UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

SUSTAINABLE DEVELOPMENT GOALS

Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Towards sustainable energy for all: Promoting market-based dissemination of integrated renewable energy systems for productive activities in rural areas
GEF ID:	9225
UNIDO ID:	150263
GEF Replenishment Cycle:	GEF-6
Country(ies):	Mozambique
Region:	AFR - Africa
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs[1]:	N/A
Stand-alone / Child Project:	Not applicable
Implementing Department/Division:	ENE / CTI
Co-Implementing Agency:	N/A
Executing Agency(ies):	Ministry of Land, Environment and Rural Development (MITADER), Ministry of Energy and Mines Resources (MIREME), Ministry of Agriculture and Food Security (MASA), Ministry of Education and Human Development (MEC), National Sustainable Development Fund (FNDS), Energy Fund (FUNAE); and SADC Centre for Renewable Energy and Energy Efficiency (SACREEE)
Project Type:	Full-Sized Project (FSP)
Project Duration:	48 months
Extension(s):	One (1)
GEF Project Financing:	USD 2,851,384
Agency Fee:	USD 270,881
Co-financing Amount:	USD 11,284,997
Date of CEO Endorsement/Approval:	7/31/2017
UNIDO Approval Date:	8/16/2017
Actual Implementation Start:	10/24/2017
Cumulative disbursement as of 30 June 2022:	USD 2,478,838
Mid-term Review (MTR) Date:	7/8/2021
Original Project Completion Date:	10/24/2021

[1] Only for **GEF-6 projects**, if applicable

Project Completion Date as reported in FY21:	10/24/2022
Current SAP Completion Date:	10/24/2023
Expected Project Completion Date:	10/24/2023 It is planned to extend the project completion date. further elaboration is under section III.2
Expected Terminal Evaluation (TE) Date:	9/30/2023
Expected Financial Closure Date:	9/30/2023
UNIDO Project Manager[2]:	Robert Novak

I. Brief description of project and status overview

Project Objective
The project seeks to promote the market-based adoption of integrated renewable energy systems (solar PV for irrigation and waste-to-energy) in small to medium-scale farms and rural agro-food processing industries in Mozambique. It will provide the necessary catalytic support to create and sustain an environment that is conducive to promoting investments and adopting appropriate RE systems contributing to climate change mitigation and associated environmental and socio-economic benefits to Mozambique.

Baseline
The current legal and regulatory framework that does not provide the appropriate means to incentivize the participation of the private sector in energy generation initiatives for productive activities in rural areas and the private sector is unable to develop projects and programmes which are mainly focused on domestic applications of RE systems. Most of the RE projects that have been deployed, do not target the inclusion of productive or income generation applications and they do not envisage to incorporate alternative financing mechanisms from financial institutions (commercial banks) or grants from multilateral organizations; Market players seldom translate their RE ideas into bankable projects; The REFiT scheme is only applicable to on-grid RE systems. There is still a generalized tendency to rely on fossil fuels (e.g. diesel generators) as well as on wood fuel and charcoal derived from unsustainable exploitation of forests and unregulated cutting of trees to address energy needs at a domestic level. The environment is frequently polluted (soil and water bodies) by dumping of agricultural solid waste and wastewater.

Overall Ratings[3]	**FY22**	**FY21**
Global Environmental Objectives **(GEOs)** / Development Objectives **(DOs)** Rating	Satisfactory (S)	Satisfactory (S)
NA		
Implementation Progress **(IP)** Rating	Satisfactory (S)	Satisfactory (S)
NA		

[2] Person responsible for report content
[3] Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

Overall **Risk** Rating	Low Risk (L)	Low Risk (L)
NA		

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress in FY22
Component 1 – Establishment of a conducive policy and regulatory environment				
Outcome 1: Policy and regulatory environment promoting integrated renewable energy systems in rural areas established				
Output 1.1: Policy framework for private sector engagement integrated renewable energy systems in rural areas adapted and presented for adoption	• Number of established "Policy and Regulatory Taskforces" • Number of workshops conducted on Policy and Regulatory Framework • Number of women participating in the taskforce	N/A	• A Taskforce is established • One Workshop conducted • At least 40% of the taskforce should be women	The activities under this output is completed. No further activities in FY22.
Output 1.2: Guidelines on private sector involvement in renewable energy projects in rural areas developed and adopted	• Number of consultation campaigns conducted • Number of consulted private sector actors • Number of modified, updated and/or new guidelines on private sector involvement in RE projects in rural areas developed and presented to authorities	N/A	• At least 1 consultation campaign conducted considering gender dimensions • At least 10 private sector actors should be approached during the consultation campaign • At least 1 guideline should be generated considering gender dimensions	A comprehensive consultation campaign was undertaken which approached a total of 192 respondents of which 49% are women, representing the views of government offices, financial institutions, private sector agents (renewable energy service providers and farmers), development partners and civil society. The total number of private sector institutions that were approached (through designated representatives) during the campaign is 21 A set of tailor made guidelines considering gender dimensions was generated.
Output 1.3: Standards for typical integrated renewable energy systems for rural areas developed and adopted	• Number of modified, updated and/or new standards for typical integrated RE systems for rural	N/A	• At least one Standard should be developed for the integration of RE systems in rural areas	In collaboration with the Ministry of Mineral Resources and Energy the project held several meetings to agree on the approach to be followed in 2022, in order develop relevant instruments to improve the legal and regulatory framework specifically for small size solar PV and waste-to-energy systems.

