareness, capacity-building and technical assistance to enable the uptake of PURE technologies. Gender inclusion and youth engagement are emphasized across all activities;

(c) Component 3 supports the competitive procurement and deployment of solar mini-grids under a fixed-tariff, least-subsidy tender structure, with clustering of sites to achieve economies of scale; and

(d) Component 4 operationalizes a tailored results-based financing (RBF) mechanism to de-risk PURE investments and crowd in private sector actors into the nascent off-grid energy market.

3. The project is primarily focused on climate change mitigation, with an expected reduction of approximately 399,000 tonnes of carbon dioxide equivalent (t CO_2 eq) over a 25-year accounting period, achieved through the deployment of solar mini-grids that displace diesel and traditional biomass use across rural Mozambique. It targets the installation of over 2.1 megawatt of new renewable energy capacity (after 7 years) across 30–40 sites, delivering clean electricity to off-grid communities and supporting low-emission rural development. At the same time, the project integrates targeted adaptation co-benefits, particularly through the deployment of climate-resilient PURE technologies that support food preservation, irrigation and climate-sensitive value chains.

4. In that context, the project targets approximately 66,200 direct and 158,800 indirect beneficiaries (at least 52 per cent women) and aims to catalyse private sector engagement in the currently shallow mini-grid market in Mozambique by bundling sites into clusters, providing performance-based subsidies, and standardizing procurement and concession instruments. While market and institutional readiness remain limited, the project is positioned as a strategic enabler for future scale-up by strengthening the operational and fiduciary capacity of FUNAE – rural energy fund in Mozambique – and supporting its long-term evolution into a national concessional climate finance institution. This includes laying the groundwork for potential GCF direct access accreditation and facilitating stronger alignment across public and private investment channels in the off-grid energy sector. Table 1 below provides an overview of expected outcomes for the proposed project.

Table 1: GCF Integrated Results Management Framework outcome indicators

GCF Result Area	IRMF Indicator	Means of Verification	Baseline	Target (Final)	Assumptions / Notes
MRA1 Energy generation and access	Core 1: GHG emissions reduced, avoided or removed/sequestered	Emissions modelling reports, site-level monitoring, third-party validation	0 t CO_2 eq	63,393 t CO_2 eq (7 years); 399,131 t CO_2 eq (25 years)	Avoided emissions from diesel and biomass; modelling assumes continuous operation and rural energy demand projections.
MRA1 Energy generation and access	Suppl. 1.3: Installed renewable energy capacity	SPV designs, inspection logs	0 MW	~2.15 MW	Based on 30–40 mini-grids, average system size ~30–75 kWp. Verified post-tender.
ARA1 Most vulnerable people	Core 2: Direct and indirect beneficiaries reached	Connection records, training reports, disaggregated surveys	0 beneficiaries	66,200 direct, 158,800 indirect (≥52% women)	Based on demographic profiles, PURE uptake, and awareness campaign reach.
ARA1 Most vulnerable people	Suppl. 2.5: Beneficiaries adopting climate-resilient innovations	Training records, PURE grant tracking	0	66,200 (≥52% women)	Adoption of technologies such as cold storage, irrigation, agri-processing equipment.
Institutional Enabling Environment	Core 5: Strengthened institutional/regulatory frameworks	Documented reforms, policies, fiduciary systems at FUNAE, tendering guidelines	Low	National off-grid energy fund operational with GCF-ready fiduciary systems	FUNAE governance reforms, technical capacity, and coordination with ARENE and MIREME form core focus of Component 1.
Technology Innovation	Core 6: Deployment and innovation of climate-smart technology	RBF disbursement records, supplier mapping, PURE adoption data	Low	Market ecosystem for climate-smart PURE technology	RBF de-risks adoption, promotes supplier entry, supported by training and TA under Components 2 and 4.

				developed in 30–40 sites	

Abbreviations: ARA = adaptation results area, FUNAE = Fundo de Energia, GHG = greenhouse gas, IRMF = Integrated Results Management Framework, kWp = kilowatt-peak, MIREME = Ministry of Mineral Resources and Energy, MRA = mitigation results area, MW = megawatt, PURE = productive use of renewable energy, RBF = results-based financing, SPV = special purpose vehicle, suppl = supplementary indicator, TA = technical assistance, t CO_2 eq = tonne of carbon dioxide equivalent.

1.2 Impact potential *Scale: N/A*

5. Mozambique is among the countries most exposed to climate-related risks in sub-Saharan Africa, facing a convergence of geographic, environmental and socioeconomic vulnerabilities. The country is regularly affected by tropical cyclones, floods, droughts and extreme heat, with the frequency and intensity of these events increasing in recent decades. The central and northern provinces – such as Zambézia, Sofala and Cabo Delgad – are particularly prone to cyclone damage and seasonal flooding, while southern provinces face growing water stress and desertification risks. National climate projections indicate a steady rise in temperatures of 1.5–2.5 degrees Celsius by mid-century and an increase in rainfall variability, including more intense dry spells and extreme weather events. These stressors pose systemic risks to rural livelihoods, infrastructure and service delivery, particularly in underserved regions with limited access to resilient infrastructure.

6. The proposed cross-cutting project is grounded in a dual climate rationale. It seeks to reduce greenhouse gas emissions (GHG) by displacing diesel generation and reducing biomass use through the deployment of renewable energy mini-grids and associated productive use equipment. The expected mitigation impact is estimated at approximately 399,000 t CO_2 eq over the 25-year accounting period, largely through avoided diesel and charcoal use in rural households, institutions and microenterprises. At the same time, the project aims to strengthen the adaptive capacity of vulnerable communities by improving access to electricity and productive use equipment for irrigation, cooling, water pumping, agri-processing and other resilience-relevant services. These interventions are expected to enhance productivity and reduce vulnerability to climate shocks across multiple value chains, particularly in agriculture and fisheries.

7. At the same time, while the proposal offers a conceptually coherent narrative linking decentralized renewable energy to climate mitigation and adaptation objectives, the climate rationale remains only partially embedded in the project's operational design as described below.

1.2.1. Mitigation impact

8. The proposed programme is appropriately classified as a cross-cutting project, with a mitigation impact weighting of 75 per cent and an adaptation impact weighting of 25 per cent. This weighting reflects the primary thrust of the intervention, which centres on the deployment of solar mini-grids across rural Mozambique. By replacing diesel-based electricity used by micro, small and medium-sized enterprises and public institutions, and by avoiding future grid extensions based on fossil-intensive sources, the programme aims to generate GHG emission reductions. The funding proposal estimates a cumulative mitigation impact of 399,000 t CO_2 eq of reduced emissions.

9. The mitigation logic rests on a transparent and methodologically sound foundation. Baseline energy profiles are drawn from the most recent national household survey of Mozambique and corroborated by energy access studies. The emission reduction modelling uses

Tier 1 emission factors, disaggregates between households, small and medium-sized enterprises, and institutional consumption, and applies consistent assumptions regarding the replacement of diesel and traditional biomass energy. The calculations are supported by standardized spreadsheet tools in line with established GCF practice.

10. Despite this, the assessment of mitigation impact could be strengthened in several important respects. First, the proposal does not include a formal counterfactual scenario analysis, such as a modelled trajectory of mini-grid development in the absence of GCF financing. This omission limits the assessment of additionality. Second, no sensitivity or uncertainty analysis is presented, despite wide variability in rural energy consumption, mini-grid system performance and technology lifespan. Third, the GHG calculations apply a static grid emission factor, implicitly assuming future fossil-intensive grid expansion. This does not reflect the fact that the national grid of Mozambique is already approximately 80 per cent hydro-based and may further decarbonize over time.

11. These methodological limitations do not, however, represent disqualifying weaknesses. They are broadly in line with precedent for mitigation-oriented distributed renewable energy projects in the GCF portfolio. Nevertheless, greater analytical rigour – particularly in counterfactual modelling and sensitivity testing – would enhance confidence in the robustness and credibility of the project's stated mitigation benefits.

1.2.2. Adaptation impact

12. The adaptation rationale presented in the funding proposal rests on the proposition that electricity access – particularly through climate-smart PURE technologies – can enhance the resilience of rural communities to climate change impacts. The proposal asserts that the deployment of solar-powered irrigation systems, cold storage, agri-processing equipment, and related infrastructure will help reduce post-harvest losses under conditions of extreme heat or unseasonal rainfall, mitigate drought-induced water scarcity, and support economic diversification away from climate-sensitive subsistence agriculture.

13. This conceptual framing is directionally sound. The link between decentralized energy and food system resilience is plausible and well-supported in the relevant literature.[1] Moreover, it is reasonable to assume that the proposed PURE technologies may generate resilience co-benefits across diverse geographies, even in the absence of hyper-targeted site selection. The proposal also includes a set of indicators to track PURE uptake, productivity changes and employment proxies, allowing for some assessment of adaptation outcomes at the cluster and portfolio levels.

14. However, the adaptation case remains weakly embedded in the project's operational design. While Section B.1 of the funding proposal outlines the exposure of rural populations in provinces such as Zambézia and Sofala to recurrent flooding, cyclones and droughts, paragraph 45 of the funding proposal makes it clear that target communities may be located anywhere in the country. Site selection and mini-grid cluster definition will be completed prior to project inception (paragraph 74), through the Swedish-funded USD 10 million +SOL programme. Yet the process described (paragraph 43) makes no mention of climate vulnerability analysis informing site selection. Under activity 2.2.1, Enabel is expected to "evaluate and screen the mini-grid site assessments" conducted by the Government of Mozambique with +Sol support. However, it remains unclear how this process will incorporate the climate risk data and adaptation logic presented in the GCF proposal, such as the hazard maps and exposure analysis in annex 16. Specifically, the proposal does not clarify whether +Sol's methodology will apply

[1] See for example Mperejekumana, P., Shen, L., & Zhong, S. (2024). Exploring the potential of decentralized renewable energy conversion systems on water, energy, and food security in Africa. *Energy Conversion and Management* 315. Elsevier. DOI:10.1016/j.enconman.2024.118757

any scoring framework, vulnerability index or decision-support criteria aligned with the adaptation rationale of the GCF-funded intervention. As a result, there is a risk that site selection will be driven primarily (if not exclusively) by electrification planning logic, for example, grid exclusion zones, technical and financial viability and PURE potential. without systematic consideration of climate vulnerability or resilience priorities. This raises additional concerns regarding the justification for the high levels of capital subsidy requested (an issue that is further discussed in section 1.7 below). If site selection were explicitly targeted at highly vulnerable, underserved communities where private investment is unlikely to flow, the case for high concessionality would be stronger. In the absence of such targeting, however, it is unclear whether the current subsidy design is proportionate to the project's climate rationale.

15. Furthermore, the proposal does not include a theory of change that distinguishes adaptation benefits from general rural development effects. There is no explicit climate risk threshold, attribution logic, or counterfactual scenario that would allow a determination of whether the resilience outcomes are specifically climate-related or merely a function of improved infrastructure and economic activity. As a result, the adaptation rationale, though coherent at narrative level, lacks the methodological rigour needed to substantiate the claimed 25 per cent impact weighting.

16. In practice, the adaptation component appears to be retrofitted onto a mitigation-centred programme model. While this does not invalidate the potential for adaptation co-benefits, especially under climate stress, it limits the strength of the case under the GCF adaptation investment criteria. In this context, the PURE component becomes central to the credibility of the project's adaptation rationale. While the proposal outlines a series of demand-side interventions and training activities, the operational mechanisms for systematically driving PURE uptake remain relatively diffuse. The project would benefit from a more clearly articulated PURE deployment strategy that links site-level vulnerability profiles with specific climate-resilient technologies (e.g. irrigation, cold storage, water pumping), supported by structured financing mechanisms and measurable uptake targets. Strengthening the coherence between climate risk analysis, PURE targeting and financial incentives would enhance the robustness of the project's adaptation impact and better justify the assigned 25 per cent adaptation weighting.

1.2.3. Operational design

17. The proposed programme adopts a centrally coordinated, government-led tendering model for deploying solar mini-grids in rural Mozambique, in line with national energy planning instruments. Clusters of 10–15 sites are pre-identified by public institutions, drawing on upstream technical screening conducted under the +SOL programme. Developers will be invited to bid competitively for these predefined clusters, with the winning bids determined on the basis of subsidy levels required to deliver electricity at a fixed, nationally regulated tariff.

18. While this design supports alignment with national electrification goals and promotes equitable geographic coverage, it introduces structural constraints that may limit the programme's overall impact potential, particularly in relation to market responsiveness, private sector uptake and long-term viability.

19. *Tender design and market alignment*

(a) The clustering model proposed by the AE limits developer agency in site selection. Developers cannot propose sites, nor is it clearly stated whether they can reject or substitute locations found commercially unviable after post-award feasibility validation. While the "Base Case + Developer Case" methodology aims to reconcile public and private assumptions on demand and technical sizing, this innovation alone does not fully offset the rigidity of the fixed-cluster approach.

(b) International experience underscores the importance of post-award flexibility in government-led mini-grid tenders. Several comparable initiatives – including the Rural Energy Fund in Tanzania, the early public mini-grid tenders in Kenya, and a pilot in Zambia under the Global Energy Alliance for People and Planet – have faced low developer participation and delivery setbacks, in part due to inflexible bundling of sites with varying demand potential.

(c) Conversely, adaptive tendering , such as Distributed Access through Renewable Energy Scale-up (DARES) in Nigeria and the Beyond the Grid Fund for Africa (BGFA) in Uganda and Zambia, have demonstrated stronger market traction. These programmes introduce flexibility through partial site selection, phased implementation, and reallocation mechanisms based on post-award validation. Reports such as the United States Agency for International Development 2024 sector review and the Africa Mini-Grid Acceleration Programme and BGFA evaluations stress that such design elements are essential for reducing attrition and increasing private sector engagement in underdeveloped energy markets.[2]

(d) Additionally, a 2024 report by GET.transform[3] highlights that clustering can improve transaction efficiency, especially in fragmented, early-stage markets, but only when accompanied by transparent risk-sharing and meaningful input from developers during planning.

(e) In this light, the proposed programme would benefit from embedding additional design flexibility. Potential options include a defined buffer pool of reserve sites, conditional opt-out clauses triggered by post-award feasibility outcomes, and phased cluster deployment to limit early-stage exposure. Without such provisions, the rigid clustering model risks discouraging experienced developers or inflating subsidy bids to compensate for site-level uncertainties and ultimately undermining cost-effectiveness and delivery outcomes.

20. *Tariff setting and affordability*

(a) The programme follows a fixed-tariff auction design, wherein developers bid on the amount of subsidy required to supply electricity at a uniform tariff of approximately 8.44 meticais (MZN) per kilowatt-hour, as set by the national regulator (ARENE). This tariff reflects the social tariff policy in Mozambique and is intended to ensure affordability for low-income rural populations.

(b) While this approach is socially justified and aligned with equity objectives, it introduces constraints to financial viability. Developers must internalize cost differentials across disparate sites, some of which may have low demand density, difficult access, or high cost-to-serve profiles, within a single, non-adjustable tariff framework. The lack of site-specific willingness-to-pay data or affordability benchmarks further complicates cost recovery assumptions, particularly in the context of anticipated PURE uptake and growing load over time.

(c) Other programmes using fixed-tariff structures, such as DARES and BGFA, have introduced adaptive elements such as indexation mechanisms, targeted subsidy top-ups,

[2] USAID (2023). State of the Mini-Grids Market Report 2024. United States Agency for International Development (USAID), prepared in collaboration with the Mini-Grids Partnership. SEforALL & African Development Bank (2022). Africa Mini-Grid Acceleration Programme (AMAP) – Programme Appraisal Report (SEFA 002). Sustainable Energy for All and the Sustainable Energy Fund for Africa (SEFA), hosted by the African Development Bank; and Nordic Environment Finance Corporation (NEFCO), (2020). Scaling Up Mini-Grids for Low-Cost Rural Electrification: The Case of the Beyond the Grid Fund for Africa. African Enterprise Challenge Fund (AECF), in collaboration with NEFCO.

[3] Mini-grid Regulatory Framework Benchmarking: Insights from the African Forum for Utility Regulators (AFUR). Prepared under the GET.transform programme, supported by the European Union and BMZ (Germany).

or context-specific tariff bands to reconcile affordability with commercial viability. Incorporating similar features in the proposed programme could enhance both subsidy efficiency and long-term sustainability, especially in light of demand uncertainty and rural income volatility. The AE is encouraged to explore such refinements during finalization of the tender framework.

21. *Developer risk and post-award flexibility*

(a) Although the programme includes some positive risk-sharing features, such as milestone-based disbursement, performance-linked subsidies and a two-case modelling approach, it does not provide developers with a transparent mechanism to exit from or restructure clusters post-award. This absence of post-award opt-out provisions or dynamic site reallocation creates exposure to non-remunerative operations, particularly in marginal sites.

(b) The lack of such flexibility is a known barrier to private participation in rural electrification programmes. Evidence from previous donor-supported initiatives in sub-Saharan Africa consistently indicates that rigid tender designs undermine delivery performance and deter experienced operators. Without some mechanism to reconcile pre-defined clusters with post-feasibility realities, the proposed programme risks either attracting less qualified developers or receiving overly conservative bids with inflated subsidy requirements.

22. *Operations, maintenance and long-term viability*

(a) The proposal addresses long-term service continuity through 20-year concession contracts, performance obligations and financial modelling that includes system maintenance, component replacement and operational overheads. These measures are complemented by a RBF disbursement structure that conditions subsidy payments on verifiable progress and quality metrics.

23. However, long-term viability remains dependent on substantial upfront capital subsidies (up to 90 per cent of capital expenditure per mini-grid) and optimistic assumptions about tariff sufficiency and PURE-driven demand growth. No scenarios are presented in which cost-reflective tariffs or market-based replication would become viable within the project time frame. Nor is there a fallback mechanism, such as an operations and maintenance subsidy facility or a refinancing window, to address underperformance, inflationary cost pressures, or delayed PURE adoption.

24. Other programmes have addressed this challenge through a combination of operational RBF tranches, tariff indexation provisions, or hybrid asset ownership structures (e.g. public ownership with private operation). The proposed project assumes that demand growth, PURE uptake and regulatory enforcement will close the gap between cost and revenue over time – a plausible but untested hypothesis in the rural energy context of Mozambique. Without additional buffers or contingency mechanisms, the programme may face financial sustainability risks beyond the initial investment period. This could undermine both mitigation and adaptation outcomes, particularly in communities with limited income resilience or weak market linkages. The independent Technical Advisory Panel (iTAP) encourages the AE to explore this further as part of its final tender design work.

25. While the proposed programme reflects an ambitious and policy-aligned effort to expand climate-resilient energy access, its operational design introduces several significant delivery risks that may significantly constrain impact potential. These include limited developer flexibility, rigid tariff and clustering structures, and high dependency on upfront subsidies. Recent evidence from the Global Energy Transfer Feed-in Tariff Mozambique mini-grid tender, an initiative whose preparatory work spans more than a decade, suggests the importance of tender design in this context. Feedback from the market suggests that despite its long gestation

and strong donor backing, the tender attracted limited appetite during the prequalification process and resulted in generally low-quality submissions, underscoring the difficulties of mobilizing credible private sector interest under constrained or overly complex frameworks. Introducing additional structural agility based on lessons from this and other comparable programmes, could strengthen market responsiveness, improve implementation outcomes and enhance long-term impact.

26. Overall, the iTAP rates the impact potential of the project as medium, with potential for improvement if the issues highlighted above are adequately clarified and addressed prior to the start of programme implementation.

1.3 Paradigm shift potential *Scale: N/A*

27. The proposed project aims to lay the groundwork for structural transformation of off-grid energy sector in Mozambique by demonstrating a scalable public-private delivery model, strengthening domestic institutional capacity, and catalysing uptake of climate-smart PURE technologies. This section assesses the programme's potential for paradigm shift across three dimensions: (a) whether the project lays a credible foundation for scale-up and market transformation; (b) the extent to which it supports durable institutional strengthening, particularly of FUNAE as a future climate finance intermediary; and (c) the anticipated scale and sustainability of PURE uptake, especially in terms of technology diffusion and livelihood impact. Each of these areas is discussed in turn below.

