



Project Implementation Report

(1 July 2022 – 30 June 2023)

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) Programs¹:	NA
Stand-alone / Child Project:	NA
Implementing Department/Division:	ENE / CTI
Co-Implementing Agency:	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)
Executing Agency(ies):	United Nations Industrial Development Organization (UNIDO)
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:	24/10/2017
Cumulative disbursement as of 30 June 2023:	USD 2691928.43
Mid-term Review (MTR) Date:	8/7/2021

¹ Only for GEF-6 projects, if applicable

Original Project Completion Date:	10/24/2021
Project Completion Date as reported in FY22:	10/24/2023
Current SAP Completion Date:	10/24/2023
Expected Project Completion Date:	10/24/2023
Expected Terminal Evaluation (TE) Date:	10/15/2023
Expected Financial Closure Date:	11/30/2023
UNIDO Project Manager²:	Mr. Jossy Thomas, Industrial Development Officer

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 Ratings³	FY23	FY22
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	Satisfactory (S)	Satisfactory (S)
There is no change in ratings since the last reporting period. The project is expected to achieve most of its major global environmental objectives, and yields satisfactory global environmental benefits, with only		

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

minor shortcomings.		
Implementation Progress (IP) Rating	Satisfactory (S)	Satisfactory (S)
There is no change in ratings since the last reporting period. The implementation of most project' components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.		
Overall Risk Rating	Low Risk (L)	Low Risk (L)
There is no change in ratings since the last reporting period. There is still a probability of less than 25% that assumptions may fail to hold or materialize, and/or the project may face only low risks.		

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.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress in FY23
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> A Taskforce is established One Workshop conducted At least 40% of the taskforce should be women 	The activities under this output are completed. No further activities in FY23.
Output 1.2: Guidelines on private sector involvement in renewable energy	<ul style="list-style-type: none"> Number of consultation campaigns conducted 	N/A	<ul style="list-style-type: none"> At least 1 consultation campaign conducted 	The activities under this output are completed. No further activities in FY23.

projects in rural areas developed and adopted	<ul style="list-style-type: none"> • 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 		<p>considering gender dimensions</p> <ul style="list-style-type: none"> • At least 10 private sector actors should be approached during the consultation campaign • At least 1 guideline should be generated considering gender dimensions 	
Output 1.3: Standards for typical integrated renewable energy systems for rural areas developed and adopted	<ul style="list-style-type: none"> • Number of modified, updated and/or new standards for typical integrated RE systems for rural areas developed and presented; • Number of dissemination workshops 	N/A	<ul style="list-style-type: none"> • At least one Standard should be developed for the integration of RE systems in rural areas • At least one workshop for the dissemination of new standards and information on the integration of RE in rural areas should be conducted 	ToR is developed for acquiring services to develop and biogas standard, in cooperation with Ministry of Mineral Resources and Energy. It is expected to finalize the work in October 2023, and held the workshop to present the new standard to relevant stakeholders.
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	<ul style="list-style-type: none"> • Number of training sessions delivered to government officials on RE integrated systems • Number of attendees (government officials at both 	N/A	<ul style="list-style-type: none"> • Five (5) training sessions delivered to fifty (50) government officials at both national and provincial levels on RE integrated systems 	On the 11th of May 2023, the project delivered training for 80 participants representing the private sector, government officials, and financing institutions physically and through a virtual platform. The workshop targeted SMEs and farmers nationally, including those who have submitted unsuccessful projects under the BCI-SUPER financial mechanism of the TSE4ALLM project. This training aims to build capacity and increase awareness, mainly among the private sector. Still,

	<p>national and provincial levels)</p> <ul style="list-style-type: none"> Percentage of women attending the training sessions for government officials 		<ul style="list-style-type: none"> At least 40% of participants should be women 	<p>there will also be participants from financing institutions and government officials who participate in the technical or financial evaluation of project proposals to implement integrated renewable energy systems in rural areas.</p>
<p>Output 1.2: Ten training sessions targeting 250 participants from financial institutions, and private sector organisations on integrated renewable energy Systems conducted</p>	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<p>No progress FY23.</p>
<p>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</p>	<ul style="list-style-type: none"> Number of training sessions delivered on RE integrated systems addressed to universities and vocational training institutions 	N/A	<ul style="list-style-type: none"> Ten (10) training sessions targeting twenty-five (25) academicians from universities and vocational training institutions on integrated RE systems 	<p>No progress FY23.</p>