	areas developed and presented; • Number of dissemination workshops		• At least one workshop for the dissemination of new standards and information on the integration of RE in rural areas should be conducted	From the various finding that the project gathered from relevant stakeholders there are a few standards already developed for solar PV systems but there is absolutely nothing for waste-to-energy. The ministry (MIREME) has advised the project to start by developing guidelines for both types of systems that will be readily available for use by project developers under the BCI-SUPER credit line. Guidelines will then inform the sector about the most relevant and specific norms that will need to be developed including their priority. MIREME has submitted a formal request to UNIDO, supporting this view and requirement.
Component 2 – Capacity building and knowledge management				
Outcome 1: Capacity of key players strengthened and information available for market enablers and players				
Output 1.1: Five training sessions for fifty (50) government officials at both national and provincial levels on RE integrated systems conducted	• Number of training sessions delivered to government officials on RE integrated systems • Number of attendees (government officials at both national and provincial levels) • Percentage of women attending the training sessions for government officials	N/A	• Five (5) training sessions delivered to fifty (50) government officials at both national and provincial levels on RE integrated systems • At least 40% of participants should be women	To be completed in the next financial year.
Output 1.2: Ten training sessions targeting 250 participants from financial institutions, and private sector organisations on integrated renewable energy Systems conducted	• Number of training sessions delivered on RE integrated systems addressed to financial institutions and other private sector organisations • Number of attendees from financial institutions • Number of attendees from other private sector organisations • Number of women attending the training sessions from financial institutions or other private sector organisations	N/A	• Ten (10) training sessions targeting two hundred and fifty (250) participants from financial institutions and other private sector organisations on integrated RE systems • At least 20% of participants should be women	To be completed in the next financial year.

Output 1.3: Training of universities and vocational training institutions staff (25) on various aspects of integrated RE systems on a train the-trainer basis conducted	• Number of training sessions delivered on RE integrated systems addressed to universities and vocational training institutions • Number of trainers trained from universities • Number of trainers trained from vocational training institutions • Number of women trainers trained	N/A	• Ten (10) training sessions targeting twenty-five (25) academicians from universities and vocational training institutions on integrated RE systems • At least 40% of participants should be women	• A training session on COMFAR Basic level was conducted from 18 April until 22 April, and Advanced level from 25 to 29 of April at the Radison Blu Hotel in Maputo. These workshops brought together 15 participants from FUNAE, BCI, UEM, Ministry of Agriculture and Rural Development and the Ministry of Energy and Mineral Resources. • The COMFAR ToT was offered to 7 participants from FUNAE, MIREME, MADER, UEM and UNIDO as an advanced workshop with a higher level of intensity. It is expected that participants will be able to provide training on financial and economic appraisal of investment projects primarily for their peers in the workplace but it also extensive to other project stakeholders. With this training the project will ensure sustainability and it will contribute to scale up private sector investments beyond the project lifetime. • The COMFAR trainings had 40% participation of women and it will have a direct impact on the efficiency of all involved parties during the operationalization of the SUPER credit line launched in April 2021, in a joint action between UNIDO, BCI and FUNAE, contributing to the prevalence of a systematic approach for the identification, evaluation and monitoring of industrial projects in Mozambique.
Component 3 – Technology demonstration and scaling up				
Outcome 1: Integrated RE Systems demonstrated				
Output 1.1: Demonstration projects on integrated renewable energy systems with about 250kW of installed capacity implemented in selected productive sectors with high visibility and replication potential	• Number of demonstration projects on integrated RE systems installed in rural areas	N/A	• Install demonstration projects focusing in RE systems in productive sectors of rural areas to achieve 250kW of capacity	In October 2021 the project launched a RFP that receive 13 responses. Three (3) projects were considered feasible for implementation and the same number of contracts was signed. The inception reports and the first invoice for all three projects were successfully submitted to UNIDO.
Outcome 2: Investments in integrated RE systems scaled up				
Output 1.2: Financial mechanism established to support the installations of solar water pumping systems for irrigation and Waste-to-Energy projects for agro-food processing in rural areas to achieve 1.2MW of installed capacity	• Number of solar water pumping installations for irrigation in rural areas • Number of biogas digesters for agro-food processing installed in rural areas • Gender-sensitive financial mechanism developed	N/A	• Install thirty (30) solar water pumping systems and thirty (30) biogas digesters for agro-food processing in rural areas to achieve 1.2MW of capacity • The financial mechanism design includes a gender approach	The financial mechanism was launched in April 2021 and since then a total of four technical evaluation waves have taken place and successfully approved (technically) a total of 25 projects, committing a total of MZN56,076,005 (approx.. $876,187) to install a total installed capacity of 234.7kW of renewable energy. The total amount of resources committed represents 87.6% of the guarantee that was made available by the project. The majority of projects (68%) are undergoing financial evaluation by BCI. Since the financial instrument is a revolving fund, the repayment of loans over the years will make available more financial resources for additional loans.
Outcome 3: Increased confidence and awareness of technical feasibility and commercial viability of integrated RE systems				
Output 1.3: Demonstration and investment projects are independently evaluated and results widely disseminated	• Percentage of evaluated projects (number of evaluated projects over	N/A	• 100% of installed projects are evaluated 100% of projects' results are publicly disseminated	To be completed in the next financial year.