1.3.1. Laying the foundation for scale-up and market transformation

28. The proposed project provides a credible, policy-aligned framework for operationalizing a new off-grid regulatory regime and advancing public-private investment in rural electrification in Mozambique. It targets a clear market failure: the absence of risk-tolerant capital and delivery models suited to the country's challenging demand and geography conditions. The programme rightly emphasizes tender standardization, regulatory testing and demonstration of viability under the country's emerging mini-grid concession framework, grounded in the 2022 Electricity Law (Law No. 12/2022 of 11 July) and the Regulation for Access to Energy in Off-Grid Areas (Ministerial Diploma No. 93/2021 of 10 November). These are important steps in a fragile market environment and provide a foundation for longer-term market development.

29. At the same time, the project's contribution to structural market transformation remains partial and constrained by design. While the programme introduces upstream regulatory and operational tools, such as standard documents and bundled site tenders, these are oriented towards first-round execution rather than long-term scaling. The proposal does not articulate how future rounds would reduce subsidy intensity or shift towards market-based finance. There is no road map for commercialization, no design link to local debt markets or guarantee mechanisms, and no refinancing or aggregation platform to support scale. This contrasts with recent examples in other African markets, which have embedded these features at an earlier stage.

30. For instance, the DARES initiative in Nigeria, while also nascent, is explicitly tied to the Renewable Energy Investment Facility, a public-private refinancing structure anchored in the Bank of Industry and linked to the Rural Electrification Agency's pipeline. Developers are expected to graduate from construction-stage grants to refinancing through the Renewable Energy Investment Facility, subject to performance and revenue thresholds. The facility is not yet fully operational, but its inclusion as a structural pillar signals a clear path beyond donor capital. These features are not merely technical: they embed a transition logic that moves from concessional pilots to investment-grade replication.

31. In the case of the proposed programme, the future orientation remains less developed. The proposal references the forthcoming World Bank Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) programme and suggests the GCF investment will help prepare the market. However, it remains unclear how exactly this linkage will be operationalized, and whether the project will generate the institutional, financial, or pipeline conditions required for ASCENT or other initiatives to scale. The coordination remains more aspirational than structured.

32. Similarly, the project's contribution to policy evolution, while valuable, appears focused on validating current rules, for example, concession agreements, or grid arrival clauses, rather than innovating next-generation tools such as blended finance platforms, guarantee mechanisms, or credit enhancements. This is understandable in an early-stage market, but it limits the systemic shift potential. Without instruments to mobilize local capital, crowd in development finance institutioins, or support asset refinancing, the model remains grant-driven and difficult to sustain.

1.3.2. FUNAE: institutional transformation

33. A central pillar of the proposed programme's paradigm shift narrative is the institutional transformation of FUNAE from a traditional project implementer into a capable national intermediary for concessional climate finance. The funding proposal positions the programme as a stepping stone towards future GCF accreditation for FUNAE, with the long-term goal of enabling direct access to climate finance and reducing reliance on external AEs. This is an important and ambitious objective, and one that, if credibly achieved, would significantly enhance country ownership and institutional sustainability in the climate space in Mozambique.

34. To support this transformation, the project employs a structured "learning-by-doing" approach. FUNAE acts as EE under the close supervision of the AE, through a twinning model that combines embedded technical assistance, progressive responsibility transfer, and phased institutional reinforcement. The AE retains overall fiduciary responsibility and oversight, particularly during the initial stages of project delivery, while FUNAE is expected to gradually take on more functions - including financial management, performance verification, procurement and reporting, based on demonstrated capacity and performance.

35. This model is pragmatic and broadly consistent with international experience in settings where national entities are on a pathway towards direct access. The proposal emphasizes adaptive management: if FUNAE does not meet institutional milestones, the AE will maintain a stronger role for longer, while tailoring support accordingly. This is an important safeguard and reflects realistic awareness of institutional constraints.

36. However, the theory of change remains vulnerable to significant execution risk. Most critically, the proposal does not include a clear capacity baseline for FUNAE, nor does it specify concrete institutional thresholds, for example, the financial control systems, audit quality and disbursement performance that would trigger the transfer of specific responsibilities. This makes it difficult to assess whether the projected institutional evolution is realistic within the lifetime of the project, or whether the transformation will remain largely aspirational. This concern is compounded by the fact that FUNAE is not a new institution: it has been operational since 1997 and has received considerable technical and financial support from a range of donors over the past three decades. Despite this support, FUNAE has to date functioned primarily as a project implementer, with limited track record in managing complex financial instruments or operating at the standards required for fiduciary delegation under GCF modalities. The current proposal does not sufficiently clarify what is substantively different in this particular case, in terms of political will, incentive structure, or institutional reform, that would allow FUNAE to move beyond its historic role.

37. In addition, the current institutional set-up contains an unresolved tension. While the project seeks to build the autonomy and systems of FUNAE, key functions remain centralized under the AE, including tender design, and results management. This risks creating a parallel implementation structure, in which the role of FUNAE is confined to delivery under close supervision, without necessarily acquiring the institutional ownership and accountability required for long-term fund management. The concern is further compounded by the fact that the AE contributes less than 0.5 per cent of the total project cost, raising questions about its institutional commitment and reducing its incentives to ensure sustained capacity transfer. In the absence of a time-bound capacity development plan, independent tracking of institutional progress, or a road map aligned with GCF accreditation benchmarks, there is a risk that the proposed support will not translate into systemic institutional change.

38. Experience from other country contexts offers important cautionary lessons. In Tanzania and Zambia, for instance, donor efforts to transform rural energy agencies into climate or energy financing vehicles have struggled, due in part to fragmented mandates, high staff turnover, and difficulties in building fiduciary capacity at scale. These examples underscore the complexity of shifting from a project implementation model to a financial intermediation role, especially in environments with limited absorptive capacity and weak institutional checks and balances.

1.3.3. Paradigm shift and scaling of productive use

39. The proposal positions PURE as a key driver of both resilience outcomes and commercial sustainability, anchoring its paradigm shift narrative in the co-benefits of energy-enabled rural productivity. This is conceptually sound. There is broad recognition that basic energy access, while necessary, is not sufficient to transform rural economies. Without demand-side stimulation, mini-grid viability often remains marginal, and adaptation benefits diffuse.

40. The PURE strategy outlined in the proposal includes a blend of demand-side interventions (awareness-raising, business training), technical assistance to cooperatives and small enterprises, and financial incentives to stimulate uptake. The upstream site selection process is also informed by value chain mapping and the identification of potential anchor clients. The AE has clarified during the question and answer process that all mini-grid clusters are eligible for PURE-related support, and the proposal includes a dedicated training and technical assistance component comprising approximately 160 activities across the 30–40 sites. This reflects a serious effort to address demand creation – a persistent challenge in many rural electrification programmes.

41. Importantly, the proposal does not overstate impact. It avoids assuming uniform income gains or enterprise success, instead applying a cluster-level monitoring approach that relies on uptake indicators (e.g. appliance use), business-level proxies (e.g. sales volumes), and employment data. This conservative framing is appropriate given the early-stage nature of most rural markets in Mozambique. That said, several limitations constrain the PURE component's ability to drive structural transformation, as follows:

(a) Diffuse delivery architecture. The PURE component is distributed across multiple outputs without a dedicated facility, implementing partner, or centralized delivery platform. As such, the approach may remain fragmented, with limited capacity to coordinate value chain actors, build markets, or scale pilots beyond the project;

(b) Weak upstream engagement with anchor clients. While the site selection process includes some mapping of value chains and anchor demand, there is little evidence in the proposal of formal engagement with aggregators, buyers, or commercial partners who could support offtake, demand aggregation, or co-investment. Without these

linkages, the risk remains that productive users will lack reliable market access, undermining the viability of PURE investments;

(c) Developer incentives are modest and indirect. Although RBF is partially tied to PURE uptake, the mechanisms are not clearly articulated. It is unclear whether developers will be directly responsible for stimulating demand, or whether PURE remains a peripheral consideration within their delivery model. In the absence of clearer co-investment logic or joint planning obligations, incentives may not be strong enough to influence behaviour; and

(d) Lack of catalytic end-user finance. In addition, the absence of catalytic end-user financing represents a significant constraint. The proposal does not include dedicated financial instruments, such as appliance financing, microcredit lines, or working capital support, to enable rural enterprises or households to acquire climate-smart equipment. Experience from comparable markets suggests that affordability and liquidity barriers are among the most persistent obstacles to PURE adoption, even where electricity is available.

42. By contrast, other programmes, notably DARES in Nigeria and the Kenya Off-Grid Solar Access Project (KOSAP), have integrated PURE more directly into their core programme architecture, using structured incentives, facilities targeted to small and medium-sized enterprises, and co-financing tools to systematically drive uptake. KOSAP, for example, includes a dedicated RBF facility for solar water pumping and productive use appliances, managed by GIZ. This facility subsidizes verified installations to accelerate supplier entry and enterprise adoption in underserved counties. KOSAP further supports demand creation through technical assistance, partnerships with financial institutions to promote end-user financing, and targeted awareness-raising efforts. Energy demand forecasts under KOSAP explicitly incorporate expected PURE applications, and developers are required to submit strategies for promoting productive use as part of their bids. The programme also embeds PURE indicators into its monitoring framework, allowing uptake and income effects to be tracked over time.

43. Similarly, the DARES initiative in Nigeria ties subsidy disbursements to verified business use of electricity and bundles mini-grid procurement with technical assistance for local enterprises. Both programmes offer early and valuable lessons on how rural electrification and enterprise development can be delivered through a unified logic, where energy infrastructure, market stimulation and livelihood support are co-designed and mutually reinforcing. In contrast, the proposed programme in Mozambique reflects a more incremental and learning-based approach, consistent with local institutional and market constraints. While this is appropriate given the country context, the current structure limits the ability of the PURE component to deliver truly transformational impact. Without deeper integration of financial instruments, technical support, and private sector delivery models, the uptake of climate-smart productive technologies may remain fragmented and small-scale. To enhance delivery effectiveness, the iTAP encourages the AE to further strengthen the operational architecture of the PURE component during final tender and implementation design. This could include: (i) clearer integration of RBF incentives tied specifically to verified PURE uptake at enterprise level; (ii) structured engagement with anchor clients or value chain actors to secure offtake and market linkages; and (iii) exploration of catalytic end-user financing mechanisms (e.g. appliance financing partnerships, revolving facilities, or collaboration with microfinance institutions) to address liquidity barriers to technology adoption. While these enhancements are not prerequisites for approval, they would materially improve the likelihood that PURE delivers catalytic and scalable resilience outcomes. For the PURE component to achieve catalytic effect, stronger institutional alignment, dedicated financial mechanisms, and robust private sector partnerships will be required – either through adjustments to this project or through follow-on phases.

44. Overall, the iTAP rates the paradigm shift of the project as low-to-medium.

1.4 Sustainable development potential *Scale: N/A*

45. The proposed project is expected to generate strong sustainable development co-benefits across economic, social and gender dimensions, consistent with the national development priorities of Mozambique and well aligned with multiple Sustainable Development Goals (SDGs), including SDG 1 (no poverty), SDG 5 (gender equality), SDG 7 (affordable and clean energy), SDG 8 (decent work and economic growth), and SDG 13 (climate action). The project's core activities of rural electrification through solar mini-grids, coupled with PURE support, directly address structural constraints to inclusive rural development and could yield significant benefits for local livelihoods and community resilience.

1.4.1. Economic co-benefits

46. The economic development logic of the project is robust and plausible. By expanding access to reliable electricity and pairing it with support for income-generating activities, the project targets direct improvements in productivity, diversification and rural employment. PURE applications in agriculture, fisheries and small-scale agri-processing are likely to enhance value addition and reduce post-harvest losses, particularly in climate-sensitive value chains. Job creation is expected both in mini-grid construction and maintenance, and in downstream enterprise development enabled by energy access.

47. The funding proposal references experience from comparable programmes in Mozambique and includes a well-structured PURE support framework, which combines financial incentives, technical assistance and community engagement. The intervention logic is consistent with global experience on mini-grids and PURE, and the indirect effects (for example, local procurement, reduced cost of doing business, improved productivity) are likely to be significant.

1.4.2. Social and health co-benefits

48. The project is expected to deliver notable social benefits through improved public service delivery and enhanced community well-being. Electrification of schools and health posts will enable better lighting, refrigeration of vaccines, and use of digital education tools. At household level, access to clean energy will reduce dependence on kerosene and biomass, thereby improving indoor air quality and reducing time spent on fuel collection - especially for women and children. Community safety may also be improved through street lighting and extended service hours for clinics and shops.

49. The project's geographic focus on underserved rural districts ensures that benefits reach some of the most marginalized populations. While health outcome indicators are not explicitly quantified, the service-level improvements anticipated are directionally aligned with health co-benefits observed in comparable contexts.

1.4.3. Gender-sensitive development co-benefits

50. The project presents a strong gender-responsive design and includes a stand-alone Gender Action Plan (annex 8). Women are expected to benefit both as direct users of improved energy services and as participants in PURE-enabled livelihoods. The project incorporates gender-focused eligibility criteria and scoring in its tender process, and mandates reporting on gender-related implementation metrics. Technical assistance and training activities explicitly target women's participation in entrepreneurship and energy governance.

51. In addition, the project acknowledges the specific burdens that energy poverty places on women, such as unpaid care work and exposure to indoor pollution, and proposes interventions to reduce these barriers. If well-implemented, these activities could generate lasting impacts in terms of women's time use, decision-making power and economic agency.

1.4.4. Environmental co-benefits

52. The proposal is primarily focused on mitigation and adaptation outcomes through energy access, and does not present specific ecosystem-based interventions. Nonetheless, the displacement of diesel and biomass fuels through solar generation may yield modest environmental co-benefits, such as reduced air pollution, deforestation pressure, and GHG emissions. These benefits are incidental but welcome, and align with the GCF mitigation and environmental co-benefit objectives.

53. In summary, the project's sustainable development potential is high. Its economic, social and gender benefits are grounded in a coherent intervention model and tailored to rural development challenges in Mozambique. While quantification of co-benefits could be strengthened, the overall design is consistent with best practice and reflects a thoughtful and inclusive approach to development impact.

54. Overall, the iTAP rates the sustainable development potential of the project as medium.

1.5 Needs of the recipient *Scale: N/A*

55. Mozambique faces an acute and multidimensional climate vulnerability profile, shaped by its exposure to extreme weather events and compounded by systemic socioeconomic fragility. Ranked as one of the world's most climate-vulnerable countries, the country is regularly affected by cyclones, floods and droughts, with rural districts bearing the brunt of these impacts. These climate hazards intersect with some of the lowest human development indicators globally (183rd out of 191 on the 2023 Human Development Index), with more than 74 per cent of the population living below the international poverty line – a figure that exceeds 90 per cent in rural areas.

56. The need for targeted support is particularly acute in the rural off-grid space, where access to modern energy services remains critically low. Electricity access in rural areas is estimated at around 9 per cent, and households primarily depend on biomass and charcoal for cooking and lighting. These practices not only reinforce poverty and health risks but also constrain economic diversification and climate resilience. Moreover, the country's reliance on hydropower, which supplies approximately 83 per cent of grid electricity, increases energy sector vulnerability to rainfall variability and climate-induced droughts.

57. Women and girls are disproportionately affected by energy poverty and climate risk, both in terms of exposure and opportunity. They account for the majority of the informal rural workforce and shoulder a disproportionate burden of unpaid domestic labour. At the same time, they face structural barriers to financial inclusion, land ownership and participation in decision-making. These intersecting vulnerabilities underscore the importance of gender-responsive climate programming, particularly in rural electrification and livelihood support.

58. The fiscal and macroeconomic context of Mozambique further constrains its capacity to self-finance climate-resilient infrastructure. The country remains classified as a low-income developing country by the International Monetary Fund, with a gross domestic product per capita of just over USD 600 and persistent fiscal deficits. Public investment is constrained by a high debt burden, limited tax revenues and competing priorities across social sectors. The domestic capital market is shallow, and private investment in off-grid energy remains limited due to weak demand, affordability barriers and high perceived risk. As a result, concessional

climate finance plays a critical role in addressing cost-recovery gaps, de-risking early investment, and enabling demonstration effects that can attract future capital.

59. Institutional capacity challenges also remain significant. While Mozambique has made strides in developing a policy framework for off-grid electrification, including the adoption of the 2021 Off-Grid Energy Regulation (Decree No. 93/2021 of 10 November 2021), implementation capacity remains weak. FUNAE, the lead institution for decentralized energy access, lacks the fiduciary systems, staffing depth and technical tools required to manage large-scale programmes or act as a climate finance intermediary. Coordination across key actors, including the Ministry of Mineral Resources and Energy (MIREME), ARENE, and sectoral ministries, is also nascent, limiting the integration of energy and climate objectives into a coherent implementation framework.

60. In this context, the proposed project addresses a genuine and well-documented set of needs. It targets low-access, high-poverty districts with significant climate exposure; it seeks to expand energy access as an enabler of resilience and economic opportunity; and it includes measures to build institutional capacity, support gender-responsive delivery, and crowd in private sector participation. Given the country's limited fiscal space, early-stage market conditions and institutional gaps, the availability of GCF concessional finance is both justified and necessary.

61. Overall, the iTAP rates the potential for the project to address the needs of the recipient as high.

1.6 Country ownership *Scale: N/A*

1.6.1. Alignment with national strategies.

62. The proposed programme demonstrates strong alignment with the climate and energy sector strategies of Mozambique. It directly supports implementation of the updated nationally determined contribution, which identifies decentralized renewable energy as a priority for both mitigation and adaptation. The project is also consistent with 2022 Electricity Law (Law No. 12/2022 of 11 July) and the Regulation for Access to Energy in Off-Grid Areas (Ministerial Diploma No. 93/2021 of 10 November 2021), which together provide the legal and procedural framework for mini-grid deployment and private sector engagement.

1.6.2. AE track record and institutional positioning.

63. Enabel, the AE and EE for the programme, has a long-standing presence in the rural energy sector of Mozambique, including collaboration with the FUNAE on mini-grid pilots since 2012. The partnership has resulted in the commissioning of five mini-grid systems and laid the groundwork for the proposed intervention. The AE also supports national planning institutions such as MIREME and the Unidade de Implementação do Plano de Coordenação de Investimento Público (Integrated Public Investment Coordination Unit) through its broader technical assistance portfolio. However, it should be noted that the AE provides very little direct financial co-financing to the proposed project, contributing less than 0.5 per cent of the total budget. This is atypical for a GCF-funded programme in which the AE plays both a fiduciary and implementation lead role. In the context of the AE's dual role as fund manager and primary implementer, the absence of a tangible financial stake weakens the risk-sharing structure and raises questions about the depth of institutional commitment from the AE.

1.6.3. Government engagement and role clarity.

64. The funding proposal positions FUNAE as the national counterpart and co-EE, with responsibilities focused on site-level implementation and PURE support. However, the programme budget indicates that approximately 70% of FUNAE staff salaries will be covered by GCF funds, raising concerns about long-term institutional sustainability and undermining the notion of domestic co-ownership. The relatively small in-kind contribution (for staff costs) from FUNAE is notable in this context. Moreover, it remains unclear to what extent other key institutions, such as the energy regulator ARENE or provincial authorities, were actively involved in shaping the project design or will play operational roles beyond regulatory compliance.

1.6.4. Stakeholder consultation and inclusion.

65. According to the AE, stakeholder engagement was undertaken between 2021 and 2023, including outreach to civil society, local communities, donor partners and private sector actors. The consultations reportedly informed the prioritization of PURE, gender-responsive design and site-level considerations. However, the available documentation does not provide detail on how feedback from these engagements (particularly from national institutions) influenced design elements such as the clustering model, tariff methodology, or subsidy design. Continued stakeholder engagement is planned during implementation, with an emphasis on inclusion of women, youth and vulnerable groups.