	<ul style="list-style-type: none"> • Number of trainers trained from universities • Number of trainers trained from vocational training institutions • Number of women trainers trained 		<ul style="list-style-type: none"> • At least 40% of participants should be women 	
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	<ul style="list-style-type: none"> • Number of demonstration projects on integrated RE systems installed in rural areas 	N/A	<ul style="list-style-type: none"> • Install demonstration projects focusing in RE systems in productive sectors of rural areas to achieve 250kW of capacity 	No progress FY23.
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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 	A thorough evaluation for the financial instrument was conducted by an expert in May 2023 to identify operational problems and generate lessons and recommendations for improvements. The evaluation report was shared with relevant stakeholders and a presentation of findings and recommendations were made in June 2023. The evaluation report can be found here .
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	<ul style="list-style-type: none"> • Percentage of evaluated projects (number of evaluated projects over total number) 	N/A	<ul style="list-style-type: none"> • 100% of installed projects are evaluated 100% of projects' results are publicly disseminated 	In April 2022, 3 project proponents signed contracts to implement renewable energy demonstration projects. Subsequently, an in-person meeting was held with all the selected bidders at the UNIDO office, namely (i) AFORAMO (National Association of Private Water Suppliers) to install

	<p>projects installed)</p> <ul style="list-style-type: none"> Percentage of projects whose evaluated results were publicly disseminated (by any means of communication) Number of dissemination campaigns 		<ul style="list-style-type: none"> At least 1 dissemination campaign is conducted with a workshop-meeting specifically targeting rural women 	<p>water supply and irrigation systems in Maputo, Matola, Inhambane, and Manica provinces; (ii) CHARIS that will install biogas systems for local farmers and businesses in Inhambane province and (iii) MAKOMANE-ADM, will install solar irrigation systems, solar conservation facilities, and biogas production facilities in Zavala District (Quissico). As of today, all projects are ongoing, and progress reports are shared periodically with the project team to monitor the progress on ground.</p>
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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	<ul style="list-style-type: none"> Number of evaluation reports carried out 	N/A	<ul style="list-style-type: none"> One (1) mid-term review and one terminal evaluation conducted 	<p>The project is planning to start the Terminal Evaluation in August 2023.</p>
Output 1.2: Project progress monitored, documented and recommended actions formulated	<ul style="list-style-type: none"> Number of progress reports developed 	N/A	<ul style="list-style-type: none"> At least a progress report developed once a year 	<ul style="list-style-type: none"> The project develops monthly newsletters that are circulated among key stakeholders and the public through e-mail and social media networks. Annual report 2022 developed and can be found here.

III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (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 22	(i) Risk level FY 23	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁴
1	Political and economic instability may drive the project off track	Medium	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	<input type="checkbox"/>

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

					<p>Sofala) and economic relevance (Cabo Delgado)</p> <p>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.</p>	
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.	<input type="checkbox"/>
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 rely 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.	<input type="checkbox"/>
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 implemented 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.	<input type="checkbox"/>

5	Relevant stakeholders do not participate/ engage actively in the project	Low	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.	<p>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.</p> <p>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.</p>	<input type="checkbox"/>
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 woman 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.	<input type="checkbox"/>
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	<input type="checkbox"/>

					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.	<input type="checkbox"/>
9	Implementation risk	Moderate	Low	Due to capacity issues related to the fragile country situation and in line with 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.	Implementation has been progressing steadily and progress is regularly reported 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.	<input type="checkbox"/>
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.	<input type="checkbox"/>
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.	<input type="checkbox"/>

12	Restrictions imposed by the outbreak of COVID-19 may slow-down progress implementation	Moderate	Low	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.	<input type="checkbox"/>
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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.

NA

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 were highlighted on the PIR FY22 and 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)

On August 2022, the project requested and was granted a 1-year extension for the above-mentioned reasons. The new project closure date is 24th 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.