	total number projects installed) • Percentage of projects whose evaluated results were publicly disseminated (by any means of communication) • Number of dissemination campaigns		• At least 1 dissemination campaign is conducted with a workshop-meeting specifically targeting rural women	
Component 4 – Monitoring and Evaluation				
Outcome 1: Project progress towards objectives continuously monitored and evaluated				
Output 1.1: Mid-term review and terminal evaluation carried Out	• Number of evaluation reports carried out	N/A	• One (1) mid-term review and one terminal evaluation conducted	In July 2021, the Mid-term review was conducted by a local independent evaluation expert. A presentation of the findings was presented in August 2021 to the project team and UNIDO HQ. Terminal evaluation to be completed in the next financial year.
Output 1.2: Project progress monitored, documented and recommended actions formulated	• Number of progress reports developed	N/A	• At least a progress report developed once a year	2021 Annual Report developed and submitted The project reports progress on a monthly basis through the local UNIDO office representation The project develop monthly newsletters that are circulated among key stakeholders and the general public through e-mail and social media networks.

III. Project Risk Management

1. Please indicate the <u>overall project-level risks and the related risk management measures</u>: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

	(i) Risks at CEO stage	(i) Risk level FY 21	(i) Risk level FY 22	(i) Mitigation measures	(ii) Progress to-date	New defined risk[4]
1	Political and economic instability may drive the project off track	High	Medium	High level of cooperation with SACREEE and high government involvement in all project activities may mitigate the risk.	Although there was a political instability in some part of the country it did not escalate to all parts of the country. The economy was stable and slowly recovering. The current political tension is being observed in multiple locations/regions although still occurring as isolated cases in mainly in Sofala, Manica, and Cabo Delgado provinces. If these tensions escalate to instability the effect will be at a country level, given their strategic location (Manica and Sofala) and economic relevance (Cabo Delgado)	☐

[4] New risk added in reporting period. Check only if applicable.

					There has been high level cooperation with government, especially with FUNAE, MIREME, MITADER and FNDS and they are all aware and involved in project activities. Government involvement is continuously demonstrated by the active participation of key stakeholders in different project events including the PSC that was held in 2022 and the technical evaluation committee activities under the financial mechanism.	
2	Lack of government commitment to integrate project results at local level, or RE technologies use in rural areas into national strategy(ies) on energy	Low	Low	The project integrates activities to provide support to the integration of the findings on national strategies. The project has already identified and discussed the project with partner public institutions to ensure that their representatives provide full support throughout the project implementation and beyond.	The government is very much committed and is supporting the implementation of the project. FUNAE has been the leading stakeholder, chairing and leading all the workshops and meetings. All key government stakeholders have designated staff from their cabinets to represent them in the implementation of project activities when requested.	☐
3	Technologies promoted may not be mature enough for electricity and self-generation in rural areas	Low	Low	The GEF/UNIDO project actively seeks to encourage systems that have been promoted by UNIDO in similar environments and countries such as Tanzania and Rwanda. The South-South cooperation model - especially with SADC countries- will lower this risk by using technologies which were tested and validated in comparable settings. The project also integrates in Component 2 training programmes to establish the required skills to provide operation and maintenance services for these types of technologies. Moreover, the demonstration projects selected pay great attention to the integration and demonstration of operation and maintenance activities to mitigate any potential technology risk.	The project has been focusing on technologies that relay on solar PV for irrigation, food conservation, biomass waste-to-energy and small scale agro processing. Even through there is limited awareness of some of the technologies at a local level, the technologies are mature enough in India, China, Brasil and South Africa and the project is seeking cooperation with relevant technology providers from these countries. Throughout the engagement with civil society organizations that are working in rural areas across the country the relevance and demand for these technologies has been confirmed. A training program aiming to further disseminate, build capacity and facilitate local availability of RE technologies is being developed.	☐
4	Delay in commissioning of demonstration and replication projects and availability of results	Moderate	Moderate	Execution of activities to be implemented under Component 3 are being carried out with the support of national experts-companies with demonstrated and successful past experience. Besides, only mature and proven technologies are being proposed to be installed as demonstration projects. The status of the demonstration projects will be regularly reviewed and any necessary corrective steps will be promptly taken. Finally, the results and lessons learnt will be widely disseminated.	The ADPP demonstration project was implement during the period under review. The contract was signed and 60% of the implementation on the ground was accomplished. Two progress reports were submitted and validated with field visits to project locations. There is however a delay in commissioning the 4 remaining projects due to changes in key feasibility aspects as they were appraised during PPG. Two waves for expression of interest for the general public were launched but both resulted projects that were considered technically weak for implementation. To mitigate this risk, a strategy is under implementation to engage the key private sector stakeholders, provide capacity building on RE technologies and making available attractive financial mechanisms.	☐
5	Relevant stakeholders do not participate/ engage actively in the project	Moderate	Low	A well-structured national dissemination campaign demonstrating the viability of the demonstration projects and outlining the opportunities during project implementation combined with an active dialogue and involvement of associations at the national and local level during the whole project duration will ensure the desired stakeholder response to the project.	There is a continuous process of engaging and drawing closer government and most visible associations. The project has been holding meetings with MITADER and MIREME (including FUNAE). FUNAE has been chairing all the workshops and meetings organized by the project. The project is regularly holding meetings with associations from the agro-processing sector and gradually drawing them closer to the project.	☐