66. Overall, while the project is well aligned with the policy and regulatory frameworks of Mozambique, and Enabel brings a strong delivery track record, the extent of genuine national ownership remains partial. The absence of domestic co-financing, the externalized leadership model, and the proposal to subsidize FUNAE's core salaries through GCF resources weaken the institutional accountability framework. The iTAP considers the country ownership to be moderate, with important foundations in place but also structural gaps that should be addressed during implementation.

67. Overall, the iTAP rates the country ownership of the project as medium.

1.7 Efficiency and effectiveness *Scale: N/A*

68. The proposed programme reflects a pragmatic financial structure, grounded in a clear understanding of the constrained market context in Mozambique and high affordability barriers. It adopts standard international good practice – including competitive tenders, performance-based subsidy disbursement, and private sector co-financing requirements – to promote value for money and mitigate delivery risk. At the same time, several features of the financial and operational model introduce material efficiency concerns, particularly around subsidy intensity, financial assumptions and long-term cost-effectiveness.

69. The project allows for concessional financing of up to 90 per cent of capital expenditures for mini-grids, with developers expected to contribute the remaining 10 per cent through equity or debt. While this level of subsidy may be justified by the country's early-stage private sector, high rural poverty and weak demand profiles, it significantly exceeds typical subsidy ceilings in comparable programmes such as KOSAP (Kenya), BGFA (Zambia, Uganda) and DARES (Nigeria), where capital contributions are typically higher and structured pathways towards lower concessionality are embedded. The projected private sector contribution of approximately USD 3.6 million (8.5 per cent of total project costs) is relatively modest when compared to similar mini-grid programmes in Africa. Initiatives such as KOSAP, BGFA and DARES achieve stronger private sector leverage by integrating more flexible co-financing structures and targeted risk-sharing tools. These include developer-led pipelines, matching grants and partial risk guarantees that reduce exposure to commercial, regulatory, or demand-side uncertainties. In contrast, the proposed programme does not outline a strategy for increasing private sector

investment over time. The absence of instruments such as blended capital facilities, refinancing mechanisms, or guarantees means that developers remain reliant on high upfront subsidies – up to 90 per cent of capital expenditure – with limited pathways towards financial self-sufficiency or replication. While the country's early-stage market may justify a higher concessionality threshold initially, the lack of a transition framework towards lower subsidy levels undermines long-term market development. As currently structured, the project risks entrenching a grant-dependent delivery model rather than catalysing a scalable, investment-grade platform for decentralized renewable energy. To build a more sustainable financing pathway, future iterations of the programme would benefit from embedding structured co-investment tools, risk mitigation facilities and clearer financial incentives for private capital mobilization.

70. The estimated cost per direct beneficiary is EUR 141.3, while the cost per tonne of carbon dioxide equivalent avoided is EUR 70.3 over the 25-year project lifetime. Although these values fall within the broad range observed across GCF-funded energy access operations that combine mitigation and development objectives, they appear comparatively high when benchmarked against similar programmes. For example, the World Bank ASCENT programme (also presented to the Board during this Board cycle) reports a total programme cost of approximately USD 28 per t CO_2 eq (and USD 10 per t CO_2 eq on a GCF-only basis), calculated over a 20-year lifetime. Even accounting for differences in sectoral focus (with ASCENT allocating a significant share to clean cooking) and variations in lifetime assumptions, the proposed project's mitigation cost remains on the higher side. Furthermore, the calculations are presented only in aggregate form, without disaggregated analysis of cost-effectiveness by component or intervention type. This limits the ability to assess the marginal efficiency of specific activities, such as productive use support or capacity-building, that are central to the project's climate rationale.

71. Financial modelling assumptions are broadly defensible, with a 15 per cent financial internal rate of return hurdle rate and 5 per cent discount rate for economic internal rate of return, consistent with GCF precedent. Yet the models rely on optimistic assumptions regarding load growth, productive use uptake and tariff recoverability. No formal sensitivity analysis or downside scenario modelling is provided, despite the clear exposure of rural mini-grid operations to demand-side and affordability risks. This limits confidence in the robustness of the project's financial viability under real-world conditions, especially in the absence of end-user financing or affordability safeguards.

72. The use of RBF is a notable strength, tying subsidy disbursement to verifiable performance metrics and reducing the risk of upfront grant leakage. However, the proposal provides limited detail on how performance will be independently verified, or what governance mechanisms will be used to manage delivery failures, underperformance, or disputes. This is particularly important given the fixed-tariff design and pre-identified site clusters, which may constrain developers' ability to manage commercial risk.

73. While the proposal references lessons from international experience, it does not (as previously highlighted) incorporate several emerging innovations that have improved subsidy efficiency and cost recovery in similar contexts. These include developer-led site selection (DARES, BGFA), indexed tariffs or cost-differentiated subsidy bands and dedicated refinancing platforms (e.g. the Renewable Energy Investment Facility in Nigeria). Nor does the proposal introduce any mechanism to de-risk long-term operation and maintenance costs –a critical omission given the reliance on high upfront capital grants and the absence of recurrent support instruments.

74. In summary, the programme adopts many core principles of good financial practice and offers a credible case for concessionality in a challenging operating environment. However, the combination of high subsidy intensity, rigid tender structures, limited downside modelling and

weak forward-financing strategy constrain the programme's efficiency and cost-effectiveness. Overall, the iTAP rates efficiency and effectiveness of the project as low-to-medium.

II. Overall remarks from the independent Technical Advisory Panel

75. The iTAP recommends that the Board approve this funding proposal. It presents a well-developed and strategically aligned intervention to advance climate-resilient energy access in one of the most climate-vulnerable and underserved countries in the world. The proposal combines mitigation and adaptation objectives through the deployment of solar mini-grids, support for PURE and institutional capacity-building for national counterparts. Its emphasis on inclusive energy access, rural enterprise development and support for national systems reflects a strong alignment with both climate priorities in Mozambique and the strategic objectives of GCF.

76. If effectively implemented, the project has the potential to generate meaningful development and climate co-benefits, including improved resilience in drought- and cyclone-prone communities, increased rural productivity, and enhanced delivery of basic services. The proposal is particularly notable for its attention to gender integration and its attempt to embed lessons from earlier donor-funded pilots into a more systematic delivery platform.

77. At the same time, the iTAP notes several design risks — particularly around subsidy intensity, operational rigidity, and the sustainability of impact post-project. The transformation of FUNAE into a credible national climate finance intermediary, while well-conceived in principle, remains uncertain in practice. Similarly, the program's ability to catalyze a broader shift in Mozambique's off-grid energy sector will depend on how well it manages private sector incentives, financial viability, and long-term cost recovery.

78. Based on the analysis presented above, the iTAP recommends that the Board include the following conditions as part of its approval of the funding proposal:

(a) Condition 1: Condition to first disbursement of GCF Proceeds to the AE:

  (i) Delivery to the GCF, by the AE, of a climate vulnerability-informed site selection framework which shall:

    (1) include geospatial and socio-economic criteria for identifying and prioritizing target sites based on exposure to climate hazards and adaptive capacity;

    (2) specify how climate vulnerability metrics will inform site sequencing and investment prioritization; and

    (3) align with Mozambique's national climate risk assessments and energy access planning tools.

(b) Condition 2: Convenant to be included in the funded activity agreement:

  (i) Include, in the final Operational Agreement between the Accredited Entity, FUNAE and ARENE as applicable to Output 2.3, the following content in respect of the mini-grid tender structure:

    (1) the ability for developers to propose alternative or additional sites within pre-screened geographies, based on market demand and technical viability;

    (2) a defined mechanism for post-award cluster adjustment or substitution in response to feasibility assessments; and

(3) transparent criteria and governance processes for evaluating and approving such adjustments, consistent with national planning priorities and regulatory compliance.

(c) Condition 3: Condition to first disbursement of GCF Proceeds to the AE:

(i) Delivery to the GCF, by the AE and in form and substance satisfactory to the GCF Secretariat, of a capacity assessment of FUNAE to serve as an Executing Entity, which shall include:

(1) a time-bound capacity development and fiduciary transfer plan for FUNAE, and

(2) performance benchmarks for phased transfer of implementation and financial responsibilities from Enabel to FUNAE.

Response from the accredited entity to the independent Technical Advisory Panel's assessment (FP290)

Proposal name:	PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy
Accredited entity:	Enabel
Country/(ies):	Mozambique
Project/programme size:	Small

Impact potential
The AE thanks iTAP for its constructive assessment and acknowledges the recommendations to further strengthen the articulation of climate rationale and analytical rigour. The project is fundamentally framed as a climate response, addressing both mitigation (avoiding fossil lock-in in off-grid growth) and adaptation (strengthening resilience of climate-sensitive rural livelihoods). The proposed design integrates climate risk considerations into technology choice, concession structure and PURE targeting. The AE appreciates the suggestion to enhance counterfactual clarity and sensitivity testing and will ensure that implementation tools (including site validation and monitoring) reinforce the robustness and credibility of the project's quantified climate outcomes.
Paradigm shift potential
The AE appreciates iTAP's recognition of the project's structural ambitions and acknowledges the importance of clearly articulating the transition logic. The programme is designed to operationalize Mozambique's new mini-grid regulatory framework at scale, generating standardized concessions, performance data and institutional learning. Through a structured twinning arrangement, FUNAE progressively strengthens its fiduciary and fund management capacities. While the initial round is grant-intensive due to early-stage market conditions, the project is intended to create the regulatory, institutional and market foundations for future lower-subsidy investment rounds and increased private participation.
Sustainable development potential
The AE welcomes iTAP's assessment of strong sustainable development co-benefits. The project integrates economic, social and gender outcomes within its results framework, particularly through electrification of public institutions and climate-smart PURE applications in agriculture and small enterprises. Monitoring systems include employment proxies, service-level improvements and gender-disaggregated uptake indicators. While climate results remain the primary objective, sustainable development impacts are embedded as reinforcing co-benefits. The AE will ensure that implementation-level monitoring and evaluations capture these wider socio-economic outcomes in a structured and evidence-based manner.
Needs of the recipient

The AE appreciates iTAP's recognition of Mozambique's acute vulnerability and structural constraints. The project deliberately targets rural, climate-exposed, low-access areas where affordability barriers and climate risks create persistent viability gaps. GCF grant finance is justified not solely by macroeconomic conditions, but by the need to internalize non-monetized mitigation and adaptation benefits that are not captured in private cashflows. The intervention combines concessional financing with institutional strengthening and market creation measures to address interlinked climate, institutional and financial barriers that existing facilities are not fully mandated to resolve.
Country ownership
The AE acknowledges iTAP's observations and reiterates that the project has been co-developed with FUNAE and aligned with MIREME and ARENE within the Country Platform framework. The programme operationalizes Mozambique's Electricity Law and off-grid regulations and contributes directly to NDC implementation in rural contexts. The Country Platform serves as a coordination and co-design mechanism, aligning site preparation, tariff discussions and subsidy approaches across donors. While GCF resources finance a significant share of activities, the institutional strengthening pathway is intended to embed systems and standards within national entities for sustained ownership beyond the project lifecycle.
Efficiency and effectiveness
The AE acknowledges iTAP's concerns regarding subsidy intensity and long-term sustainability. Detailed financial modelling of representative mini-grid case studies informed the viability gap assessment and alternative concessionality scenarios. Given low or negative base FIRRs in climate-marginal sites, non-reimbursable grant financing was determined to be the most efficient instrument at this stage. Performance-based disbursement, competitive subsidy discovery and long-term concession obligations are designed to safeguard value for money. The AE recognizes the importance of continued calibration of tariffs, subsidy levels and demand projections during tender finalization.
Overall remarks from the independent Technical Advisory Panel: The AE sincerely thanks iTAP for its thorough and constructive review and welcomes the recommendation for approval. The comments have been carefully considered and are viewed as strengthening the implementation of the programme. We therefore confirm our commitment to fulfilling the proposed conditions.

Annex 8: Gender Assessment and Action Plan

PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy

Version 5, 25 February 2026

1. Introduction and Background

The "PURE Rural Mozambique Climate Project: Driving Mozambique's climate resilience through energy access and climate-smart Productive Use of Renewable Energy" project proposes an integrated, climate-resilient approach to rural electrification that supports both mitigation and adaptation goals. It will deploy 30-40 solar-powered mini-grids across underserved communities and enable the productive use of renewable energy (PURE) technologies that strengthen rural livelihoods and reduce climate vulnerability. The project is structured around four interrelated components: (i) institutional strengthening of FUNAE, Mozambique's national energy fund; (ii) development of a pipeline of investment-ready mini-grid and PURE projects; (iii) construction and commissioning of mini-grids by competitively selected private developers; and (iv) delivery of Results-Based Financing (RBF) subsidies to PURE developers to catalyse the uptake of income-generating, climate-resilient equipment (e.g. solar-powered irrigation, refrigeration, milling, and cold storage).

This assessment intends to describe the context and sociocultural factors underlying climate change-exacerbated social, economic and environmental vulnerabilities and exclusion in Mozambique in terms of gender, as well as age, poverty, rural-urban and other key identities as they pertain to access to, and use of, (renewable) energy.

1.1. Gender Equality and Social Inclusion (GESI)-climate nexus

Gender and social inequality and climate change represent intersecting and reinforcing challenges and threats to Mozambique's most vulnerable individuals' and communities' access to energy, development and well-being potential. The energy sector offers a key opportunity for leveraging transformative and broad-based resilience-building for additional development co-benefits. Often, women are mostly considered through the lens of their vulnerability to climate change or socio-economic impacts, and only minimally regarding their role in advancing climate action. This approach of focusing only on vulnerability risks paternalistically limiting women to

passive beneficiaries and overlooking the opportunity to consider and leverage women's crucial household and community roles. Such roles include water-, food-, and energy-provision and management and intergenerational caregiving, as well as entrepreneurs, natural resource users, and customers. This assessment intends to contribute a dual risk-opportunity perspective to the Funding Proposal, recognising differentiated dimensions of access and vulnerability whilst leveraging gender-responsive and socially inclusive adaptation actions and project interventions to also reinforce outcomes for gender equality in the process. Achieving this vision requires integrating a comprehensive gender analysis to respond to climate threats and optimise the potential contributions of women and men of all ages to building both individual and collective resilience to climate change through the project, whilst also minimising social, gender-related and climate-related risks from project actions.

Box 1: Framework for analysis

The framework for analysis for this assessment comprises three components, namely:

- Drivers, dimensions and outcomes of gender inequality and social exclusion
- Domains of access, control and engagement
- Spectrum of GESI-mainstreaming

This framework builds upon the GCF's GESI appraisal considerations, concerning: i) decision-making participation; ii) access and control over natural resources; iii) access to education and training; iv) access to other services; and v) distribution of socioeconomic benefits. This framework is applied as a guiding outline to understanding gender (in)equality and social in/exclusion, as well as in the domains for influencing and leveraging GESI actions and outcomes, and the potential range of such interventions.

Component 1: Drivers, dimensions and outcomes of gender (in)equality and social in/exclusion

The first framework component (Figure 1) captures how physiological sex/biological differences intersect with social and cultural norms, values and beliefs to determine and shape "sanctioned" roles, responsibilities and behaviours for different identities (women, youth, elderly etc), which manifest in differentiated, interrelated dimensions of gender (in)equality and social in/exclusion. These intersecting factors ultimately result in differentiated outcomes in vulnerability to climate change impacts; opportunities to engage with and benefit from project activities; and potential for project-related risks. Just as the dimensions in this chain manifest in differentiated vulnerability, opportunities and risks, engaging with these dimensions can also have upwards impacts in challenging or changing the sanctioned roles, responsibilities and behaviours (or the perceptions and attitudes towards them), and even the underlying social and cultural norms themselves, producing a transformative effect (see Component 3). The subsections of Chapter 2 are organised according to these drivers and dimensions.

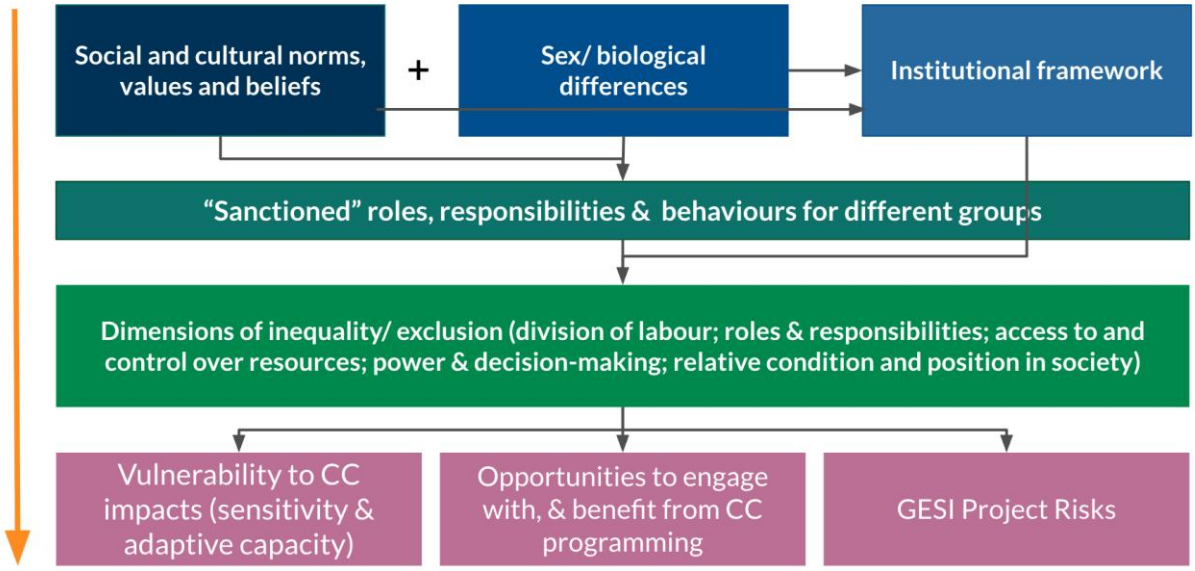


Figure 1: Drivers, dimensions and outcomes of gender (in)equality and social in/exclusion (Author's own)

Component 2: Domains of access, control and engagement

This component (Figure 2) aims to recognise that the drivers, dimensions and outcomes of gender (in)equality and social in/exclusion operate at different cascading scales. Due to the complexity and

intersectionality of the factors discussed in Component 1, the state-of-affairs at one scale, do not necessarily represent the reality for other scales (in either direction) - for example, strong representation of women in Parliament may not be mirrored in rates of participation in local resource management forums, or an individual women's authority in a female-headed household may not extend to her being recognised as a stakeholder in community decision-making. That being said, improvements in GESI at one scale have been shown to support improvements at other scales, through empowering instruments like role-modelling and mimicking, organising and coordination, incubation, or signalling legitimacy and authority. Analysis aims to capture circumstances across these scales, in order to inform project-relevant entry and leverage points for maximising impact and mitigating risk.