Main MTR findings:

- One of the big challenges of implementing solar-powered irrigation systems in rural areas is the sustainability of all operations. These reports focus, therefore, on four essential elements to secure the project's sustainability.
- One critical point is to organize the farmers in some institutional arrangement (clubs or associations or other) to promote synergies, facilitate coordination and training, and solve common issues more efficiently. Training needs to be provided to farmers in sustainable agriculture techniques geared to improve production and secure the necessary income to acquire what they cannot produce. The collective consciousness amongst the members also impacts the security and safety of the systems against theft, as there is a common interest in protecting the systems.
- The second element is the maintenance of the systems. First, the farmers have been trained in maintaining the plans, and agreements were made to pay part of the investment to farmers' club-controlled saving and credit groups to maintain the systems and new assets. IDAI interrupted this as the farmers in some target areas lost everything and needed to start from zero. New agreements have been made that they shall set money aside for maintenance costs.
- The third element is the involvement and cooperation with suitable equipment suppliers. The project's leading suppliers have been actively training the water committees and beneficiaries in the use and maintenance of the systems. They are also capable of providing spare parts. Contacts between the users and supplying companies have been established.
- The fourth element is the flexibility in defining locations for installations. As the implementation of the projects progressed, and the company supplying the solar pumps detected that some of the planned areas didn't have the required water capacity, new solutions needed to be found, and either smaller pumps were installed, or the installations were moved to other locations with the power of water required.
- 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	NA	NA	NA
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	NA	NA	NA

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.).

According to the MTR, stakeholders believe that the theory of design for change is still applicable and can be improved through various ways, i.e., operationalizing working groups created for that purpose, ensuring resources for the implementation of models, designing concrete projects, and identifying sources of contribution, taking into account the contribution of UEM. On the other hand, the theory is valid. However, it needs adaptation measures in view of the current situation imposed by the COVID-19 Pandemic, associated with the impact of the movement of populations from areas of great productive potential due to armed attacks in the central and north of the country associated with the global crisis.

Based on the stakeholders' responses during the MTR interviews, the reviewer considers that there are opportunities that should be taken into account to achieve the intended results, such as the approval of legislation for projects outside the national electricity grid that is being prepared and that will improve the investment environment for RE projects.

According to the results of the Stakeholders' surveys, the challenges that caused delays in the implementation of the project, in addition to the issues mentioned above in relation to financial access, also the lack of knowledge of the existence of renewable energy technologies and opportunities, weakness of the proponents in the design the project to be viable, the influence of COVID in the processes. It is considered that investing in the dissemination and training of technologies can be a way to overcome the challenges. It is necessary to design strategies that can adjust the implementation mechanisms to the global challenges mentioned above, taking into account the need to extend the duration of the project, and the possibility of changing the areas of intervention, given the movement of populations in rural areas.

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

The latest Project Steering Committee minutes on 5th May 2022 can be found [here](#).

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.

In April 2021, a national consultant was selected to undertake the project Mid-Term review (MTR) to identify the achievements made up to this stage in comparison to the baseline and targets and to report on findings and recommendation as lessons learned.

The project develops monthly newsletters that are circulated among key stakeholders and the general public through e-mail and social media networks.

The project developed its official website (<https://www.tse4allm.org.mz/index.php/pt/>) acting as a platform where program information, challenges, lessons learned, and success stories are shared.

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.

The project was approved in August 2017 and is being implemented in close collaboration with the government of Mozambique mainly through the Energy Fund (FUNAE), Ministry of Energy and Mineral Resources (MIREME), MITA (Ministry of Land and Environment) and the Ministry of Agriculture and Rural Development (MADER). The wide range of stakeholders also includes a commercial bank (BCI – Commercial and Investment Bank), Eduardo Mondlane University and civil society organizations (ADPP – Development Aid People to People, CTA – Confederation of Private Sector Associations).

In October 2020, 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. 4 proposals were received, namely: (1) GPS Global Procurement Solutions, (2) AFORAMO, (3) Earth Mozambique Holding Lda, and (4) the Ministry of Agriculture and Rural Development (MADER), National Directorate for Local Economic Development (DNDEL). Based on the analysis, GPS Global Procurement Solutions and MADER, DNDEL, were awarded two contracts to receive a grant value of US \$ 149,000 and 89,968, respectively. 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 2022 after an amendment contract was signed in November 2021 to adjust the activity schedule of their project.

In 2021, a total number of 152 people in Mozambique accessed ClimateScience training courses through the TSE4ALLM website and social media channels. ClimateScience is a UK-based global charity led by hundreds of science driven volunteers from more than 30 countries aiming to make learning engaging, accessible and reliable. ClimateScience creates fun and free educational content on climate change, in order to inspire students and professionals to contribute to climate solutions. The objective is to make science-based content that is accessible to all, and to help educate individuals and organizations around the world about climate change. The contents are generally produced with intuitive user-friendly illustrations, understandable contents and often complemented by YouTube videos.