					During field visits the project has been working with local governments at district level to jointly disseminate RE systems as it was the case in Tsangano District (Tete Province) and Macia (Gaza Province). Through local authorities the project has been having direct engagements with farmers associations and other local stakeholders including youth organizations.	
6	Reluctance or lack of interest from stakeholders to actively promote gender equality under the project activities	Low	Low	A thorough gender responsive communication strategy will ensure stakeholders' involvement at all levels including CSOs and NGOs promoting gender equality and the empowerment of women (GEEW). Furthermore, a gender expert will monitor that women are properly and actively engaged in project activities. The demonstration projects also integrate mitigation measures to promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender mainstreaming in the energy field.	The project has been ensuring that gender component is present in most communication materials with stakeholders. It is however necessary to have it done in a more systematic manner and improvements are need in this direction. The project intends to hire a communications expert (prioritizing women), to lead the process of continuous involvement of woman in the project both at stakeholder level as well as in rural communities and beneficiaries.	☐
7	Financial and credit constraints prevent enterprises from investing in renewable energy	Moderate	Moderate	Early dialogue with grant providers will be initiated and the financial mechanism will be fully established which will enable the access to finance for small scale promoters at affordable interest rates. One of the key advantages to invest in small to medium scale renewable energy is the offset of either grid electricity or diesel fuel – both of which are very expensive/unavailable within rural areas of Mozambique. As part of the training under Component 2, a life cycle analysis will be taught to show the lifetime benefits of renewable energy projects, particularly in a volatile fossil fuel market. Demonstrating these benefits is expected to lead to further investment in small to medium scale renewable energy projects. Training will also be provided to local financial institutions so that they fully understand the risks and benefits of small to medium scale RE projects and provide an appropriate financial mechanism	Early in the project lifecycle discussions started to take place with a local commercial bank to provide attractive financial mechanisms that could benefit project beneficiaries. Initially the project was making reference to a third party credit line that was hosted by the same commercial bank simply because it was the most attractive in the market. In the last quarter of 2018 the project started negotiations with the same commercial bank to develop an even more attractive financial mechanism and results of the discussion are very promising. The project expects to have a very attractive mechanism available for use in the last quarter of 2020. Additionally the project decided to give more priority to component 2 activities of training to make sure that more information is provided to project proponents and farmers about the possible uses of RE technologies. The objective is to prepare potential beneficiaries of the financial mechanisms so they are well informed about the technologies. As part of the planned activities after the establishment of the mechanism there is a need to build capacity among credit risk analysis team to improve evaluation skills for RE projects.	☐
8	Diesel price variability	Moderate	Moderate	The criteria used on the project to show the attractiveness of renewable energy systems do not only focus on cost savings, but include other aspects such as energy independence and reliability of supply, as well as local and global environmental benefits. Under Component 3, a decision making tool will be developed to help farmers and other project developers to analyze the viability of PV and Waste-to-Energy projects.	As part of component 2, there are already planned capacity building activities to improve the ability of project developers and farmers to prepare business plans and analyse viability of projects themselves. The market prices for diesel have remained high and stable throughout the reporting period. Fuel prices have increased drastically over the last 12 months which contributes to build the case for more reliance on renewable energy solutions particularly for off-grid and remote locations.	☐
9	Implementation risk	Moderate	Low	Due to capacity issues related to the fragile country situation and in line with	Implementation has been progressing steadily and progress is regularly reported	☐

				discussions held with the government, UNIDO will provide initial execution support. Detailed work plans will be developed in close cooperation with country project partners, stakeholders and developers. Agreed and transparent modus operandi will be defined before the start of the project implementation. The national project manager to be contracted should have experience in working with the RE sector, should be aware of critical issues and should have strong links to the country and regional organizations, such as SADC. All other project execution partners (MITADER, MIREME, SACREEE, UEM, etc.), have previous experience in the development of RE projects in Mozambique.	to key stakeholders in workshops, steering committee meetings and bilateral meetings. The project implementation team has been engaged in identifying and overcoming the barriers that are identified along the implementation period. As an example during the consultation workshops that were held combined with the quality of project proposals received after the call for proposals for demonstration projects it became clear that there is overall low capacity and knowledge to deliver projects. As a result more priority is being given to improve capacity of technology vendors, farmers and project developers.	
10	Sustainability	Low	Low	All demonstration projects include capacity development activities for the project owners/promoters to create a critical mass of skilled personnel to provide operation and maintenance of the demonstration projects. For the scaling-up phase, the financing mechanism established will be linked to operation and maintenance service providers who will support the projects. Furthermore, the project will work with industry associations to ensure that lessons and experience from the demonstration projects are documented and disseminated widely.	During the consultation workshops that were held in 2018 and early 2019, combined with the quality of project proposals received after the call for proposals for demonstration projects it became clear that there is overall low capacity and knowledge to deliver projects. As a result more priority is being given to improve capacity of technology vendors, farmers and project developers.	☐
11	Climate change impacts on the region may affect project development	Moderate	Moderate	The demonstration projects and the projects implemented during the scaling-up phase will include a climate change analysis and will integrate mitigation strategies. An organized schedule and project monitoring will assist in the identification of delays and reprogramming in the execution of activities.	Climate change impacts such as the IDAI and Kenneth cyclones that hit the central and northern regions of Mozambique in 2019 actually contributed to increased demand for sustainable and resilient solutions for rural communities. There is increased demand for project products such as the attractive financial instrument, RE technologies for irrigation, conservation and agro processing.	☐
12	Restrictions imposed by the outbreak of Covi-19 may slow-down progress implementation	Moderate	Moderate	The project will be implemented in conformity with the restrictions set both by the government of Mozambique and by the UN through the Resident Coordinators' office. The project staff will take measures to ensure they remain healthy and avoid exposing themselves or other project stakeholders during implementation; public events will comply with all restrictions and safety measures.	From May 2020 the project staff has been working from home as per UN instructions; The project staff has received the first dose of vaccines and will receive the second dose by September 2021; Key meetings that took place in 2021 including the project steering committee meeting and the technical evaluation committee meeting observed the imposed restrictions and safety measures.	☐