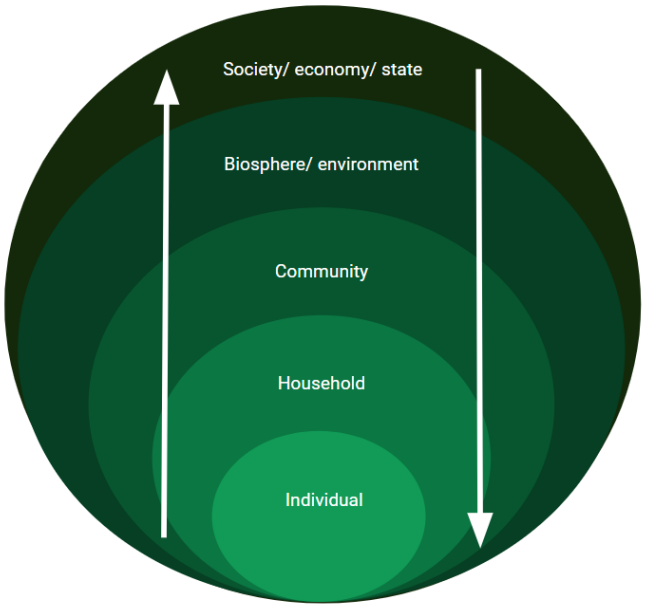


Figure 2: Domains of access, control and engagement (Author's own)

Component 3: GESI-mainstreaming Spectrum

The final component of the analysis framework is used to categorise the degree to which interventions (including activities, projects, policies, programmes etc) incorporate GESI considerations. This helps to situate the potential for actions to increase, reinforce or undermine gender equality. At a minimum, GCF project proposals should aim to be GESI-responsive, and ideally to incorporate a sensitivity and consideration of norms and beliefs to leverage additional -transformative outcomes. Projects should avoid all GESI-harmful and -neutral practices, with appropriate safeguards and grievance mechanisms in place to address any unintended discrimination or exclusion.

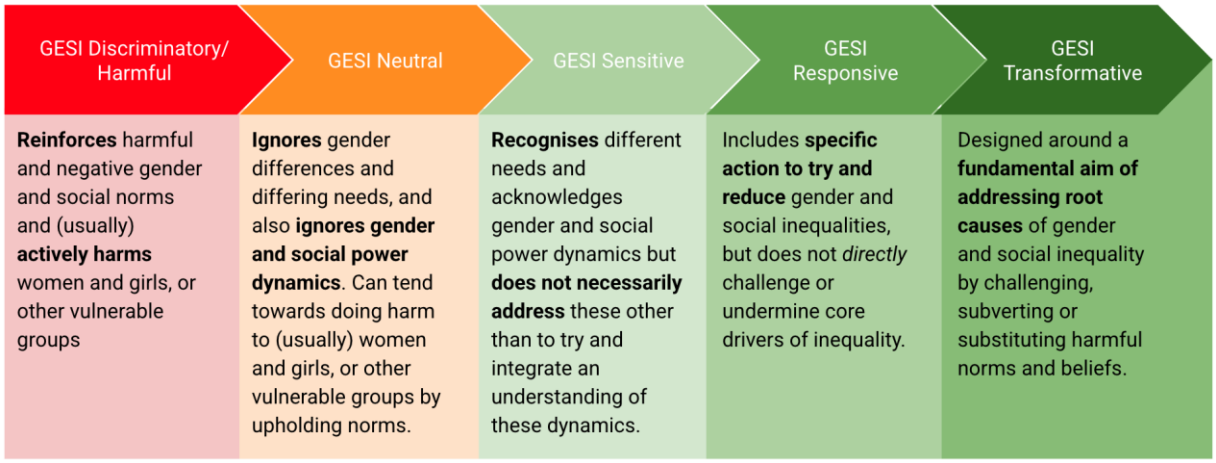


Figure 3: GESI-mainstreaming Spectrum (Author's own)

At the heart of Enabel's approach to gender equality is the Gender Transformative Approach (GTA), which targets the root causes of gender inequality with the aim of going beyond simply reaching and benefiting women and girls. GTA is geared towards instigating transformative change, addressing the underlying factors of gender inequality, including actively challenging discriminatory social norms and behaviours, as well as laws that sustain institutionalised inequality. This transformation addresses the socio-ecological model of change through three dimensions: building agency, challenging unequal power relations, and changing formal and informal social structures. Enabel targets either significant gender mainstreaming or dedicated gender specific actions according to the structure of the OECD DAC Gender markers 1 and 2. Gender equality and inclusion form "non-negotiable standards of activities, practices and policies" according to a dedicated Key performance indicator of the Business Plan. The gender transformative approach includes contextual awareness, intersectional understanding, and meaningful participation of people with the lived experience. It tackles specific needs and barriers faced by vulnerable groups and aims at incorporating a gender and inclusion lens into all stages of programming and decision-making.

Enabel's Gender approach is guided by Human Rights-Based principles, which is operationalised through a dedicated Action Plan grounded in core principles of inclusion, empowerment, and equality.

Key principles of the Enabel Gender Approach:

- Meaningful participation: project development and implementation should be informed by the voices of the women and girls who will benefit from the intervention, and the most vulnerable in the community.
- Intersectionality: Women and girls are not a homogenous group and have different needs and represent different potential and opportunities. Socio-economic factors such as age, gender, geography, ethnicity, and disability might have an impact on lived realities.
- Do no harm: ensure an intervention is not exacerbating pre-existing inequalities and harmful practices as Gender-based Violence or discrimination.
- Empowerment and agency: work towards giving women, girls and vulnerable persons the ability to make informed decisions and pursue one's goals.
- Leave-no-one behind: reach the poorest of the poor and combat discrimination and rising inequalities within and amongst the community, and their root causes.

1.2. Methodology

This assessment was informed by a desktop literature and policy review, and virtual and in-person stakeholder engagement held between April and June 2025. Consultations included Key Informant Interviews (KII) with government ministries, non-governmental organisations, international donors, and private sector players. A record of the consultations is included in the Stakeholder Engagement Plan (Annex 7).

1.3. Table 1: Findings/lessons from previous/ongoing projects

Project	GESI considerations/ outcomes/ lessons-learned	Project application
FUNAE Minigrids	● Conducted community sensitisation meetings during mini-grid deployment to raise awareness on inclusive energy access and encourage participation from all community members. This approach proved effective, as demonstrated by the 2024–2025 sensitisation campaign carried out over a three-month period in five RERD2 mini-grid locations. The campaign successfully reached 2,169 people, including 957 women (44%), reflecting strong community engagement and gender inclusion. Furthermore, as a result of the awareness efforts, five women enrolled in and completed basic electrician courses organized within the villages—showcasing how targeted sensitisation can lead to increased participation in capacity-building activities and begin to address gender gaps in the energy sector. ● Identified and supported women champions to lead by example, promote local engagement, and foster women's visibility in energy-related initiatives. ● Facilitated women's participation in productive use of energy (PUE) by mapping economic opportunities and enabling electricity access for small-scale businesses (e.g., food processing, tailoring, retail). ● Proactively engaged with families and household members to create a supportive environment for empowered women, prevent resistance, and encourage shared understanding of the benefits of women's involvement. ● FUNAE gender group stimulated creation of women's saving groups in communities. ● Applied inclusive practices in site selection and community needs assessments to ensure that the voices of women and vulnerable groups are reflected in project planning and implementation. ● Promoted community savings and loans groups (VSLA-type) to allow access to financial services, especially for women and vulnerable members, enabling investment in energy-enabled businesses and strengthening economic resilience.	● Provide community/provider sensitisation around inclusive energy access ● Targeted engagement strategies ● Inclusive criteria for site selection ● Identification and prioritisation of key PU(R)E appliances ● Ongoing communication and transparency with men/husbands/partners to sensitise on gender and create a safe environment at household level ● Supportive financing interventions

	Working towards institutionalising these practices at the HQ level in maputo and at the provincial level through structured training, gender-responsive monitoring tools, and continuous dialogue with local stakeholders to sustain GESI outcomes over time.	
Shell Foundation "Gender Results Based Financing for Productive Use Appliances"	Shell Foundation, Odyssey Energy Solutions, and CrossBoundary are collaborating to design and pilot a gender results-based financing program for the productive use appliance sector ("Gender RBF"), including clean cooking, in Sub-Saharan Africa. The Gender RBF pilot aims to improve gender outcomes by (1) incentivizing distributors of productive use appliances to target women, and (2) encouraging women to use productive use appliances to improve their livelihoods.	● Populating the impact framework ● Identification and prioritisation of key PU(R)E appliances ● Align incentives across stakeholders ● Provide flexibility ● Ensure accountability ● Provide community/provider sensitisation around new/novel and "women's" PU(R)E products ● Target RBF and products to context ● Engage with/sensitise developers/providers around gender RBF ● Engage with women's groups/cooperatives to enhance women's participation ● Clear and simple objectives, focused on addressing a specific barrier – such as affordability, quality improvement, or accessibility – with simple targets that are easy to measure and track, and indicators that are cost-effective, scalable, replicable, robust, and operationally feasible.
World Bank Gender Assessment of the Energy Sector in Mozambique	The World Bank is currently conducting a gender assessment for the energy sector, which will include a capacity assessment of key institutions such as MIREME, FUNAE, EDM, SPIs, and ARENE. The assessment will also evaluate women's participation in the private sector and conduct a gender and energy needs assessment in selected communities, villages, cities, as well as in strategic public- and private-supported projects.	● Results pending

SNV various projects including BRILHO and GeraSol	● Implementing GESI Result Based Fund grant scheme that provides non-risk-sharing financial incentives to companies to hire, promote and train female employees in key positions in energy value chain in order to influence decisions. In order to access this funding, companies must meet the requirements for creating a conducive working environment. ● Conducted a market assessment to map economic opportunities available in communities through which women can be supported to develop local business and accordingly provided technical assistance to develop business, which included training modules on gender. ● To mitigate against project activities inadvertently producing backlash, benefits capture or GBV within the household, SNV are engaging with men/husbands/partners to sensitise on gender and create a safe environment at household level. ● Working with GoM to create more gender inclusive and sensitive environment by Promoting Gender Equality and Social Inclusion SEAL (GESIS) standard for Off-grid Developers to enforce gender standards and coordinate reporting ● Working with the Commercial and Industry Institute in Nampula to train youth in renewable energy to ensure they can be employed in companies and develop their own businesses in energy value chains.	● Ongoing communication and transparency with men/husbands/partners to sensitise on gender and create a safe environment at household level ● Include gender topics during training/capacity building ● Integrate gender considerations into the partners assessment (energy operators) in the off-grid sector to promote inclusivity and equitable participation. ● Develop and apply clear criteria for the design and implementation of gender incentives within Results-Based Financing (RBF) mechanisms, ensuring they are gender-sensitive and effectively promote women's participation and leadership. ● Apply the "Do No Harm" approach in the design and implementation of women's economic empowerment activities to avoid reinforcing existing gender inequalities or creating unintended negative impacts.
Community Energy and Sustainable Energy Transition (CESET) in Ethiopia, Malawi and Mozambique	SNV and CESET supported the development of the Gender Equality and Social Inclusion SEAL (GESIS) for off-grid projects which offers entry points to create an inclusive environment in the energy transition. The GESIS identifies pillars of intervention and strategic goals to effect social and economic change in the target communities by the energy operators.	● Include GESIS in developer/provider obligations both within their internal operations and in the delivery of energy services to the communities they serve. ● Foster GESI standards among private sector operators, safeguarding women's rights at the workplace.

GET FiT (PROLER)	● Recognises productive-use energy interventions have historically mostly benefited men, due to the typically smaller size (and thus lower energy demand) of women-led businesses. ● Conducting focus group discussions with different community groups during site preparation activities to capture diverse inputs and ensure the process is more inclusive. ● Included “Experience with implementing PUE related grants or initiatives” in prequalification tender for developers. ● Are considering diverse PUE applications, including for social institutions and sectors and roles dominated by women (post-harvest, hair and beauty, sewing and weaving, cooking) as well as technologies that reduce drudgery and time poverty for women and children (i.e. washing, collecting water and firewood) ● Collaborating on TVET technical vocation programme to provide technical skills, including for women. ● Diverse strategies for inclusion at each target group level (SMMEs, institutional customers, household customers and developer-led PUE operators) to promote inclusion of women and address barriers to their participation in the sector. ● KPIs include: Percentage of female minigrid customers, Percentage of females-owned businesses with access to PUE appliances, Percent of female operated PUE activities/businesses, Number of women-owned businesses	● Identification and prioritisation of key PU(R)E appliances ● Indicative RBF indicators ● Targeted engagement strategies ● Acknowledge power imbalance in the energy value chain to be addressed in the PUE activities.

2. GESI and climate change in Mozambique

Climate threats and impacts are described in detail in the Funding Proposal and Feasibility Study, highlighting how energy security/poverty, food security and natural resource-dependent livelihoods are affected by droughts, floods, extreme heat, erratic rainfall and climate-induced environmental degradation. Gender inequalities and dynamics shape how different groups experience and respond to these severe human, ecological, and economic consequences of climate change. Women bear a disproportionate burden from climate-related challenges due to entrenched socio-economic disparities and gender norms and how these factors interact with their livelihood activities and options. The gender implications of climate change are particularly more evident in rural areas where women are more dependent on natural resources (e.g., water and firewood) for food security, income, and household management, where energy insecurity and climate change-induced scarcity increases their labour burden and exposure to indoor pollution. These disparities ultimately also limit their access to productive resources, decision-making power and opportunities, and adaptive capacity, exacerbating their vulnerability in the face of climate shocks. The following sections describe the dimensions of gender and social inequality and exclusion in Mozambique, and how these factors produce differentiated vulnerability to climate change impacts and energy access; opportunities to engage with and benefit from project activities; and potential for project-related risks.

2.1. Laws, Policies, Regulations and Institutional Practices

The key institutions in Mozambique concerned with issues of gender (i.e. the "gender machinery") include the **Ministry of Gender, Children, and Social Action** (MGCAS) and the ministerial **Gender Focal Points**. MGCAS is the primary institution responsible for coordinating gender-related programs, including efforts to combat gender-based violence and promote social protection for vulnerable groups. Gender Focal Points are established in various ministries (including **Ministry of Mineral Resources and Energy** (MIREME), **Ministry of Public Works, Housing and Water Resources** (MPWHW), **Ministry Agriculture, Environment and Fisheries** (MAAP)) to mainstream gender considerations across sectors, including in the ministries responsible for climate resilience and energy transition, (such as the Ministry of Planning and Development, MPD). This institutional framework is supported by a robust legal and policy environment, including the National Gender Policy, aimed at promoting gender equality throughout Mozambique's development processes. These focal points serve as key connectors between the ministry and MGCAS to ensure that gender policies are consistently implemented across all sectors. They monitor gender-related progress within their ministries, ensure compliance with national gender strategies, and report on the integration of gender considerations in various programs. Gender Focal Points also work to raise awareness among ministry staff about the importance of gender equality and inclusion. Within MIREME, a 2021 gender assessment highlighted challenges for mainstreaming gender equality including a lack of capacity and confidence among gender focal points to effectively support gender integration in renewable energy as well as limited knowledge management regarding gender equality across past programmes. The assessment also found that many leadership roles were unaware of gender equality issues, and that gender stereotypes and bias (such as the belief that women are not fit

for technical positions) is still the norm, which hinders the development of gender-responsive programmes. Enabel is currently engaging with MIREME on raising awareness on gender equality within the departments as a crucial step for creating sustainable change in the sector. **Fundo de Energia (FUNAE)** also has a gender focal point and is also receiving support and technical assistance from Enabel to strengthen their gender approach and mainstreaming. The **National Council for the Advancement of Women** (CNAM) also plays a key role in advising the government on gender issues and ensuring that gender perspectives are integrated into national policies. Relevant non-governmental institutions with a focus on gender and energy in Mozambique include the **Mozambican Renewable Energy Association** (AMER), **Lusophone Renewable Energy Association** (ALER), **Mozambican Women in Energy** (MWE).

Mozambique has a constitutional and legal foundation supporting women's participation in governance, livelihoods and public life. These frameworks offer critical opportunities to promote women's leadership and provide protections against discrimination across local governance structures, political systems, and formal/informal institutions. The Government of Mozambique has ratified several key international and regional instruments, including the **Convention on the Elimination of All Forms of Discrimination Against Women** (in 1997), the voluntary **African Charter on Human and Peoples' Rights on the Rights of Women in Africa** (Maputo Protocol), and the **Southern African Development Community (SADC) Protocol on Gender and Development**[1]. These commitments are enshrined in the **National Constitution** (2004) and further reinforced by the **National Gender Policy and Implementation Strategy** (2018) as well as the **National Plan for the Advancement of Women** (2018-2024). Article 36 of the Constitution of the Republic of Mozambique (CRM) states that men and women are equal before the law in all areas of political, economic social and cultural life, whilst Article 53 ensures the right of women to participate in political life and Article 57 mandates the state to promote and support women's emancipation and role in society.[2] The Gender Policy aims to empower women to participate effectively in decision-making processes, as well as to strengthen equal representation of men and women in all government decision-making bodies through quota, with a particular focus on local decision-making spaces. As part of this strategy, Mozambique achieved gender parity in 2022, becoming the third African country to have 50% women in ministerial positions[3]. Other national legislation includes **Family Law** (2004) (establishes equal rights for women in marriage and family matters), **Law on Domestic Violence** (2009) (provides legal protection against domestic abuse), **new Criminal Code** (Law No. 24/2019) (criminalizes sexual harassment, including in the workplace), **Law No. 19/2019** (prohibits the union of children under the age of 18 to prevent and combat early marriages and keep girls in school) **General Statute of State Officials and Agents** (EGFAE) of February 2022[4] (classifies sexual harassment as a serious offense).

[1] https://open.unwomen.org/en/our-reach/MZ
[2] https://cdn.accf-francophonie.org/2019/03/mozambique_const-en.pdf
[3] Moçambique: ONU saúda paridade de género no governo. Disponível em: https://www.dw.com/pt-002/mo%C3%A7ambique-onu-sa%C3%BA da-paridade-de-g%C3%A9nero-no-governo/a-61273031.
[4] Boletim da Republica, 11 fevereiro 2022, Nr 29

Despite these efforts and progress however, significant gender gaps persist. Although Mozambique has nationally gender-inclusive laws and policies, implementation and enforcement remain weak at the local level. Translating legal provisions into meaningful and sustained participation continues to face cultural, economic, and institutional constraints (see Section 2.6). This is driven by institutional biases and capacity constraints but also linked to women's access to resources and literacy, which limit their ability to demand accountability, participate in local governance, or influence institutional change. Another barrier to advocating for participation is due to data gaps to improve gender equality and women's rights strategies and policies in Mozambique. There are still many gaps in the collection and qualitative analysis of this data with regard to women's ability to exert influence in these areas, and their impact on reducing inequalities in access to resources and services.

Table 2 describes how the broader climate and sectoral institutional framework considers and incorporates gender. Although all ministries are required to mainstream gender considerations into all their policies and programs, implementation is uneven. Another gap in the climate-gender framework is in a limited provision of explicitly gender-responsive climate finance mechanisms and projects.

Table 2: GESI in Climate/Energy/Environment Policies and commitments

Policy	Description
MIREME Gender Strategy for the Mineral Resources and Energy Sector and Action Plan (2023-2032)	The Gender Strategy of MIREME provides the overarching framework for integrating gender considerations into all interventions within the energy sector. It ensures that gender indicators are embedded in the sector's strategic objectives at both organisational and programmatic levels. Overall, the strategy recognises the underrepresentation of women throughout the energy value chain and defines organisational and programmatic targets to enhance female representation.
Update of the First Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) (2021)[5]	The NDC update acknowledges support received to (inter alia) "strengthen gender sensitivity in Mozambique's NDC actions" and includes the "Gender Sector" amongst key stakeholders in the implementation modality, amongst other NGO, private sector and civil society actors. However, climate actions and targets do not make explicit mention of women, youth or other marginalised groups (other than to refer broadly to local communities)
National Adaptation Plan (NAP)[6]	Recognises women's enhanced vulnerability exclusion from decision-making processes, and limited access to resources and opportunities,

[5] https://unfccc.int/sites/default/files/NDC/2022-06/NDC_EN_Final.pdf

[6] https://unfccc.int/sites/default/files/resource/National_Adaptation_Plan_Mozambique.pdf

	particularly highlighting exposure to GBV in disaster scenarios. Includes “Increasing the adaptive capacity of vulnerable people – integrating gender and children into policies and actions” as a key action (although with 0.8% of the total budget of the NAP allocated) comprising activities to reinforce basic social protection measures with regard to climate change and strengthening the orientation and targeting capacity of the Productive Social Action Program to increase the resilience of vulnerable groups. Gender is lightly considered across other actions (considering disaggregated risk, gender inequalities in agriculture etc).[7]
Just Energy Transition Strategy	The Just Energy Transition Strategy includes specific gender guidelines aimed at promoting equity and gender equality, emphasizing the need to support the most vulnerable populations: ● Ensuring equitable employment and business opportunities while respecting gender equality and including the most vulnerable segments of society. ● Inclusion of women in the governance of the energy sector and the implementation of programs. ● Electrification as a means of empowering women. ● Accelerated implementation of clean cooking programs (a priority by 2030). ● Support for women's employment in the energy sector through training and education. ● Access to funding and targeted programs for women.
Gender, Environment and Climate Change Strategy	The general objective of Gender, Environment and Climate Change Strategy is to improve the quality of life of the population, in particular women and communities, through mitigation and adaptation to climate change and sustainable use of natural resources. Specifically, this includes: empowering women and local communities, through access to technologies and other activities and the sustainable use of natural resources; ensuring gender equity in the decision-making process, training and environmental capacity building; ensuring plans, policies, programs, strategies and budgets promote gender equity; ensuring that staff and technicians from all environmental sectors have an understanding of gender equity; contribute to Ministry for

[7] However, according to the second national communication to the UNFCCC, there is limited evidence of implementation of any of those objectives.