2. If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

N/A

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

The outbreak of COVID-19 has affected the project implementation. the following are the resulted implications on the progress of the project:

- Postponement COMFAR Training that was designed to harmonize knowledge and capacity on evaluation of project proposals and preparation of business plans. The Training was planned be held in March 2020;
- Delays in the fulfilment of conditions for effectiveness of the credit line due unavailability of BCI staff that is working on a rotational basis;
- Limited participation during the Launching ceremony of the financial instrument – CREDITO SUPER. The Launching was set to take place in August 2020; and
- Delays in the implementation initiatives under the Joint declaration signed with UEM due unavailability of University staff that is working remotely from home.

These implications was highlighted during the project mid-term review in July 2021. Based on the review's findings, the project was extended for one year, to end on 24 October 2022, allowing for remedial measures.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

The project faced an unexpected prolonged effect on the national operation of the project, i.e., administrative challenges, as well as logistical and communication obstacles resulting from the COVID-19 pandemic. Due to the need for necessary measures against COVID-19, the Project Steering Committee (PSC) held a meeting in May 2022 to discuss the extension of the project. The meeting resulted in a unanimous decision to request a one-year extension of the project mentioned above to allow for the completion of the following activities:

- Monitoring and concluding ongoing contracts for demonstration projects;
- Conducting a national energy transformation study;
- Developing standards for integrated renewable energy systems for rural areas; and
- Developing follow-up project(s)

It is planned to submit a no-cost one-year extension request to GEF in August 2022. The new end date is 24 October 2023.

5. Please provide the **main findings and recommendations of completed MTR**, and elaborate on any actions taken towards the recommendations included in the report.

- Complete delayed activities of year 2020 (e.g. Activity 1.1.2 Development of Guidelines on private sector involvement in renewable energy projects in rural areas and presentation to authorities).

- To speed up the implementation of the project for all areas that there was no evidence on the ongoing work (e.g., Standards development and dissemination with involvement of INNOQ and others relevant stakeholders in year 2021 as part of component 1).

- As part of component 2 there needs to speed up the action plan for the 5 created UEM working group to make Progress.

The project team has developed a response action to the above MTR findings/recommendations. Activity 1.1.2 has been successfully implemented. The project team is planning to request a 1-year no-cost extension, to allow for remedial measures, the finalization of standards development and dissemination with the involvement of INNOQ and other relevant stakeholders, and monitoring of all ongoing activities to ensure effective implementation of the project work plan.

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

☐ Category A project

☒ Category B project

☐ Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

Notes on new risks:

- *If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.*
- *If these new/additional risks are related to Operational Safeguards # 2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.*
- *Please refer to the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP) on how to report on E&S issues.*

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement	**(i)** Risks identified in ESMP at time of CEO Endorsement	N/A	N/A
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	**(ii)** New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	Delays in the implementation of project activities due to the COVID-19 pandemic	Implementing activities virtually whenever possible

Actions undertaken during the reporting period are on track with the overall implementation and monitoring plans as stated in the ESMP

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

During the PPG phase, a stakeholder consultation process was carried out through: (i) face-to-face individual meetings; (ii) workshops/meetings with larger audiences; and (iii) direct consultation by e-mail or phone. As a result, national and international stakeholders jointly defined the activities to be implemented under the project including the identification of demonstration projects and conduction of feasibility analysis. Major changes from the CEO Endorsement: CNELEC was extinguished and replaced with a newly established ARENE (Agencia Nacional Reguladora de Energia). ARENE is still not fully operational but it holds the same role of CNELEC which was a public entity, endowed with legal, administrative and financial autonomy under the supervision of the Ministry of Energy. The Agency will promote the implementation of

legislation relevant to the electricity sector and evaluate and advocate for the development and expansion of services in accordance with the needs of current and future users.

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

NA

3. Please provide any **relevant stakeholder consultation** documents.

- Project Steering Committee minutes – 5 May 22 (Annex 1)

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress** achieved **on implementing gender-responsive measures** and **using gender-sensitive indicators,** as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

From 2018 to 2019 UNIDO with funding from the GEF, UNIDO partnered with ADPP Mozambique to implement a Farmers' Club program in the Provinces of Zambezia, Sofala and Tetetargeting 2,250 small scale farmers organized in 45 farmers' clubs. The overall objective of the project is to contribute to poverty reduction in the respective areas by promoting local value chains, developing the farmers' business skills, with a focus on women's empowerment and increase the income of the small holder farmers. The key results are as follows:

- Due to the project interventions, all 45 Farmers' Clubs are now registered as associations and are composed of 50 members each with more than 50% women. These groups have received capacity building and development courses such as conservation agriculture, village savings and lending, water harvesting techniques, storage and processing and business planning and management.
- 4,000 small scale farmers (55% women) now have access to solar powered irrigation systems irrigating a total area of 31 ha of land and enabling them to be productive all year around. The installations coincided with the beginning of the rainy season period in which the farmers normally prepare their fields for cultivating. Many of the small solar pumping systems were for this reason stored away for use in the dry season.

Female small holder farmers registered increased crop production as a result of embracing solar powered irrigations systems and are no longer vulnerable to the impacts of climate change dependent on rainy seasons for crop cultivation.

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

In February 2020, the project signed a cooperation agreement with the Eduardo Mondlane University that will allow it to implement several initiatives in partnership with the university including capacity building and knowledge management activities. The project is seeking to use the partnership with the university to host a Renewable energy Cluster, develop short term courses about RE technologies and facilitate the establishment of a RE technology center.

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

The project knowledge management channels include, monthly e-newsletter, website, and social media sites have reached out to over 20,000 people including 120 purposively targeted project partners. These are furnished with not only project updates but also knowledge about relevant renewable energy subjects.

Knowledge management tools:

- Project website: https://www.tse4allm.org.mz/index.php/pt/
- Facebook: @Tse4allm
- Twitter: @Tse4allm

Knowledge management documents the project has generated:

- E-Newsletters: https://us7.campaign-archive.com/home/?u=5ef47fcb867884c266e055b6f&id=94ef7d3201
- Minutes of Project Steering Committee (PSC) meetings: https://xfiles.unido.org/index.php/s/3faf23iWF2DB9YS

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

In 2021 the project signed two contracts for the implementation of demonstration projects in partnership with the Ministry of Agriculture and Rural Development (MADER) and GPS Global (private entity) both interventions with a total amount of U$238,968. GPS Global expressed concerns over the availability of inputs (cashew nuts) caused by floods and excessive rainfall in the previous season that highly affected the project locations at Inhambane province and therefore GPS Global requested the cancellation of the contract. The contract with MADER is under implementation with remarkable progress made in the first half of 202 after an amendment contract was signed in November 2021 to adjust the activity schedule of their project.

In October, The TSE4ALLM project launched the 2021 Call for Demonstration projects through the local newspapers, UNIDO website and social media. The call was seeking to identify local partners for joint implementation of small to medium size pilot projects. The objective was to identify relevant projects and make use of the project balance of approximately USD 250,000.00 (two hundred and fifty thousand dollars) to implement demonstration project on productive uses of renewable energy systems. During the first half of 2022 the project signed contracts with three local private sector organizations namely: (i) AFORAMO, to install RE systems in Maputo, Matola, Inhambane and Manica provinces (total installed capacity of 63kW); (ii) MAKOMANE-ADM, local farmers association to install a total capacity of 23.9kW of integrated systems for irrigation and conservation in Zavala district (inhambane province) and (iii) CHARIS, a local solidarity association aiming to install 93m3/day biogas production systems for local farmers and businesses in Inhambane province. All three organizations have already submitted their inception reports.

From the system scale up window, the project launched the CREDITO SUPER credit line in April 2021. Since then the project received 70 expressions of interest through the project website and provided direct technical support to 40 private sector enterprises which resulted in the completion and onward transmission of 25 bankable proposals to the TEC committing a total of MZN56,076,005 (approx.. $876,187) to install a total installed capacity of 234.7kW of renewable energy. The total amount of resources committed represents 87.6% of the guarantee that was made available by the project. The majority of projects (68%) are undergoing financial evaluation by BCI. Since the financial instrument is a revolving fund, the repayment of loans over the years will make available more financial resources for additional loans.

Additionally the project decided to give more priority to component 2 activities of training to make sure that more information is provided to project proponents and farmers about the possible uses of RE technologies. The objective is to prepare potential beneficiaries of the financial mechanisms so they are well informed about the technologies. As part of the planned activities after the establishment of the mechanism there is a need to build capacity among credit risk analysis team to improve evaluation skills for RE projects.

According to the contract in place, the loan maturity for CREDITO SUPER is 36 months with a grace period of up to 12 months. Based on the effort that was put in place to map potential beneficiaries of the loan, it is highly expected that the first wave of available funds will be absorbed in less than 6 months, meaning that most repayments should start in the last quarter 2022. Upon project completion, the fund should be transferred to FUNAE, but there is considerable transformation that needs to take place to ensure that FUNAE administers the fund effectively. The renewable energy cluster that the project is setting up at the university will play a key role to complement the shortcomings of FUNAE and working jointly these institutions are more capable of delivering the intended results.

The cooperation agreement with the university was signed early in 2020 and currently several initiatives are taking place in order to establish the cluster and support the university to become more oriented to respond to market needs in renewable energy in terms of building capacity, fostering innovation and localization of technologies and facilitating technology transfer to local technology suppliers and service providers.

In July 11, 2022, the government of Mozambique published the new electricity Law following its enactment by the President. The purpose of this law is to define the general organization of the electricity sector and the legal framework for electricity supply activities. More importantly, the new law focuses on an energy transition that is consistent with the country's reality and universal access to quality, efficient and reliable energy, taking advantage of all energy sources, with an emphasis on renewable energy sources and the reduction of use of fossil sources. The legislation governs the functioning of the electricity system and the general rules applicable to production, transmission, distribution and sales activities, including imports and exports, with a view to providing more citizens with access to electricity. The new legislation makes room for private investment in the import and export of electricity, electricity consumption, and energy services.