	Coordination of Environmental Affairs (MICOA)[8] being an institution that actively practices and promotes gender equity in environmental management; and operating MICOA's Gender Department as a national mechanism for implementing and monitoring priority actions in the field of gender, environment and climate change

Box 2: Mozambique's Performance in Key Gender Indices

Under the Gender Inequality Index (GII)[9], which considers indicators of reproductive health, empowerment and labour market (with a lower GII value representing a better performance regarding gender inequality), Mozambique's score has been steadily improving in the past 2 decades, reaching an all-time low of 0.794 in 2020 although slighting increasing to 0.479 in 2023. Whilst still slightly behind the global average, Mozambique is amongst the best performing countries in Sub-Saharan Africa (SSA), behind Cabo Verde, Mauritius, Rwanda, South Africa and Namibia.

In the Gender Development Index (GDI)[10] which measures dimensions of human development: health; education; and command over economic resources, Mozambique's score has similarly been on an upward trajectory in recent decades, although also having lost some progress since an all-time high score in 2020. In this measure, Mozambique is below the global average and is amongst the middle of the pack for SSA cohort.

In the 2025 Global Gender Gap Report (GGGR)[11] Mozambique's gender gap widened since 2024 (-3.9 percentage points) dropping by more than 20 places, converse to a global trend of gender gap improvements. Mozambique ranked 9/36 in SSA and 53/ overall, down from 27th in the previous year. Although the Economic Participation and Opportunity score increased, this overall drop can be attributed to relative decline in scores Health and Survival and most notably, Political Empowerment, whilst Educational Attainment stayed stable both in score and ranking.

Mozambique's Social Institutions and Gender Index (SIGI)[12] latest score was 19.2 (where 0 = no discrimination and 100 = absolute discrimination), below the world average (29.2) and far below the Africa average (39.8). SIGI measures discrimination against women in social institutions, along the various dimensions of discrimination. Mozambique scores strongly in discrimination in the family, and particularly in restricted physical integrity and restricted civil liberties, however scores poorly in restricted access to productive and financial resources.

2.2. Social and cultural norms, values and beliefs

As described in the framework above, social and cultural norms, values and beliefs determine and shape "sanctioned" roles, responsibilities and behaviours for different groups. Such norms tend to be deeply embedded, institutionalised and normalised throughout all areas of life, making them very difficult to change, challenge or even question. These social norms, beliefs and practices can translate into how distinct groups/identities, and by extension, their needs, interests, experiences and expertise are recognised, visible and valued within different spaces and sectors. In Mozambique social and cultural norms determine women's submission in terms of their voice and active participation in the public arena, as well as decision-making and control over their

[8] Now Ministry of Land and Environment (Ministerio da Terra e Ambiente)(MTA)
[9] UNDP (nd). Gender Inequality Index (GII). Available here.
[10] UNDP (nd). Gender Development Index. Available here.
[11] World Economic Forum (2025). The Global Gender Gap Report 2025. Available here.
[12] OECD Development Center. Social Institutions and Gender Index Available here.

bodies and resources, which disadvantages women and girls. These factors contribute to structural limitations in women's access to land, information, health services, education and participation as citizens, including in the political sphere.

Although Mozambique has a cultural tradition of matrilineal communities (particularly in the North of the country), patriarchal norms and values shape gender roles in the country for the most part. Even in the matrilineal systems, whilst property is generally passed from one generation to the next through the mother's relatives, decision-making power is vested in the mother's brother (the maternal uncle), who has the right to distribute property and resources. Additionally, in these areas conservative religious practices often limit women's participation in public life. In the South, women may have relatively greater access to education and employment opportunities in some urban areas, yet male authority is still entrenched in household, community and public leadership.

Productive and reproductive roles (particularly in rural areas) closely follow traditional gender norms, with men being responsible for household providing, front-facing, leadership, financial and commercial positions whilst women are responsible for household management (food, energy, water security), carework of children and elderly, and smallscale/subsistence livelihood activities. Where women fulfill gender-subverting roles, they face additional barriers, challenges and pushback - for example, stakeholders reported how male heads of households refused to allow female solar installers access, citing distrust of their standards, compliance and level of work. Even when women engage in productive or income-generating activities, it is typically men who represent the household in negotiations, financial matters, and business opportunities, reducing women's access to leadership exposure and economic visibility, and occasionally capturing their income and earnings entirely. (See Section 2.3 for further discussion on livelihoods and labour)

The participation of both women and men in decision-making processes is shaped by deep-rooted regional, cultural, religious, and socio-economic factors and power relations. Patriarchal norms continue to position leadership and decision-making as male domains. In many communities, particularly rural ones, leadership is socially constructed as a masculine role, which limits women's visibility and authority in both formal and informal institutions. Women and girls often hold lower status than men, with limited opportunities for leadership and decision-making. Social norms give greater weight to men's voices both within households and in public spaces. These norms significantly limit women's opportunities to voice their concerns at household, mixed-gender group, and community levels. Even when women can express their views, this does not necessarily lead to them influencing decision-making processes. As a result, women's opinions, interests, needs, and concerns are often overlooked. Couples generally do not plan or organize themselves jointly to make efficient and effective use of available resources and opportunities. This dynamic means that women are often less aware of community opportunities or lack access to crucial information, unless specific measures are taken to target them directly.[13] While efforts to promote inclusive governance have made progress, significant disparities remain in terms of who makes decisions, what decisions women are involved in, and what limits their active

[13] Worldbank, Gender View: Gender Responsive Natural Resource and Landscape management: A Mozambique Pilot Programme, 2020, p10.

participation. (See Section 2.6 for further discussion on participation, representation and decision-making)

Stakeholders reported that such systems of male domination amongst leadership at all levels drives data gaps and pushback to gender considerations/mainstreaming. They speculate leadership acts to entrench their power by suppressing disaggregation efforts and opposition/critique, driving a culture of opacity and indifference regarding gender issues. Additionally, further obfuscation is also driven by certain sectors and occupations (like informal markets, house- and care-work) having poor visibility and recognition. This (in)visibility of certain groups can ultimately reinforce existing data gaps, driving GESI-neutral approaches, oversight of key demographics and sectors, and perpetuating myths and misconceptions about participation, thereby upholding cultural barriers/gender norms that continue to drive exclusion.

Polygamous family structures add another layer of exclusion. In many such households, women's autonomy is constrained, especially where male heads or senior wives concentrate decision-making power. Since status is derived from the number of wives a man has, increases in male earning/income prioritises behaviour by marrying additional wives, sometimes at the expense of using such resources to support the wellbeing of his existing household(s). Traditionally the male head would have been expected to provide for all his wives and their families. However, where finances may be limited, stakeholders reported that it is common for only sons and the youngest wife to receive support. In such systems, donors and project implementers (such as FAO) thus work directly with plural wives, rather than through their husbands, in order to avoid capture and ensure equitable beneficiation.

Amongst children, social norms related to gender roles result in inequalities of opportunity between girls and boys. From an early age, boys are raised to become breadwinners, which means their parents prioritise investing in their education. Meanwhile girls are groomed to become future household managers, which limits investment in their education and promotes practices such as early marriage for the sake of family honour. This can manifest in households prioritising schooling for boys, whilst girls (even if they remain in school) will have additional time and labour burdens in the household such as supporting their mothers with household food, energy and water collection and management, and sibling caregiving. Such practices are also contributing to child marriage (48.4 % of women in Mozambique aged between 20 and 24 were married for the first time or in a union before the age of 18, and 12.9 % before the age of 15[14]), early sexual debut, high adolescent fertility rates (153.5 births per 1,000 women aged 15-19[15]), and potentially risk-seeking behaviour as girls pursue (or are pressured to) reduce their burden on their parents.

Notably however, women in Mozambique are not a homogeneous group, and their lived experiences also vary based on religion, rural-urban, marital status, ethnicity, age, and family structure. Specific sub-groups facing additional layers of discrimination and exclusion include:

[14] Institute of National Statistics and Ministry of Health. Mozambique Demographic and Health Survey 2022-23.
[15] UNDP (nd). Gender Inequality Index (GII). Available here.

married girls, unmarried women, single mothers, rural women, widows, girl orphans, sibling caregivers, women with disabilities, HIV+ women, Muslim women.

Failing to recognise, or account for, these norms and expectations during the project lifecycle risks projects underperforming/failing to realise their ambitions when their assumptions and theories-of-change do not hold, or even invoking disapproval and backlash against the project or its targeted beneficiaries. Project developers interviewed described the importance of including and sensitising male household/community members and leadership in activities including women, demonstrating the value and importance of women's participation and empowerment. This approach helps mitigate the risk of pushback, backlash or benefits capture. For example, FAO found that approaches targeting women that also leveraged husbands and male leadership participation were ultimately more effective in producing benefits (in lifestyle, activities and opportunities) for women and their households as a result.

Recommendations within this realm would have the most gender-transformative impacts, where they can promote equality that challenges negative beliefs, norms or expectations. This has mutually reinforcing results, as such values, power structures and cultural architecture often form the underlying causes of inequality and discrimination. Through actions that recognise or even undermine/oppose the structures that perpetuate inequality and exclusion, these structures are undermined and eroded as more egalitarian approaches are proposed in their place. However, given the embedded, institutionalised and normalised aspect of such norms, engaging at this level poses potential risks of pushback and backlash and must be navigated sensitively and diplomatically to avoid producing or exacerbating social disharmony.

2.3. Labour, livelihoods and time use

The gender roles discussed above shape the economic and livelihood activities and opportunities accessible to women and men. Although national level time-use data is not currently available, as of 2023 the Economic Commission for Africa reported that the government was conducting a comprehensive time-use survey. This initiative aims/aimed to recognize the significant contributions of the care economy and alleviate the disproportionate burden of care placed on women.[16] In their National Gender Statistics Assessment, UN Women reported that a time-use survey had been completed previously, but that the data was not usable due to survey design and data collection shortcomings[17]. A 2014 study of time poverty experienced by men and women in rural subsistence households in Mozambique found that gender roles, shaped by patriarchal norms, place heavy work obligations on women. The main findings suggested that, whilst women's labor allocation to economic activities is comparable to that of men, household chores and care work are women's responsibility, which they perform with minimal assistance from men. Women tend to work longer hours and, due to multi-tasking, the work tends to be more taxing.

[16] UNECA (2023) Bridging gender data gaps for inclusive development in Mozambique. Available: https://www.uneca.org/stories/bridging-gender-data-gaps-for-inclusive-development-in-mozambique

[17] UN Women (nd). Mozambique National Gender Statistics Assessment. Available: https://data.unwomen.org/sites/default/files/documents/Publications/Assessment%20of%20Mozambique%20National%20Gender%20Statistics%20System.pdf

The examination of determinants of time poverty show that measures of bargaining power like assets and education do not necessarily affect time poverty faced by women.[18] In rural and peri-urban areas, women and girls are in charge of collecting fuel for domestic chores.[19] 92% of rural households use firewood as the main source of energy or fuel for cooking, followed by charcoal (6%[20]). This represents a toll on their time, as they have to spend 100 hours per year[21] collecting biomass to cover their needs. This is time they could be using in more productive endeavours.

Within work, traditional gender norms have created and reinforced distinct patterns in economic activities that directly impact energy use and technology adoption. While men typically dominate sectors requiring higher energy inputs, such as large-scale agriculture and fishing, women are often concentrated in post-harvest tasks and food preparation activities[22]. Additionally, women across various sectors and levels are more likely to be limited to administrative, office or home-based work due to their domestic and care responsibilities in the household and/or mobility limitations. In contrast, men are more likely to migrate (from rural to urban areas, to South Africa or further abroad) or work away from home in both labour-intensive and technical field-based roles. Migration trends linked to slow onset events disproportionately affect women, as data shows an increase in female-headed households due to men migrating in search of work.[23] OECD reports that women are more likely to be employed in the informal sector (98.4% vs 92.7% of men) and only employed part-time (57.1% vs 42.2% of men)[24]

Patterns of education, training and capacity strengthening (see Section 2.5) further reinforce this gender-based occupational segregation, particularly owing to skills gaps in STEM training and experience. Technical roles ("from electricians to engineers") are predominantly, if not exclusively, male dominated. Although not further disaggregated, the Global Gender Gap Report 2025 reports women make up only 42.35% of Professional and technical workers.[25] Male-dominated management structures and hiring practices are suggested to be less likely to perceive women as suitable candidates for technical roles, even when suitably qualified. Owing to this male bias, working environments are also often not well equipped for female employees, lacking appropriate PPE, facilities, and SEAH and safeguarding mechanisms.

The Mineral Resources and Energy Sector in Mozambique remains predominantly male dominated, with women making up a small fraction of the workforce (particularly technical roles).

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[18] Diksha Arora, 2015. "Gender Differences in Time-Poverty in Rural Mozambique," Review of Social Economy, Taylor & Francis Journals, vol. 73(2), pages 196-221, June. Available: https://www.researchgate.net/publication/278051099_Gender_Differences_in_Time-Poverty_in_Rural_Mozambique

[19] ENABEL (2021): Relatório Inetgraçao Género SE4ALL

[20] INE Data

[21] ALER https://www.aler-renovaveis.org/en/communication/news/equality-as-accelerator-of-universal-access-to-energy/

[22] GOGLA (2025) Powering Progress for PURE: Boosting performance through gender-inclusive business, full report. Available: https://gogla.org/reports/powering-progress-for-pure-full-report/

[23] http://lossanddamage.net/download/7218.pdf

[24] OECD(2025)

[25] World Economic Forum (2025). The Global Gender Gap Report 2025. Available here.

By 2023, only 22% of employees and 30% of managerial positions in public institutions in this sector were women, reflecting a slight bias towards women in office-based roles. Within MIREME, 41% of employees and 56% of leadership positions are women.[26] The highest-ranking woman in the public mineral resources and energy sector is the Chairwoman of the Board of Directors of FUNAE, the only woman currently holding such a position in the sector. The Electricidade de Moçambique's (EDM) Gender Strategy aims to increase female employment to 40% by 2030, compared to their current rate of 19%.[27] Their targeted approach includes efforts to train more women in technical areas and campaigns to increase the visibility of women in technical roles.

In rural areas, agriculture employs 93% of women and 76% of men.[28] Within the agricultural sector, men are more likely than women to be involved in cash crop production, while women provide most of the labour to produce food crops for their own consumption. Men tend to be the front-facing actors in agricultural businesses, even when women are providing the bulk of the labour. Female-headed households, primarily located in rural areas, are the most dependent on agriculture. However, these households are, on average ~20% less productive than male-headed households, particularly in the central and northern regions of the country, due to the quality of and small size of the land, the limited labour available and the low level of inputs for production.[29] As such, these households are disproportionately vulnerable to increased rates of natural hazards as erratic weather patterns, higher temperatures, pests, crop and livestock diseases lower yields and disrupt productivity.

Women's limited mobility and challenges accessing certain jobs means options like small businesses and micro-entrepreneurship may be more accessible to them, navigating around other productive and reproductive duties. Often, such enterprises are extensions of their gendered domains (i.e. in food preparation and cooking, sewing, childcare, "women's products" like cleaning materials etc). However, barriers persist that limit women scaling their businesses to lucrative or commercial ventures. These include financial and business literacy, access to finance/credit (usually owing to lack of collateral), risk of income capture by male family members, access to markets, and cultural norms that often require/expect men to be front-facing actors in business. Amongst large corporate and commercial actors (such as minigrid developers and PURE operators/suppliers) there are very few women-owned or -operated businesses, owing to technical and social obstacles to entry in the male-dominated sector. As projects become more complex and ticket-sizes increase, technical and business capacity gaps become more pronounced for women-owned or -operated developers. Lack of mentorship and role models further exacerbate challenges to gaining access to this competitive industry. OECD reported only 17.4% of firms had female majority ownership and only 15.5% had female top managers.[30]

[26] Data from MIREME, 30 September 2024.
[27] EDM, Annual Statistics Report 2023, p. 53.
[28] Worldbank, Gender Assessment, 2023, p.61.
[29] UN Women, Mozambique Gender Equality Profile 2023, p. 8.
[30] OECD(2025)

2.4. Access to and control over assets and resources

Inequality in income, assets and ownership affects adaptive capacity in the ability to quickly, flexibility and effectively manage climate change shocks and threats. Access, user rights and tenure are often determined through cultural norms around inheritance and position, but are also indirectly moderated through socially sanctioned livelihoods and responsibilities, where informal or domestic needs may not be granted the same priority as commercial or income-bearing interests.

In addition to cultural and social limitations, women are less likely than men to hold government IDs which affects their ability to access and control resources (including land, credit etc) in their own names. In addition to shaping decision-making over their property, this can also expose women to having their income and assets captured or controlled by male family members. Lack of IDs and decision-making over finances are some of the many factors shaping gender inequalities in access to (micro)banking, (digital) financial products, credit etc, which is further compounded by gaps in financial literacy. Due to high eligibility requirements and banks often not offering accessible and suitable products,women prefer to take loans from friends and family rather than formal financial institutions. For their banking needs, informal savings associations are highly popular because they fit women's needs better than formal systems. However, these have natural thresholds and constrain women from growing and expanding their enterprises. Women are also less likely to own collateral to access credits or have sufficient savings to cover set-up/installation costs in loan or PayAsYouGo systems, even when they are able to make monthly repayments. Stakeholders reported that women being unmarried, divorced or widowed was seen as a high risk factor by banks and lenders, driving up the cost of credit. Greater uptake of digital banking tools like evouchers and digital wallets could be beneficial to women in avoiding capture and mitigating against risk of theft, but require IDs, and are dependent on cellphone ownership, energy access and data coverage.

Across all sectors, inequality in rights and access to land and natural resources have a major bearing on available and accessible livelihood activities and adaptive capacity and resilience to climate change impacts. These rights and tenure can also interact with recognition and visibility, particularly in being targeted for project benefits. Mozambique's complex land tenure/use/access regime can shape *de factor* vs *de jure* access and right of use to land and natural resources, including capturing or disadvantaged women's needs and interests in favour of male-dominated commercial pursuits, crop choices, resource extraction etc. Access to land and resources remain limited for women in Mozambique. Despite the legal framework and the presence of matrilineal societies in areas of the country, women have weaker land rights than men.[31] While women have equal rights to own land through the 1997 Land Law, the reality is that land ownership is often registered through customary practices and that in both matrilineal and patrilineal societies, men remain in control of the land and decide on how it will be used.[32]

[31] UN Women, 2023; World Bank 2023.
[32] Worldbank, 2023, p.26.

As entrepreneurs, stakeholders report women struggle to access markets and gain competitive prices, as their cultural position and limited acumen means they lack leverage or negotiation skills to advocate with middlemen. However, collaboration and organisation, in the form of savings and producer groups, allows women to collectively bargain and gain competitive advantages by pooling resources and expertise. FAO found that women's groups were the more successful and sustainable of the organisations they supported, owing to better capacity for self-organising and distributing responsibilities within the group.

2.4.1. Access to Energy

Access to energy is a significant asset for women in their productive and reproductive roles. Energy can create value in two ways: firstly, directly through income-generating activities (like powering a grain mill), and secondly, indirectly by improving education, health, and gender equality within communities[33]. Men and women have differentiated experiences of energy access (uses, priorities, cost, impact etc) that should be considered when designing interventions in this sector. Research has found that when women/women-headed households gain access to energy and unlock economic opportunities, there are more significant health, wellbeing and resilience impacts for the household. This includes outcomes like better nutrition, improved school attendance for youth, avoiding early marriage and early pregnancy.

Access to energy (especially lighting) in public facilities and areas has also contributed to better security, safety and ability to store vaccines and medicines, power medical equipment and illuminate medical procedures. For example, AMER and GOGLA reported how electrification in a birthing facility allowed for better postpartum care and social support by preventing the need for midwives to "hold torches in their teeth" during night births or to dangerously risk haemorrhaging by delaying stitching until the morning, whilst also allowing for extended visiting hours[34]
Access to the internet in particular, was cited as a key transformative impact, for allowing beneficiaries a view to a world beyond their own lived reality and a demonstration of the possibilities and opportunities available.

Stakeholders at MIREME reported that "women do not see the value in energy" such that energy access is not necessarily a priority for women, who would prefer more immediate inputs. This can be attributed to a lack of awareness, especially in contexts where women are excluded from decision-making over finances and spending. For example, the Shell Foundation pilot found that, although repayment rates for women were higher than for men, local operators struggled to reach women customers directly, especially in rural areas.

However, access to electricity alone does not guarantee productive energy use. Other crucial factors include access to financing, technical knowledge, people's skills, government policies,

[33] GOGLA (2025) Powering Progress for PURE: Boosting performance through gender-inclusive business, full report. Available: https://gogla.org/reports/powering-progress-for-pure-full-report/

[34] https://www.lerenovaveis.org/contents/lerpublication/amer-e-gogla_2023_dez_adaptation-and-resilience-in-the-face-of-climate-disasters-in-mozambique_4757.pdf

available infrastructure, market access, social relationships, and community characteristics[35]. To this end, initiatives like the Gender Equality and Social Inclusion SEAL (GESIS) are specifically concerned with ensuring gender equality in the energy sector, so that all participants have safe and equal access to resources, and can be involved in decision making processes, and everyone is treated fairly and with dignity; and that all participants have equal opportunities, regardless of their backgrounds, to achieve their full potential in life. GESIS is an incentive-based system for energy operators to improve their performance in matters of gender equality and social inclusion. By signing up to GESIS they are signing up to support increased economic performance, improved productivity, and increased rates of innovation and impact.[36]

2.4.2. Access to Productive Use of Renewable Energy (PURE)

GOGLA's 2025 report "Powering Progress for PURE: Boosting performance through gender-inclusive business" outlines the various gender transformative and impactful opportunities for Productive Use of Renewable Energy (PURE). They highlight how the low(er) visibility and recognition of women's productive and reproductive contributions to economic activity (see Section 2.2) drives gender-neutral approaches to energy access and productive technologies. These ultimately lead to the development of technologies and business models that inadvertently exclude or underserve women despite their significant economic presence. Instead, PURE product use, availability and eligibility should reflect activities and behaviours aligned with traditional gender roles, interests and needs, including how these interact with climate vulnerability and economic behaviour. This necessarily requires understanding women's energy usage and constraints to access (see Box 3), while also leveraging their strengths as customers, entrepreneurs, and agents of change.

PURE impact on women is predicated through two avenues, namely appliances/uses that directly increase income/savings and appliances/uses that save or extend available time. This latter avenue is particularly relevant for women, who face more pronounced time poverty and labour drudgery owing to their household and care responsibilities, as well as safety and mobility constraints to operating and engaging in activities after dark. For example, water pumps can reduce the time and labour women and children spend collecting water, enabling alternative economic activity or attending school, whilst lighting can allow for longer trading hours, after-dark travel, or time spent working/doing homework. These avenues ultimately produce far reaching impacts including increased productive time, income generation and diversification, improved health and well-being benefits, and strengthened empowerment and decisionmaking, all of which would support building climate resilience for women.

Women farmers and women entrepreneurs are often perceived as less productive than their male counterparts because of inequalities in access to technology, energy, land, labour, agricultural inputs (e.g., fertilizer and improved seeds), and information[37]. As such, gender-responsive PURE

[36] https://cesetproject.com/sites/default/files/GESIS%20white%20paper_FINAL.pdf
[37] World Bank. 2019, Profiting from Parity- Unlocking the Potential of Women's Businesses in Africa in Progress for PURE

can have transformative impacts in reducing inequalities in productivity, earning and income by addressing these existing gaps in access to assets and equipment. PURE technologies can be especially transformational for daily business operations for women in various value chains such as agricultural, commercial, and industrial businesses. However, GOGLA also highlights the significant knowledge gap regarding how these technologies can serve women's energy needs. While PURE activities from SMEs, agriculture, and retail can greatly benefit from increased electricity access, the ability to realize these benefits is not equally distributed. This sector-wide limitation has stunted the development of innovative solutions and viable business models that could both generate revenue and effectively address women's distinct needs as PURE consumers.[38]

BOX 3: CHALLENGES AND LIMITATIONS IN TERMS OF A GENDER FOCUS IN THE GLOBAL PURE SECTOR [39]

- Off-grid solar and PURE companies, impact investors, donors, FinTechs and agriTechs often adopt gender neutral approaches that do not address women's needs
- Many PURE companies compartmentalize gender programming, which can lead to deprioritization when other business challenges arise. Additionally, PURE companies often have limited resources and in-house expertise to guide effective gender-inclusive strategies.
- Off-grid companies and impact investors also struggle to scale or integrate customer-centric approaches that can lead to more insights into the different needs of women and men. This is often due to constraints in funding, capacity, pipeline or other business challenges.
- PURE companies may feel overwhelmed by general barriers to expanding customer bases to include women, and low-income or rural customers. Many incorrectly assume that adaptations needed for products, financing or services will not be financially viable.
- Women often face limited access to information and decision-making power when adopting new technologies. Their ability to finance new approaches or assets is constrained by factors such as limited collateral (e.g., land ownership) and restricted access to financial services.
- Time- and labour-saving assets can help women use their time more efficiently. But rural women are less likely than men to access or own labour-saving tools, whether for reducing time on unpaid household labour (e.g., biodigesters) or facilitating agricultural production (e.g., weeders, seeders, spreaders, ploughs, tractors).
- Existing PURE technologies, especially labour-saving tools are often designed for men, making them too large, heavy, or impractical for women. Many women also find them to be too dangerous to keep near children.
- Even when PURE companies have good sex-disaggregated consumer data, they often lack the skills to analyse or apply it to business operations such as research and development (R&D), marketing, sales, financial products, and customer care.
- Limited supportive policies and incentives from governments to recognize and address the gender gap in PURE, including lack of targeted subsidies or regulatory frameworks that could help overcome barriers women face in accessing and benefiting from PURE technologies and services.

Projects and programmes are deploying different strategies to ensure access and applicability of PURE to women, such as including both income-generating and time-saving appliances in their offerings, focusing on social institutions and roles dominated by women (e.g. post-harvest, cooking and sewing, domestic industry), providing extra funding/better subsidies to operators

[38] GOGLA (2025)
[39] GOGLA (2025)

supplying certain groups and applying standards like the GESIS. GOGLA outlines 5 key elements to ensure gender-responsive PURE[40], including:

- Research and Product Development: Deeply understand women's context and constraints. Design products that align with their ergonomic needs, safety requirements, and efficiency demands while accounting for their physical capabilities and time limitations.
- Marketing and Customer Acquisition: Develop women-centric marketing using female role models, targeted messaging, and appropriate communication channels. Create accessible purchasing environments with women-friendly spaces and female sales agents.
- Financing and Purchase: Implement flexible financing that accommodates women's irregular income patterns and limited collateral. Options may include Pay-AsYou-Go (PAYGo) options, group lending schemes, and partnerships with microfinance institutions.
- Implementation and Support: Provide training and support that fits women's schedules, covering technology use, business skills, and ongoing advisory services. Extend support to include market linkages and installation assistance.
- Ongoing Engagement and Growth: Place women in leadership roles across sales and technical positions to create role models and challenge stereotypes. Systematically collect gender-disaggregated data to drive continuous improvement.

Gender-responsive PURE technologies are discussed in Table 3 below, along with their economic and climate impact.

[40] GOGLA (2025)

Table 3: Mapping of PURE Technologies and Impact[41]

Sector/Value Chain	Women's Role/ Activity	Relevant PURE technolog(ies)	Potential Impact (incl. Climate adaptation)
Domestic/ household	Women are predominantly responsible for/skilled in water and fuel collection, food management and cleaning within the household. Children, especially girls, also support with these tasks.	Lighting Water pumps Grinder/Mill Refrigerators/Coolers Efficient (electric/pressure/induction) cookers/kettles) Washing machines[42]	Increased productive time (time saving, extended labour time, extended study time for children) Income generation and diversification (time saving enables alternative activities, cooking technologies can be used to prepare food for sale, reduced fuel expenditure) Improved health and well-being benefits (avoided indoor air pollution and labour drudgery, avoided safety risks during fuel collection, access to water for consumption, hygiene and sanitation, food security)
Manufacturing and services, domestic industry	Given women's household care responsibilities they often prefer enterprises that can be run from the home and require relatively limited start-up capital. These may even be natural extensions of their existing gendered roles (like cooking or sewing). This can include businesses like sewing (mending, tailoring, piece work sewing, and handicrafts), food and beverage services, haircare/beauty, cellphone-enabled	Lighting Sewing machines Phone charging systems Efficient (electric/pressure/induction) cookers Kettles Juicers Fridges/coolers Ice Machines Hair/beauty equipment (clippers, dryers etc)	Income generation and diversification (productivity, employment) Strengthened empowerment and decision making (entrepreneurship, skills development, access to information) Improved health and well-being benefits (avoided indoor pollution)

[41] Adapted from/inspired by "Annex 3: Mapping of the PURE Ecosystem with a Gender Lens" in GOGLA (2025). Whilst these technologies reflect household/individual level use, the project will deploy appliances/solutions via a PURE Solutions model at the community level - see Section 4 for further detail.

[42] Noting that in Mozambique there are stereotypes against automatic washing machines, that they do not clean clothes well enough compared to manual washing.

	mobile money agents, manufacturing (soap etc), small-scale retailers. PURE expansion could also allow these or other existing enterprises to be scaled or commercialised (e.g. salons, restaurants, bars, mini factories, internet cafes, phone charging stations etc.) or to have extended trading hours.	Internet routers POS systems	
Agriculture	Production: Although cultivation and harvest activities (especially commercial) are predominantly managed by men, women may be more likely to provide menial manual labour (like hand watering) or be concerned with smallscale subsistence crops	Water pumps Irrigation	Increased productive time (time saving) Income generation and diversification (increased productivity) Improved health and well-being benefits (avoided labour drudgery, food security)
Agriculture	Post-harvest: Women are often primarily responsible for the post-harvest processing of agricultural produce including drying and value-added processing. However, processing equipment tends to be owned by men, requiring women to either process by hand (labour intensive) or to travel and pay for their grains to be processed.	Dryers Dehydrators Roasters Oven Mills Hullers Grinders Crushers Threshers Packaging machines Oil presses Cold storage (freezers, fridges, cold rooms)	Increased productive time (time saving for avoiding manual labour or needing to travel to access equipment) Income generation and diversification (increased productivity, value-adding, avoided spoilage) Improved health and well-being benefits (inter-seasonal food security, avoided labour drudgery, avoided spoilage)
Dairy, Poultry, and Livestock	As an accessible small stock, women tend to own and raise chickens to manage food security or to sell to address unexpected costs, rather than necessarily for commercial	Milk chillers/ Cold Storage Egg incubators Brooding systems Sterilisers	Increased productive time (time flexibility) Income generation and diversification (increased productivity, avoided

	entrepreneurship. Within this scope, they usually have decision-making power over the sale of one or two animals to cover essential family expenses such as children's education and healthcare. Large-scale and commercially oriented livestock production is generally dominated by men.		spoilage)
Health and Education Institutions	Women have discrete reproductive health needs (pregnancy, birth, breastfeeding) as well as being predominantly responsible for child and elder caregiving, including their access to health facilities and school	Lighting Refrigeration Sterilisers	Increased productive time (time flexibility/extended hours) Improved health and well-being benefits (health access)
Other	Women (and children) are at increased risk of harm of GBV after dark	Lighting (public and household)	Improved health and well-being benefits (safety)

2.5. *Education, training and capacity strengthening*

Variability in levels of skills and knowledge, as well as barriers or inaccessibility of additional education and training, contribute to driving inequality in other dimensions, thereby perpetuating gaps and exclusion. Mozambique has relatively low levels of literacy, especially for rural women. Country-wide women's literacy is only 49%, compared to 72% for men[43]. According to the DHS, only 28% of rural women between 15 and 49 are literate, compared to 55% of men.[44] This has profound impacts, limiting their access to vital information, decision-making power, and can impact their confidence. Low levels of literacy have implications for communication, comprehension, knowledge transfer and accessing inputs and services. Illiterate women often struggle to understand new technologies, health information, and their legal rights, which restricts their ability to improve their livelihoods and well-being, as well as prepare for climate change. Consequently, without intentional efforts to include women in communication and decision-making, their ability to benefit from community development and resources remains limited, as their ability to respond and prepare for climate change.

Despite the high number of children initially enrolled in the National System of Education (SNE)(95-97%), less than half of them complete primary school in urban areas (48.3%) and even fewer (18.9%) complete this level of education in rural areas[45]. UNDP reports 3.7 mean years of schooling for girls and 5.7 mean years of schooling for boys[46]. Only 13.2% of the female population aged 25 and older has at least some secondary education, compared to 23.7% of men.[47] UNESCO reports that less than one out of ten Mozambicans have progressed to post-secondary education attendance.

Gender norms and prejudices either explicitly or implicitly deter women/girls from pursuing STEM topics, directing them rather towards humanities and other 'softer' subjects, domestic skills and training, or early-school leaving. Acknowledging these facts, the government has over the years implemented strategies aimed at maintaining girls in school and completing basic education, as well as ending early marriage in the country. 2021 statistical data from the oldest and largest university in Mozambique reveals only 9% of the students are women in STEM related studies compared to 24% of men. As described above, low levels of technical STEM education for girls and women (beginning in junior school levels) compound barriers in access to technical roles. As part of efforts to promote the participation of girls in TVET, the government has exempted girls and vulnerable students from tuition fees and provided them with learning resources. Other projects and organisations like GirlMove Academy, Gaia EcoWatt, MozPark green internships, SOLTRAIN and MWE are working to provide opportunities in technical education for women and girls. Electricidade de Moçambique (EDM) offers girls scholarships for technical education, internships and helps them integrate into the company.

[43] World Economic Forum (2025). The Global Gender Gap Report 2025. Available here.
[44] INE, Moçambique 2022-23 Inquérito Demográfico e de Saúde - Relatório Definitivo, p.59-60.
[45] World Economic Forum (2025). The Global Gender Gap Report 2025. Available here; INEE, 2021
[46] UNDP (nd). Gender Development Index. Available here.
[47] UNDP (nd). Gender Inequality Index (GII). Available here.

Another capacity barrier is challenges for women in converting informal skills and experience (i.e. in cooking, making etc) into formal and commercial skills for business opportunities. This also includes financial literacy and decision-making, both for entrepreneurship as well as for capitalising on digital technologies like mobile wallets and evouchers. Soft skills such as self confidence, self efficacy, leadership, negotiation and advocacy are also barriers to accessing new markets and opportunities.

Notably, stakeholders in the sector highlighted how improvements in education, training and capacity strengthening must necessarily be developed in parallel with market and network access, to ensure women and girl graduates have access to mentorship, internships, employment, further professional development etc.

2.6. Representation, participation, decision-making and leadership

As described above, social and cultural norms dictate opportunities for women to participate in decision-making, governance and leadership as well as the grounds by which they are recognised, respected and acknowledged (or not) in such spaces. Due to proactive efforts and effective quota systems, representation and participation by women in the executive and legislature is strong, including at the municipal level (women held 39.2% of seats in parliament and 27.78% of ministerial positions in 2025[48]). However, at the community and household level, major disparities in participation persist. Women's participation in household and community-level decision-making is constrained by: i) time poverty and unpaid care burdens, reducing women's availability for training or leadership roles; ii) low literacy and limited access to formal education, especially among rural and older women; iii) economic dependence on men, reinforcing male control over financial and commercial matters; and iv) limited representation in formal structures, such as energy committees or user associations, and v) social norms that set women (voice) as submissive to men, which limits them from questioning decisions made by men even in public spaces.

At the community level, women's representation in leadership roles or formal decision-making bodies—such as energy committees, development councils, or user associations—remains limited. Men continue to occupy the majority of public-facing and power-holding positions, even when women are directly affected by the outcomes of those decisions. Ongoing decentralisation efforts and community-based development programmes offer institutional entry points for inclusive participation in local governance and community-based project structures, but also risk producing backlash and pushback or exacerbating women's existing labour burdens if not implemented in a sensitive manner. Women are however increasingly active in informal community structures—such as prayer groups, savings groups, and local associations—which serve as culturally accepted and trusted spaces to develop leadership capacity. For example, FUNAE stimulated creation of women's savings groups in communities.

[48]OECD(2025)

At the household level, women often participate in decisions related to daily survival and domestic management—such as food preparation, childcare, water collection, and energy use for cooking. However, decisions involving household assets, income, land, and engagement with institutions (including energy projects or local governance) tend to be dominated by men. Even when women are the ultimate user or beneficiary for household appliances and energy, final financial decisions for purchasing often still lie with husbands or sons who will also often manage contracts in their own name (due to cultural or practical factors, such as ownership of a national ID). Women heads of household (32% of households in Mozambique)[49] might not face decision-making constraints at household level in the way that married women do, but can have less time available for additional productive activities, especially when they have young children. Lack of time and not having a husband can make it harder for women in this group to participate in community affairs dominated by men or have access to information.to engage in activities that require strength, resulting in increased operational costs when it is paid for.[50]

Familiar and collective approaches, such as family engagement and group-based participation, have been successful in creating a more enabling social environment for women's representation and leadership. Other areas to support and encourage women include the use of role models. AMER and ALER for example, are championing women developers from West Africa, Kenya, and Madagascar in their engagement. One of their members' projects supported the participation of five Mozambique women from rural areas to present their work at a recent conference. There is a specific opportunity to highlight and showcase the existing female ministers, permanent secretaries, CEOs etc at the executive level, to serve as an inspiration and model to others. However, broad support and mentorship for women in the energy sector is still nascent. Mozambican Women in Energy, a local association of women in the sector, faces persistent funding and support challenges. Additionally, gender "champions" of all genders, particularly at the leadership and executive level are largely lacking. Male engagement and advocacy for gender equality in particular has proven to be an effective strategy to reduce resistance, shift perceptions, and promote shared responsibility in decision-making processes.

2.7. Safety, dignity and well-being

A notable GESI consideration is the risk of gender-based violence (GBV), violence against women (VAW), Sexual Exploitation, Abuse and Harassment (SEAH), and other threats to safety and security. Women in Mozambique have a 30% chance of experiencing gender violence in their lifetimes[51].

Several reports have highlighted the increased risk of GBV for women and girls in the aftermath of disasters, especially of transactional sex, sexual exploitation and abuse and early marriages[52].