The new law comes after the approval in September 2021 of a Regulation on Access to Energy in Off-Grid Areas, applicable to mini-grids and energy services for social purposes in rural areas, covering the activities of generation, transport, distribution, marketing, storage, import and export, using mainly renewable energy sources. The regulation also clarifies several relevant issues including the competences and authorizations according to the size of the installation as depicted in the table below. The off-grid systems covered by the TSE4ALLM project fall under autonomous systems and energy services where ARENE is the focal institution for registration. The Decree will be accompanied by specific regulations that will provide Mozambique with a complete regulatory framework, which will act as an anchor for the growth and sustainable development of this off-grid energy sector still to be published in the course of 2022.

The project needs to ensure that it leaves behind robust and sustainable structures that will continually promote the adoption of renewable systems in Mozambique. Both the implementation of the credit line and the cluster need to mature before handing them over to national stakeholders.

The outbreak of COVID-19 has affected the project implementation. the following are the resulted implications on the progress of the project:

- Postponement COMFAR Training that was designed to harmonize knowledge and capacity on evaluation of project proposals and preparation of business plans. The Training was planned be held in March 2020;
- Delays in the fulfilment of conditions for effectiveness of the credit line due unavailability of BCI staff that is working on a rotational basis;
- Limited participation during the Launching ceremony of the financial instrument – CREDITO SUPER. The Launching was set to take place in August 2020; and
- Delays in the implementation initiatives under the Joint declaration signed with UEM due unavailability of University staff that is working remotely from home.

These implications was highlighted during the project mid-term review in July 2021. Based on the review's findings, the project was extended for one year, to end on 24 October 2022, allowing for remedial measures.

The project faced an unexpected prolonged effect on the national operation of the project, i.e., administrative challenges, as well as logistical and communication obstacles resulting from the COVID-19 pandemic. Due to the need for necessary measures against COVID-19, the Project Steering Committee (PSC) held a meeting in May 2022 to discuss the extension of the project. The meeting resulted in a unanimous decision to request a one-year extension of the project mentioned above to allow for the completion of the following activities:

- Monitoring and concluding ongoing contracts for demonstration projects;
- Conducting a national energy transformation study;
- Developing standards for integrated renewable energy systems for rural areas; and
- Developing follow-up project(s)

It is planned to submit a no-cost one-year extension request to GEF in Jul 2022.

2. Please briefly elaborate on any **minor amendments**[5] to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

☐	Results Framework	NA
☐	Components and Cost	NA
☐	Institutional and Implementation Arrangements	NA
☐	Financial Management	NA
☒	Implementation Schedule	Due to the outbreak of COVID-19, the project faced delays in the implementation schedule. The project has been extended one-year to allow for remedial measures.
☐	Executing Entity	NA
☐	Executing Entity Category	NA
☐	Minor Project Objective Change	NA
☐	Safeguards	NA
☐	Risk Analysis	NA
☐	Increase of GEF Project Financing Up to 5%	NA
☐	Co-Financing	NA
☐	Location of Project Activities	NA
☐	Others	NA

3. Please provide progress related to the **financial implementation** of the project.

As of today, the project's financial implementation/ Expenditure stands at USD 2,481,819, out of total GED financing of USD 2,851,384. The project has faced implementation delays due to the COVID-19 outbreak. For this reason, a 1-year no-cost extension will be requested from the GED to allow for remedial measures, and effective financial implementation and monitoring. The remaining project fund is USD 369,564, which will cover all project-related expenses associated with activities implementation and project team salaries.

Below is the project work plan with the allocated fund.

IX. Work Plan and Budget

[5] As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Outputs by Project Component	2021				2022				2023				GEF Grant Budget Available (US$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 – Establishment of a conducive policy and regulatory environment													
Outcome 1: Policy and regulatory environment promoting integrated renewable energy systems in rural areas established													
Output 1.1: Policy framework for private sector engagement integrated renewable energy systems in rural areas adapted and presented for adoption													25,506.82
Output 1.2: Guidelines on private sector involvement in renewable energy projects in rural areas developed and adopted													28,116.49
Output 1.3: Standards for typical integrated renewable energy systems for rural areas developed and adopted													34,664.00
Component 2 – Capacity building and knowledge management													
Outcome 2: Capacity of key players strengthened and information available for market enablers and players													
Output 1.1: Five training sessions for fifty (50) government officials at both national and provincial levels on RE integrated systems conducted													43,230.71
Output 1.2: Ten training sessions targeting 250 participants from financial institutions, and private sector organisations on integrated renewable energy Systems conducted													397.94
Output 1.3: Training of universities and vocational training institutions staff (25) on various aspects of integrated RE systems on a train the-trainer basis conducted													38,036.84
Component 3 – Technology demonstration and scaling up													
Outcome 3.1: Integrated RE systems demonstrated													
Output 3.1.1: Demonstration projects on integrated RE systems installed in selected productive sectors with high visibility to achieved 250kW of capacity													58,700.98
Outcome 3.2: Investment in integrated RE Systems scaled up													
Output 3.2.1: Financial mechanism established to support the installations of solar													80,089.52

water pumping systems for irrigation and Waste-to-Energy projects for agro-food processing in rural areas to achieve 1.2 MW of installed capacity													
Outcome 3.3: Increased confidence and awareness of technical feasibility and commercial viability of integrated RE systems													
Output 3.3.1: Demonstration and investment projects are independently evaluated and results widely disseminated													613.23
Component 4 – Monitoring and Evaluation													
Outcome 1: Project progress towards objectives continuously monitored and evaluated													
Output 1.1: Mid-term review and terminal evaluation carried Out													61,684.01
Output 1.2: Project progress monitored, documented and recommended actions formulated													1,504.9