[49] Moçambique 2022-23 Inquérito Demográfico e de Saúde - Relatório Definitivo, p.13
[50] Worldbank, 2020, p. 16.
[51] OECD (2025)
[52] Pope, D. H., McMullen, H., Baschieri, A., Philipose, A., Udeh, C., Diallo, J., & McCoy, D. (2022). *What is the current evidence for the relationship between the climate and environmental crises and child marriage? A scoping review*. Global Public Health, 18(1). https://doi.org/10.1080/17441692.2022.2095655

Married women in rural Mozambique are also often victims of GBV, often making decisions or demonstrating behaviour against their own interest in order to avoid the risk of generating or increasing situations of GBV.[53] GBV in conflict and post-conflict areas is also particularly pronounced, as the breakdown of institutions and resources drives increased violence. In rural areas/areas without access to energy, women are at heightened risk of GBV after dark due to lack of street and household lighting. This may drive women not to leave their homes or travel after dark, limiting their mobility, social opportunities and labour participation. Additionally, due to the lack of alternatives, girls and women or their families may adopt negative coping mechanisms that include transactional sex, sex work, and early unions.

Although legislation and policy prohibit discrimination, exclusion and harassment in the workplace, such practices still persist particularly amongst male-dominated sectors. Positions in such spaces may also expose women to physical or sexual harm due to lacking facilities (such as bathrooms or changing areas), equipment (PPE) or safeguarding mechanisms. Programmes need to take this reality into account to ensure their interventions don't aggravate GBV. Safeguarding, including sexual harassment, protocols need to be in place and enforced with all partner organisations to ensure women are safe in their workspace.

3. GESI Risks

The project will take particular care to understand, prevent and address potential risks arising from entrenched gender roles and inequalities in access to resources, decision-making, and participation. These risks will be carefully considered to avoid reinforcing or exacerbating gender-based inequality or discrimination, displacing women's socioeconomic participation, or exposing them to circumstances of heightened SEAH or GBV risk. Whilst the actions of the GAP include various measures to limit gender risks, additional mitigations are also discussed below.

Gender-related risk	Description	Mitigation
Stakeholder exclusion	Failure to adequately include gender and vulnerable groups concerns in the program's planning phase and implementation Due to social and cultural norms dictate opportunities for women to participate in decision-making, governance and leadership as well as the grounds by which they acknowledged (or not) in such spaces.	Adopt different engagement approaches, such as individual, familiar and collective and group-based participation to create a more enabling social environment for women's representation and leadership. Ensure adequate mechanisms for women and vulnerable groups participation in consultations Plan an adequate communication strategy with due attention to linguistic, ethnic/culture and religious considerations.

[53] Worldbank, 2020

		Promote targeted participatory and consultative processes to involve communities in critical discussions around siting, access, maintenance, costs and benefits as well as sustainability and future scale- up plans of the mini-grid project.
Sexual exploitation, abuse, and harassment (SEAH) and/or Gender-based Violence (GBV)	Risks related to influx of foreign labour in rural communities (e.g. STDs, SEAH) Safety and security issues during construction and operation of mini-grids GBV arising from unequal power relations between those providing and those receiving project benefits. Attendance at project activities (consultations, trainings etc) may expose women (and men to a lesser extent) to SEAH/GBV risks. (Specific risk screening to be determined during site-level feasibility assessments)	SEAH management and survivor-centric GRM channel described in the ESS framework. Include SEAH and GBV monitoring, reporting and management mechanisms for eligibility amongst mini-grid developers and PURE developers. Include SEAH risk screenings during pre-feasibility site assessments being frontloaded by SNV. Integrity and SEA policy provides for zero tolerance against GBV, (sexual-) harassment, abuse, discrimination etc.. Enabel has a strict no retaliation policy (legal protection) and guaranteed mechanism for confidentiality and anonymity of whistleblowing accessible online (Report an integrity problem - Enabel - Belgian Development Agency |). This allows any stakeholder within or outside Enabel to report concerns regarding discrimination, abuse, harassment, corruption and many other potential sources of abuse. Those are dealt with by an independent audit and integrity service" which is a control body that reports directly to the Board of Directors. Enabel has SEA focal points in countries with contextualised expertise: they facilitate alerts, support victims of abuse, sensitization on Enabel's policies in relation with SEA actions.

		Enabel also has persons of confidence who have the mandate of confidential listening, counselling staff and can put them in relationship with formal actionable reprehensive mechanisms. Those persons compile anonymous and aggregated report of incidents to the intention of competent authorities at the Belgian level (mechanisms provided by Belgian legislation). Enabel is also currently engaged in deploying similar mechanisms for all countries of interventions. Enabel has dedicated expertise to prevent and respond to gender-based violence, gender transformative educational environments, national coordination on GBV and tech-facilitated GBV response etc.
Reinforcing/ exacerbating gender and social inequality and discrimination	Risk of further marginalising women and other vulnerable groups in economic opportunities	See Gender Action Plan below for measures to promote women's inclusion in energy access and PURE.

4. Project Components

In order to direct gender-responsive, inclusive and safeguarded programme and child-project implementation, the findings of this assessment (and the stakeholder engagement that underscores it) have been incorporated into programme design. However, recognising the nascent nature of the mini-grid and PURE supplier/operator/developer market and the context of pervasive gender and social norms in targeted sectors and communities, this programme must remain pragmatic about realistic targets and ambition within the timeframe of the programme. The approach must balance strategic sensitisation of the market for GESI-integration, with accommodating the maturity and the appetite of the sector and avoiding inadvertently producing backlash or pushback against women beneficiaries. That being said, various interventions in the Gender and Social Inclusion Action Plan below aim to produce paradigmatic shifts in the sector, towards greater receptivity and appetite for inclusive and transformative interventions, targeting and standards.

This assessment informed the following design elements for determining key selection and implementation components for the programme child projects:

- **Sensitisation/engagement**: Highlighting GESI considerations during knowledge sharing and (inclusive) stakeholder engagement workshops with the private sector, including discussing expectations/obligations (such as RBF, reporting, SEAH compliance etc), opportunities and key barriers/challenges to anticipate, as well as with potential customers.
- **Eligibility**: Requiring (at a minimum) applicants to demonstrate compliance with/commitment to AE-aligned GESI obligations particularly with regards to safeguarding and SEAH . The relative ambition of these eligibility considerations reflect the anticipated audience for responding to the mini-grid tender process and for accessing the PURE facility , with the majority of mini-grid developers anticipated to be larger, international companies, who are more likely to have sophisticated systems and more advanced representation. Whereas the anticipated PURE developers, potentially include both international and more established national actors, such as aggregators and suppliers, as well as smaller local developers, who may accordingly require more leniency in their GESI performance. Applicants will be expected to demonstrate in their proposals:
    - Mini-grid developers:
        - Institutionalised GESI commitment (e.g. a gender statement, policy, strategy or action plan) such as the Gender Equality and Social Inclusion SEAL (GESIS) (which counterparts are currently campaigning to be made obligatory for all energy sector operators)
        - Presence of operational SEAH and/or anti-harassment policy and protocols (or similar), including institutional or project-based grievance redress mechanism(s)
    - PURE developers:
        - Presence of operational SEAH and/or anti-harassment policy and protocols (or similar), including institutional or project-based grievance redress mechanism(s) or willingness to develop before implementation begins
- **Scoring:** In addition to mandatory eligibility standards, an indicative 5-10% of the technical evaluation score will consist of GESI-related indicators. Detailed scoring architecture will be developed during the tender preparation and contracting phase (Component 2) and during the design of the PURE facility (Component 4) . As in with eligibility, the relative ambition of the scoring considerations will reflect the size, maturity and sophistication of the anticipated respondent pool. Applicants could be scored on the extent of their:

    - Mini-grid developers:
        - Proportion of women, youth, etc employed in senior, managerial and technical roles
        - Commitments on women and youth professional development and training
        - Intention/ambition to hire, train or apprentice local trainees and graduates (including women)
        - Gender focal point assigned within the company

        - Socio-economic development potential such as “potential to provide transformational energy access, enhanced standards of living and economic development”
    - PURE developers:
        - Women’s representation in the composition of the company
        - Existence of an employee database disaggregated by sex, age, and position
        - Commitments/intention on women and youth professional development and training
        - Socio-economic development potential such as “promotion of gender equality in the proposed project implementation, and potential to reduce socio-economic inequalities and/or drudgery and manual labour”
        - PURE Solutions being inclusive, relevant and accessible to men and women (in prioritising which solutions are available, as well as the format in which they are accessed such as affordability, pay-to-use etc)
        - Inclusive and ongoing operations and maintenance, after-sales and user training
- **Siting:** As site selection, assessments and pre-feasibility studies will now be frontloaded – as part of Country platform approach and efforts to align and maximise synergies across funding streams - and carried out by SNV (under the ongoing +SOL project) in collaboration with FUNAE, an initial set of baseline data including GESI considerations will be collected at that stage (conducting baseline GESI assessments to determine site-level GESI indicator baselines, quantitative and qualitative data on men and women’s behaviour, attitudes, opportunities and resources, including willingness and ability to pay; site-based SEAH and GBV screening and risk assessments; considering direct and indirect employment, livelihood and revenue generating opportunities for women and men e.g. water pumps reducing time poverty for women, enabling other economic activity, identify opportunities for developers, suppliers and operators to provide complementary technical assistance, capacity strengthening etc alongside energy/equipment provision; work with the Ministry of Labor, Employment, and Social Security to identify and profile vulnerable/target beneficiaries, including those in the social protection database). . At the start of the project, Enabel will perform a quality review of the data and carry out additional assessments to fill any gaps, and inform the final cluster packages. Further analysis will be undertaken by the preferred bidders as part of their detailed feasibility studies for mini-grids concessions. The project will complement data collection during awareness raising and demand activation activities (Component 2) and include disaggregating key data for profiling the customer base behaviour, attitudes, opportunities and resources, determining social impact and potential, identifying and prioritising GESI-responsive PURE technologies for eligibility (e.g. capturing different stages of value chains, sectors, impact potential, particularly benefitting women, youth and other vulnerable or marginalised users/customers).

- **PURE facility design:** Since PURE solutions will be primarily deployed as solutions that serve groups of customers within the communityoptions[54] (rather than directly to individuals/households), it will be important to ensure the PURE facility design does not exclude or displace women's roles in productive and reproductive activities. Awareness raising and operator's offerings should not inadvertently favour men (as decision-makers, or through appliances or spaces only relevant/accessible to them) and should **provide/offer incentives to ensure the grant recipients offerings are accessible to men and women. Eligible PURE solutions should include sectors, categories and equipment relevant to/ of interest to women**, both as entrepreneurs and domestic managers (especially labour- and time-saving devices) such as in processing and value-addition, small industry, small-stock livestock, efficient cookware/food preparation etc. In addition to requirements for operators to meet GESI standards for eligibility, scoring and reporting, PURE operators should be expected to ensure their offerings are inclusive, relevant and accessible.
- **Contracting:** Contractual arrangements with mini-grid and PURE developers and operators to integrate gender considerations, including gender RBF (see below), disaggregated reporting, ongoing monitoring and reporting of GESI risks such as SEAH, GBV or workplace safety etc.

4.1. Results Based Financing

Numerous recent publications have highlighted the value of gender Results Based Financing as a flexible mechanism to incentivise desired sectoral outcomes and mobilise private funding. These reports highlight that since appropriate mechanisms/pricing/appliances for each target country/community are context-specific, the RBF and accompanying interventions need to be tailored to each market and context.

An indicative 5-10% of the milestones payments for mini-grids and RBF incentives for PURE will be linked to GESI results.

First disbursements would be contingent on satisfactory compliance with the mandatory conditions (such as developing a SEAH policy, if not in place at the proposal evaluation stage).
Examples of potential GESI-linked RBF indicators are outlined below, The specific GESI RBF indicators and their corresponding thresholds willbe defined during tendering and contractual stages, as well as during PURE facility design phase.
This process will ensure that indicators are tailored to site-level conditions and into account findings of the pre-feasibility assessments and private sector engagement.

- Mini-grids/ energy access

[54] Solutions refer to energy systems and applications designed to serve multiple users within a community, enabling productive activities that generate income, improve livelihoods, and strengthen local economies. These solutions prioritize shared access, affordability, and scalability, leveraging renewable energy sources to power equipment for agriculture, small-scale manufacturing, water pumping, refrigeration, or other productive services."

    - Number of female-headed households with access to energy services provided by mini-grids
    - Percentage/of female beneficiaries minigrid customers/connected (target 52%)
- PURE
    - Percentage/number of users accessing using PURE solutions who are women[-owned businesses]
    - Type of productive use, gender disaggregated
- Community
    - Changes in time spent on productive activities, gender disaggregated
    - Changes in monthly income, gender disaggregated
- Safeguarding/SEAH
    - Number of incidents reported, gender disaggregated
    - Number/proportion of incidents resolved with consent, gender disaggregated

Further examples of RBF indicators that can be used to inform site-specific arrangements are profiled in:

- Shell Foundation (2024) *Landscape Analysis & Market Sizing Report Results Based Financing for Productive Use Appliances to Promote Gender Outcomes.* Available here
- GOGLA (2025) *Powering Progress for PURE: Boosting performance through gender-inclusive business, full report*. Available here
- Global Partnerships for Results-based Approaches (GPRBA) (2024) *Improving Gender Outcomes Through Results Based Financing (RBF)* Available here

5. Conclusion

This Gender Assessment has intended to describe the context, background and framework for integrating gender and social inclusion (GESI) considerations within the “PURE Rural Mozambique Climate Project: Driving Mozambique’s climate resilience through energy access and climate-smart Productive Use of Renewable Energy” project.

Key considerations of GESI and climate change conditions and action in Mozambique across various dimensions of gender and social (in)equality and ex/inclusion, as relevant to this funding proposal, include:

- Discriminatory social and cultural norms persisting to determine women's submission in terms of their position, voice and decision-making at home, communities and workplaces, as well as their access to and control over key productive resources.
- Productive and reproductive roles (particularly in rural areas) closely following traditional gender norms, which in turn shape energy needs behaviours, activities and access.
- The energy sector being predominantly male-dominated, with limited opportunities and appetite for including women, compounded by unaccommodating workplace environments and a lack of protective mechanisms for combating discrimination
- Pushback, backlash and suppression of gender activities or women’s empowerment commonly undermining inclusion efforts.

- Women's roles, positions and labour force participation exposing them to greater risks from climate change and other socio-economic disruptions.
- Pervasive barriers to women shifting into more productive livelihoods or commercialising existing activities, such as accessing capital, credit or markets.

The Gender Action Plan (GAP) that follows, intends to action these considerations in ensuring the project activities ensure equitable distribution of project benefits, avoid exacerbating gender and social inequalities and mitigates against project GESI risks. In particular, the GAP highlights opportunities for ensuring PURE opportunities also include women as customers, and agents in their own right.

6. Gender and Social Inclusion Action Plan

Unless empowering interventions are planned and executed to fully understand and address the gender-based inequalities, disadvantages and barriers that women, youth and other excluded identities face, these groups will continue to be marginalised as the climate change impacts worsen. This requires interventions across various dimensions, to recognise and showcase the value and contributions of women and other marginalised groups in the energy sectors, identify and address barriers to their uptake, participation and advancement (including challenging social and cultural limitations that perpetuate exclusion), and safeguard against harm, socioeconomic displacement, or exclusion.

6.1. Operational principles:

- Responsibility for the implementation of the GAP will be the responsibility of the GESI Specialist in the Project Implementation Unit (PIU) working, as necessary, with the FUNAE Gender Focal Point, Project Manager, MEL Specialist, ESS Specialist and Capacity Building Officer, project consultants and sub-contractors, other members of the PIU and the Project Steering Committee (PSC) and supported by government, Enabel and FUNAE sector specialists.
- The approach of the GAP is mostly to embed/mainstream actions within the implementation of project activities, rather than as standalone, delineated budget lines.
- A note on targets: The ambitions of this action plan (and the programme gender approach as a whole) is to promote broad-based representative beneficiation of women, men, youth, PWD etc in an integrated manner, both in terms of energy access and participation in PU(R)E supply and use. However, this assessment also recognises that inequality and underrepresentation in many occupational and entrepreneurial roles in Mozambique is driven by pervasive and embedded cultural constraints and social norms. As such, targets reflecting demographic distributions are neither feasible, nor practical for all indicators at this time, given the high barriers faced by women to access the sector and the (presently) poor attitudes of the sector towards transformation. That being said, deliberate interventions have been included in both the programme design and GAP actions to ensure an ongoing momentum to improving outcomes in these highly inequal areas, and promote a paradigm shift in transforming energy access and PU(R)E appliance solutions use and supply towards a more equitable distribution of actors and beneficiaries. This included gender-transformative interventions engaging market stakeholders and community members, as well as targeting solutions, inputs and assistance towards locations (e.g. households), industries (e.g. cooking) or value chain stages (e.g. in value addition, vending and marketing) where women are better- or over- represented. This latter process will also support recognising these stages as key sectors, audiences and customers in their own right and not overlooked as

secondary to primary production or “expenses” to the core product, thereby also amplifying the status of the women who occupy these roles.

- Action timelines should align to project activity timelines, with the exception of “0 Project Governance and Management, Inception, Cross-cutting actions” which apply in an ongoing/cross-cutting timeline or should be completed during the inception period.
- All people-related data to be disaggregated by gender and age and all GAP indicators and targets are to be fully integrated into the project’s M&E plan. See Monitoring and Evaluation (cross-cutting) for more detail.
- Gender-related risks will be mitigated and managed in line with national and AE safeguards standards, as described in the ESMF.

6.2. Gender Action Plan Table

Activities, Gender Actions	Indicators	Targets	Means of Verification	Budget
0 Project Governance and Management				
Project Steering Committee (PSC) • Include gender focal points from FUNAE, MIREME, ARENE and other key institutions as ad hoc members of the PSC • Include provision for the PSC to consult with the Ministry of Gender, Children, and Social Action (MGCAS) for technical input and oversight, as required • Project Gender and Social Inclusion specialist to report to PSC regularly, particularly on their ongoing engagements with gender, youth, and disability organisations, institutions or machinery	PSC established with GESI representation and reporting mechanisms in place	• By year 1, PSC established with gender focal points from MIREME, FUNAE, and ARENE appointed as ad hoc members, with provision for the PSC to consult with MGCAS for technical input and oversight • Standing agenda include Gender and Social Inclusion Considerations/Updates included in standing meeting agenda and minutes	• PSC TOR • PSC agendas and meeting minutes	Included in PMC budget (~5% of operating costs), with additional support provided under GESI Specialist

• Include standing agenda item on Gender and Social Inclusion Considerations/Updates				
Project Management Unit (PMU) and staffing • Recruit and appoint Gender and Social Inclusion Specialist with an adequate time commitment, clear mandate and authority to lead integration of intersectional gender and social inclusion considerations and to support and advise the PMU and PSC during project implementation • Include expertise or experience with intersectional gender and youth integration as a desirable selection criterion during recruitment/candidate consideration for the other PMU roles, especially the Project Manager, MEL Specialist, ESS Specialist and Capacity Building Officer. • Provide onboarding sensitisation training to all members and levels of the PMU and PSC to ensure they understand the intersectional gender dimensions addressed by the project, including on this gender action plan, GBV and SEAH • Ensure explicit responsibilities for integrating intersectional GESI	PMU includes specific and broad-based GESI expertise	∉ GESI specialist appointed within 3 months after start of project; 40% of PMU are women; 30% of senior, managerial and technical roles hold some intersectional GESI integration expertise or experience; 100% of PMU and PSC receiving intersectional GESI sensitisation, including on SEAH topics by year 1; project Manager, MEL Specialist, ESS Specialist and Capacity Building Officer job descriptions/ terms of referencing outline relevant responsibilities for considering or integrating GESI aspects (and as relevant for other technical staff and consultants - to be determined by the GESI Specialist on a case basis))	• PMU job descriptions/terms of reference • Training records • Employment records	GESI Specialist – fulltime staff EUR 442.050 Other costs included in PMU operational budget (~5% of operating costs), with additional support provided under GESI Specialist role

aspects during project implementation are included in job descriptions or in the terms of references of management, technical staff, and consultants.				
Monitoring and Evaluation (cross-cutting) • Include gender and youth disaggregated (of all people-related data) and GESI-sensitive indicators, methodologies (including use of male and female enumerators/evaluators to manage cultural sensitivities during data collection, sensitivity training, safeguard instruments etc.), and qualitative and quantitative frameworks for reporting on GESI progress and results during ongoing/annual project reporting, progress reports, mid-term reviews (MTR), and terminal evaluations (TE) against this gender action plan • Conduct an annual review of the initial M&E plan and update it as relevant to review disaggregated and gender-sensitive indicators, methodologies, targets and frameworks for clarity, relevance, and suitability • Include GESI specialist/expertise during recruitment for MTR/TE consultants	M&E framework and GAP plan and implementation includes GESI considerations Proportion of actors from vulnerable groups engagement in M&E activities	∉ Disaggregated and GESI-sensitive indicators, methodologies, targets, and strategies for reporting included in M&E framework and reviewed annually; GESI expert and expertise embedded in MTR/TE evaluation team ∉ 52% women; 33% youth engaged in M&E activities for all role categories and levels	• M&E framework and GAP plan • MTR/TE job descriptions/terms of reference • Employment records	50% of time of GESI Specialist indicated for MEL = EUR 221,025.00 as well as EUR 50,000.00 annual discretionary gender mainstreaming spending allowance

• Upskill women and youth in data collection, analysis, and reporting				
Safeguarding (specifically regarding Sexual exploitation, abuse, and harassment (SEAH) and/or Gender-based Violence (GBV) ∉ During outreach and stakeholder engagement with women, ensure ongoing communication and transparency with men/husbands/partners to sensitise on gender and create a safe environment at household level ∉ Include gender sensitisation topics especially when engaging on finance and decision making ∉ Require PMU and other staff employed to undertake SEAH sensitisation training during onboarding ∉ Include SEAH obligations for eligibility amongst mini grid developers and PURE developers (see below) ∉ Establish establishment and operationalise SEAH specific GRM channel with confidentiality standards	SEAH GRM channel established and operational, with annual reporting of incidence and resolution	• SEAH GRM channel established, functional and communicated to stakeholders by year 1 • 100% of staff and workers receiving SEAH sensitisation as part of induction • 100% of SEAH, GBV or workplace incidents resolved or addressed through administration of the ESMF	• Project reporting • Training records	Included in GESI Specialist role, as supporting the ESS Specialist
Co-benefit 2: Gender equality and social inclusion Cross-cutting programme result, wherein the actions/activity level interventions	Proportion of PURE participants (developers, operators, beneficiaries) who are	15% of PURE local operators are women (baseline: ~1%)	• Project reporting • RBF compliance/ reporting	Cross-cutting, captured in GAP activities below.

below contribute to GESI co-benefit in addition to mainstreaming gender into programme outcomes and impact.	women	52% of PURE beneficiaries are women		
Component 1. Institutional strengthening and capacity support for FUNAE				
Outcome 1. Strengthened institutional, organisational, and technical capacities of FUNAE for financially supporting sustainable off-grid energy projects in Mozambique	Number of formal audits or evaluations showing improved compliance with governance and accountability standards within FUNAE	4 formal audits showing improved compliance with gender standards such as GESIS); ongoing implementation of FUNAE Gender Strategy and Action Plan	• Audits	
Output 1.1 FUNAE's governance, accountability and fiduciary systems are reinforced/optimized and operational supporting transparent, accountable, and efficient management of larger-scale climate finance	Percentage of relevant governance and accountability structures and mechanisms established and operational within FUNAE with the project's support that include gender considerations	100% of structures and mechanisms include gender considerations by end of the project	• Project reporting	15% of GESI Specialist Role = EUR66,308.00
Activity 1.1.1 Provide institutional and capacity building support to reinforce the technical, managerial and fiduciary responsibilities within FUNAE to operate as an (inter)nationally recognized funding agency ∉ Include Enabel Expert(s) in Gender and Social Inclusion amongst team supporting on-the-job training and twinning with	FUNAE staff receiving GESI capacity building, training and sensitisation	• 100% of FUNAE project staff, plus two staff members from each FUNAE department receiving standalone GESI training and sensitisation by the FUNAE GESI Specialist as part of induction	• Training reports • Training modules/ curriculum	

FUNAE, particularly in the implementation of the FUNAE Gender Strategy and Action Plan (under development) ⊄ Incorporate gender and social inclusion skills, tools and considerations into cross-cutting training modules for all relevant actors, including leadership (e.g. Gender-Responsive Budgeting in the financial planning module) ⊄ Deliver standalone GESI training and sensitisation for all staff levels ⊄ Include GESI considerations amongst document updates and accreditation support		• Enabel Expert(s) in Gender and Social Inclusion participating in supporting on-the-job training and twinning with FUNAE in implementation of Gender Strategy and Action Plan • 80% of cross-cutting training modules including GESI components, skills, tools and considerations • 50% of outputs from technical assistance including GESI considerations		
Output 1.2 Strategic and institutional frameworks for mobilizing and deploying climate finance from various sources and for effectively contributing to Mozambique's mini-grid Country Platform are adopted and operationalised by FUNAE	Number of relevant strategic governance and institutional frameworks adopted within FUNAE with the project's support including gender considerations	2 frameworks adopted with gender considerations by end of the project	• Project reporting	
Activity 1.2.1 Establish relevant strategic frameworks and partnerships and strengthen the capacity of FUNAE to more efficiently coordinate the mobilization of finance for accelerating the scale up of off-grid projects and programmes	FUNAE gender focal point participating meaningfully in strategic partnerships and frameworks to strengthen the capacity of FUNAE	• FUNAE gender focal point included in internal climate finance mobilisation team, attending 30% of national conferences, workshops, and training	• TOR • Timesheets • Event reporting • Training reports/ curriculum	

• Ensure FUNAE gender focal point is included in the internal climate finance mobilisation team ∉ Include FUNAE gender focal point amongst staff supported to attend national conferences, workshops, and training sessions ∉ Incorporate gender and social inclusion skills, tools and considerations into cross-cutting climate finance training modules for all relevant actors, including leadership (e.g. gender indicators in RBF, non-monetary economic modelling) ∉ Train FUNAE gender focal point specifically in mainstreaming gender in climate finance/proposal writing		sessions supported by the project, and dedicating 10% of time to strengthening GCF procedures, i.e. developing SOPs, trainings, etc. • Climate finance training curriculum includes GESI skills/modules		
Component 2. Project preparation facility				
Outcome 2. The development of mini-grids is supported through grants awarded via regulatory-compliant public procurement processes.	(Outcome indicator n/a)			
Output 2.1 Capacity of potential mini-grid and PURE developers and customers is strengthened and awareness is raised on opportunities for developing mini-grids and PURE solutions in Mozambique	Number of awareness-raising campaign events held with private sector and communities that include GESI content/considerations	150 campaign events include GESI content/considerations by end of project	• Event reporting • Awareness-raising and training materials/ curriculum	25% of GESI Specialist Role = EUR 110,513.00

Activity 2.1.1 Build awareness and capacity among the private sector about opportunities to develop and finance mini-grids and PURE in Mozambique ∉ Include content on GESI considerations during knowledge sharing and stakeholder engagement workshops (expectations, eligibility, opportunities, key barriers) particularly on SEAH obligations ∉ Sensitise/consult with private sector around expectations and attitudes for advancing GESI outcomes, including signposting to technical assistance to foster adoption of GESI standards in their business models. ∉ Emphasise importance and entry-points for ensuring inclusion and accessibility for supported PURE Solutions ∉ Identify, profile and showcase women-, youth-, disability-led developer stories, mentors or role models from other contexts/countries ∉ Undertake stakeholder identification and mapping to identify and target female-owned and -operated developers and private sector actors, mentors and role models to attend or present at	Extent of GESI considerations in private sector sensitisation and engagement strategy and curriculum Proportion of stakeholders engaged from, or representing, marginalised groups, including women, youth and people with disabilities	• 100% of sensibilization curriculum/materials and knowledge sharing and stakeholder engagement workshops include GESI considerations; 3 case studies developed to profile and showcase women-, youth-, disability-led developer stories, mentors or role models by end of the project • 100% of facilitators, consultants etc. organising, hosting or facilitating stakeholder engagements receive sensitivity and inclusive engagement training within 3months of their starting date. • Participation targets will be adapted to the type of engagement. Community-level consultations will aim for 52% women participants, reflecting Mozambique demographic composition, 33% youth, 0.5% People	• Stakeholder engagement strategy and materials • Engagement/ meeting/ training reports	

workshops with dedicated engagement/ outreach strategies ∉ Capacitate facilitators on inclusive engagement techniques to ensure that vulnerable groups are not excluded from the discussions/conversations, seated at the margins, spoken over, interrupted or have their contributions dismissed or disparaged ∉ Engage/hire female facilitators or hosts to encourage participation of female attendees/ overcome social or cultural barriers through role modelling and gender championing ∉ Profile, describe and leverage major funder and financier criteria for GESI mainstreaming to support buy-in ∉ Support and matchmake women-led/owned developers with funders and investors, and with mentors and other female peers ∉ Support youth-led developers in accessing funders ∉ Encourage operators/suppliers to capacitate local operators for ongoing after sales, maintenance, scaling, outreach, marketing etc. ∉ Disaggregate reporting of contributions (feedback, interest		with disabilities or greater depending on the context, to be determined by the GESI Specialist on a case basis		

etc) to identify gender, age and other relevant trends				
Activity 2.1.2 Build awareness and capacity among local PURE operators and potential customers in the targeted mini-grid and PURE areas regarding the potential benefits and opportunities of mini-grids/PURE ∉ Request local service providers to undertake measures to ensure inclusive awareness-raising processes, such as to: ⊄ engage/hire female facilitators or hosts to encourage participation of female attendees/ overcome social or cultural barriers through role modelling and gender championing ⊄ capacitate facilitators on inclusive engagement techniques to ensure that marginalised groups are not excluded from the discussions/conversations, seated at the margins, spoken over, interrupted or have their contributions dismissed or disparaged ⊄ plan and schedule activities at times and locations that are accessible to all	Extent of GESI considerations in customer awareness raising and capacity building strategy and curriculum Proportion of stakeholders engaged from, or representing, marginalised groups, including women, youth and people with disabilities	• 100% of RfP, TOR and contracts for local service providers to include mandate to deploy ensure inclusive awareness-raising processes and include GESI considerations in materials design • 100% of training content/ materials address gender-specific skills gaps, barriers to entry and targeting different audiences, sectors, stages, and industries • Engagement includes 52% women, 33% youth, 0.5% People with disabilities or greater depending on the context, to be determined by the GESI Specialist on a case basis	• RfP, TOR • Stakeholder engagement strategy and materials • Engagement/ meeting/ training reports	

stakeholders. This might involve providing childcare, avoiding activities that require overnight/after-dark travel for women, reducing commitments during 'peak' periods for domestic responsibilities, hosting in neutral venues, etc. Choose venues that are accessible, central, and equipped for a diversity of participants, with ramps and elevators for wheelchairs, bathroom/toilet facilities for men and women, live translation/interpretation etc. ⊄ Develop and implement codes of conduct, meeting principles or safeguards to prevent intimidation, discrimination, or harassment etc. ⊄ Disaggregate reporting of contributions (feedback, training outcomes etc) to identify gender, age, disability and other relevant trends ∉ Service providers to develop awareness-raising materials that:				

⊄ Include content that is relevant to the different needs and interests of men, women etc (e.g. highlighting different technologies and their diverse uses and impacts) ⊄ showcase women-, youth-, disability-led business success stories or role models in sensitisation and training materials ⊄ showcase women, youth, people with disabilities etc. as agents of change in PURE (e.g. including messaging that challenges perceptions of women installers as being untrustworthy for maintaining same standards as men) ⊄ include content/expertise challenging or questioning harmful patriarchal norms and cultural biases, such as those that exclude women from certain activities like physical labour or commercial business, or constrain them to subsistence, domestic or home base activities etc.				

⊄ address gender-specific skills gaps, barriers to entry and targeting different audiences, sectors, stages, and industries. For example, include targeted training in vocational/technical (business/marketing skills, market access, financial and digital literacy) and soft and life skills (governance, leadership, decision-making, self-advocacy, negotiation) for women to empower their participation and bridge skills gaps ⊄ Identify and prioritise GESI-responsive PURE technologies for eligibility (e.g. capturing different stages of value chains, sectors, impact potential, particularly benefitting women, youth and other vulnerable or marginalised users/customers)				
Output 2.2 Pipeline of eligible mini-grid projects and PURE opportunities are defined	Number of cluster information packages finalized that include GESI considerations/data	cluster information packages include GESI considerations	• Project reporting	

Activity 2.2.1 Validate and approve site assessment and clustering of mini-grid sites, including evaluation of PURE opportunities and needs ∉ Carry out quality check and perform additional assessments to strengthen GESI considerations and impact potential to address any gaps in the finalisation of the cluster packages for the tendering which will be handed over to ARENE	Extent of GESI considerations in cluster information packages.	• 100% of cluster information packages include GESI data baselines; updated SEAH risk screening and reviewed targets; and discussion of GESI considerations and recommendations for design	• Project reporting • Pipeline Cluster information packages	
Output 2.3. Mini-grid concessions are tendered, and concession and financing agreements are concluded	Number of mini-grid concessions awarded and financing agreements concluded that meet GESI standards	• 100% of concessions and financing agreements meet GESI standards		
Activity 2.3.1 Establish a collaboration mechanism between the programme and the Mozambican Energy Regulator, ARENE, and award mini-grid concessions ∉ Include desirable criteria in the tender documents for: ⊄ women-led or women-owned developers ⊄ Local presence or ownership (or partnership/mentorship with a local company or operator) ∉ Require developers to report/include in their bids:	Extent of GESI considerations in bid design and scoring architecture	• 100% of tender documents include GESI aligned criteria and bid requirements • 5-10% of bid scoring/ ranking consists of GESI considerations and GESI impacts, in addition to SEAH and GESI policy mandatory standards	• RfPs • Scoring architecture • Meeting minutes	

⊄ Proportion of women, youth etc employed in senior, managerial and technical roles ⊄ Socio-economic development potential such as “potential to provide transformational energy access, enhanced standards of living and economic development” ⊄ Planned and ongoing engagement with local rightsholders and stakeholders ⊄ Intention/ambition to hire, train or apprentice local trainees and graduates (including women) as identified with TVET institutions, AMER and ALER ⊄ Demonstration of/commitment to develop institutional ESS safeguards and due diligence, including for SEAH ⊄ Demonstration of/commitment to develop an institutional code of ethics/ gender policy or adherence to the Gender				

Equality and Social Inclusion SEAL (GESIS) ⋐ Distribute tender documents through women's networks and others support gender outcomes, such as Mozambican Renewable Energy Association (AMER), Lusophone Renewable Energy Association (ALER), Mozambican Women in Energy (MWE) ⋐ Include GESI considerations and impact amongst evaluation criteria/ranking consideration such as the 2X Criteria (see Section 4)[54] ⋐ Deploy gender specialist to support ARENE on concession tendering and evaluation process.				
Activity 2.3.2 Formalise contractual arrangements between FUNAE and the private mini-grid developers in line with the concession agreements ⋐ Include GESI indicators amongst RBF milestones payment metrics (e.g. proportion of women customers, level of servicing to female-headed households, local operators, local community members trained in maintenance - see Section 4 above) (5-10% of milestones payment envelope) ⋐ Provide technical assistance to help the developer integrate GESI standards into their business models	Extent of GESI in mini-grid developer/ operator contracts	• 100% of developer/operator contracts include GESI considerations, including 5-10% of milestones objectives and indicators, M&E requirements and instutitional/governance standards (e.g. SEAH policy		

Component 3. Solar Mini-Grid Construction Facility				
Outcome 3. Reduced emissions across Mozambique due to mini-grid installation and operation	Outcome indicator n/a			
Output 3.1. Solar mini-grids constructed by private mini-grid developers	Output indicator n/a but does contribute to " Core 2: Direct and indirect beneficiaries reached " as well as "Co-benefit 1: Job creation and local economic development": Number of jobs (part time or full time, formal and informal jobs) created through mini-grid and PURE deployment	15% of part time or full time, formal and informal jobs created held by youth or women	• Project reporting	Covered under proportion of GESI Specialist MEL role
Activity 3.1.1 Construction of the solar mini-grids by the SPVs ≠ In alignment with the ESS frameworks, conduct ongoing monitoring and reporting of GESI risks such as SEAH, GBV or workplace safety ≠ Disaggregate employment by gender, age, type of job and other relevant trends	(See Safeguarding, above)			
Activity 3.1.2 Verify milestones related to the mini-grid construction financial support mechanisms and disbursement of the financial support ≠ Include GESI milestones for disbursement (10-15% of RBF window)	Proportion of mini-grid customers who are women	52% of mini-grid beneficiaries/customers are women		

∉ Disaggregate customer connections by gender/gender of head of household				
Component 4 – Climate-smart PURE Facility				
Outcome 4 Increased resilience and livelihood generation for vulnerable communities in Mozambique	Number of people in local communities benefiting from PURE services (indirect beneficiaries : people that use the services)	52% of indirect beneficiaries benefitting from PURE services are women	• RBF reporting • Project reporting	
Output 4.1 Climate-smart PURE solutions installed and operational	Number of PURE appliances solutions deployed and operational via RBF subsidy mechanism established under the project Also contributes to "Co-benefit 1: Job creation and local economic development": Number of jobs (part time or full time, formal and informal jobs) created through mini-grid and PURE deployment	52% of users/ customers of PURE solutions are women 15% of part time or full time, formal and informal jobs created held by youth or women		Covered under proportion of GESI Specialist MEL role plus 10% of GESI Specialist Role = EUR 44,205.00
Activity 4.1.1. Design dedicated facility for supporting PURE implementation ∉ In accordance with Component 2 pre-feasibility, design appropriate and relevant for targeting (e.g. gender-responsive solutions (see Table 3) in eligible equipment types, location, accessibility, financing mechanisms according		1 gender-sensitive facility designed		

to willingness to pay, affordability etc)				
Activity 4.1.2. Implement and manage the PURE facility for supporting PURE solutions ⋵ Include inclusive language in PURE funding windows, specifically encouraging women, youth etc to apply ⋵ Include desirable criteria in the intake documents for: ⊂ women-led or women-owned developers ⊂ Local presence or ownership (or partnership/mentorship with a local company or operator) ⋵ Require operators to report/include in their proposals: ⊂ Proportion of women, youth etc employed in senior, managerial and technical roles ⊂ Socio-economic development potential such as “promotion of gender equality in the proposed project implementation, and potential to reduce socio-economic inequalities and/or drudgery and manual labour”	Extent of GESI in PURE supplier contracts and offerings	• Pure developers/local operators that are women (15%) • Developer/operator contracts include GESI considerations, including include 5-10% of RBF objectives and indicators, M&E requirements and institutional/governance standards (e.g. SEAH policy (target: 100% of contracts)		

⊄ Planned and ongoing engagement with local rightsholders and stakeholders ⊄ Intention/ambition to hire, train or apprentice local trainees and graduates (including women) as identified with TVET institutions, AMER and ALER ⊄ Inclusive and ongoing operations and maintenance, after-sales and user training ⊄ Demonstration of/commitment to develop institutional ESS safeguards and due diligence, including for SEAH ⊄ Demonstration of/commitment to develop an institutional code of ethics/ gender policy or adherence to the Gender Equality and Social Inclusion SEAL (GESIS) ⊄ Include in subsidy agreements for operators to gender disaggregate reporting of customers, business profiles, loan/product financing and repayment, outreach, types of				

	products purchased etc. (5-10% of RBF envelope) ∉ Include GESI considerations and impact amongst evaluation criteria/ranking consideration (5-10% of scoring)				