X. Synergies

1. **Synergies** achieved:

Participation at the Bilene District Consultative Council in Gaza Province
The PMU participated in the Bilene District Consultative Council session which was held on 18th May, 2022 at the district headquarters conference hall. The meeting brought together 32 participants including local government officials, farmers and small enterprise representatives who were furnished with knowledge about the UNIDO's financing mechanism (BCI-SUPER credit line) for renewable energy systems that can boost their productive activities. The District Consultative Council (CCD) which is the community channel that coordinates dialogue between the government and the community. It is the most important accountability platform formed by members from all territorial areas belonging to the district.

Strategic engagement with ALER
A strategic meeting was held with ALER in May with the aim of fostering networking, experience exchange, and facilitating debate about pertinent matters regarding the renewable energy sector in Mozambique

National Program for Biogas Development
The PMU participated in the preparation of the National Program for Biogas Development in Mozambique organized by the National Directorate of Energy (DNE) in coordination with Eduardo Mondlane University (UEM) and with support from the Energy Resource Center (ERC). At this platform Information about the BCI SUPER credit line was shared with members of farmers' associations and the district economic activities directive (SDAE).

Participation at the Renpower Mozambique event
Organized in April, 2022 by EUROCONVENTION GLOBAL, the event gathered key stakeholders including representatives from the government, International Finance Institutions (IFIs), policy makers, international and local developers, EPC contractors, independent power producers, engineering, legal and advisory services, manufacturers, banking and private equity entities. The platform was vital in disseminating information about the TSE4ALLM project collaborative initiatives namely; the community tablet, ADPP farmers clubs, and the BCI SUPER credit line, geared toward the adaptation of renewable energy solutions for productive use in Mozambique.

Engagement with the World Bank's "Green SME/EL4D" program

In June, 2022, the PMU held a meeting The meeting held with consultants commissioned by the World Bank for the "Green SME" program which aims at the development of the green transition strategy for SMEs, integrated with EL4D efforts. Information about both the TSE4ALLM and the Green SME/EL4D project was exchanged and potential synergies of the two projects identified. TSE4ALLM project lessons learned regarding to Policy and regulations, capacity building, and Renewable Energy systems scale-ups were shared during the strategic meeting.

3. Stories to be shared (Optional)

UNIDO finances a renewable energy project in Tsangano district that will benefit over 250 households

In November 2021 Tsangano Agrifarms LDA, an agribusiness company from Tete province became the second recipient of funding under the auspices of the BCI SUPER credit line implemented by BCI bank in partnership with UNIDO and FUNAE with funding from the Global Environment Facility (GEF), to install a 6.0kW solar photovoltaic system. The company is devoted to a diverse range of productive activities in the farm including agricultural production, agro-livestock, and agro-processing within 101 hectares of land in the Tsangano District, in Chinvano locality.

https://bit.ly/3t49Dmt

The private sector invests in renewable energy with UNIDO's support

In January 2022, Frangos de Mahubo Agropecuária Lda became another entity to receive funding under the BCI SUPER credit line implemented by BCI in partnership with UNIDO and FUNAE and with financial support from the Global Environment Facility (GEF). The funds will be used for the installation of a 50kW solar photovoltaic system, with the possibility of expansion in the future.

https://bit.ly/3jTtGOT

SUPERKWICK LDA installs submersible solar pumps for the irrigation of a 30ha macadamia farm

In November, 2021 SUPERQUICK LDA received funding through the BCI SUPER credit line to deliver 4.8 kW total installed capacity that includes solar photovoltaic systems for irrigation that will cover 107 hectares of productive land for Macadamia nuts, rice, cashew nuts, and beans and for a solar-powered food processing and conservation system. Recently, the entity embarked on the process of installing solar powered submersible pumps into the ground which will enable the supply of water to the macadamia farm.
https://bit.ly/3Onf3jA

Mozambican energy sector hits major milestone with the coming into force of the Regulation for Access to Energy in Off-Grid Areas

As a result of the enforcement of this regulation, the private sector will be more attracted to invest in renewable energy particularly in mini-grids
https://bit.ly/3q5n1Fb

Video: Solar-powered sprinkler irrigation system

In this video Miss Sheila Macia, SUPERKWICK's field activities' coordinator explains how the sprinkler irrigation system powered by solar energy is used
https://bit.ly/3zm1k8u

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2021 – 30 June 2022.

2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.

3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.

4. **Results-based management**: The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as "good practice".
Satisfactory (S)	Project is expected to achieve most of its major global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve some of its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, any of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of all components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as "good practice".
Satisfactory (S)	Implementation of most components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of some components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of some components is not in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of most components in not in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of none of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will access the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than **75%** that assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between **51%** and **75%** that assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between **26%** and **50%** that assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to **25%** that assumptions may fail to hold or materialize, and/or the project may face only low risks.