In October 2021, The TSE4ALLM project launched a 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.

On 12 April 2021, UNIDO, in partnership with the Commercial Investment Bank (BCI) and the FUNAE, launched the BCI-SUPER credit line, based on a Guarantee Fund of one million dollars (USD 1,000,000.00) to facilitate access to capital (loans) for Micro, Small, Medium Enterprises (MSMEs), Individual Entrepreneurs, Associations, Cooperatives, NGOs and promote investments in renewable energy systems for productive uses in Mozambique. 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.

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.

In April 2021, a national consultant was selected to undertake the project Mid-Term review (MTR) to identify the achievements made up to this stage in comparison to the baseline and targets and to report on risks that may affect the project until its finalization. The option for the national consultant (as opposed to an international consultant as indicated in the logical framework) was caused by the uncertainties brought about by the dynamics of the Covid pandemic including the travel and social distancing restrictions that change very often and with different levels of severity in every country. The MTR was finalized and presented to the Energy Department in Vienna on the 15th of June. The presentation was made by the consultant through a virtual platform and attended by 25 UNIDO participants including staff based in Vienna and field-based project staff in Maputo-Mozambique.

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.

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 were 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 an additional one-year extension of the project 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)

The project was granted the extension, to end on 24th October 2023.

The project manager conducted a field mission between 26 February to 04 March 2023. The mission covered activities to perform several project management activities, including improving dialogue with government stakeholders in the project steering committee, conducting field visits to ongoing projects financed through the GEF grant and the UNIDO-established financial mechanism "BCI-SUPER credit line" operated by BCI, and discussing potential project development with national stakeholders and donors.

In April 2023, the project hired a financial expert to conduct an [evaluation](#) for the BCI-SUPER credit line. The main conclusion is, In the present scenario, the institutional buy-in is still not visible, and the program

design is relatively short-term, besides being a small guarantee fund. In such a case, the traditional CG instrument and the CGS program may not be the appropriate structure to jump-start the desired investments. Accordingly, two models are suggested to revive the GF by way of creating an enabling framework and incentive structure:

- A. Modifications in the existing structure with BCI; or
- B. Transferring the management of the UNIDO Guarantee Fund to an existing credit guarantee structure.

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.

<input type="checkbox"/>	Results Framework	NA
<input type="checkbox"/>	Components and Cost	NA
<input type="checkbox"/>	Institutional and Implementation Arrangements	NA
<input type="checkbox"/>	Financial Management	NA
<input checked="" type="checkbox"/>	Implementation Schedule	<p>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 an additional one-year extension of the project to allow for the completion of the following activities:</p> <ul style="list-style-type: none"> • 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) <p>The project was granted the extension, to end on 24th October 2023.</p>
<input type="checkbox"/>	Executing Entity	NA
<input type="checkbox"/>	Executing Entity Category	NA
<input type="checkbox"/>	Minor Project Objective Change	NA
<input type="checkbox"/>	Safeguards	NA

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%.

<input type="checkbox"/>	Risk Analysis	NA
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	NA
<input type="checkbox"/>	Co-Financing	NA
<input type="checkbox"/>	Location of Project Activities	NA
<input type="checkbox"/>	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 2,695,541 out of total GED financing of USD 2,851,384. The remaining project fund is USD 155,842, which will cover all project-related expenses associated with activities implementation and project team salaries until its closure on 24th October 2023.

Below is the project work plan with the allocated fund.

IX. Work Plan and Budget

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.

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

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													USD 15,000
Output 1.2: Guidelines on private sector involvement in renewable energy projects in rural areas developed and adopted													USD 24,000
Output 1.3: Standards for typical integrated renewable energy systems for rural areas developed and adopted													USD 40,000
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													0

Output 1.2: Ten training sessions targeting 250 participants from financial institutions, and private sector organisations on integrated renewable energy Systems conducted													0
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													7,000
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													7,342
Outcome 3.2: Investment in integrated RE Systems scaled up													
Output 3.2.1: 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 1.2 MW of installed capacity													0
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													0
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		S											USD 61,000
Output 1.2: Project progress monitored, documented and recommended actions formulated													USD 1,500

X. Synergies

1. Synergies achieved:

National Biogas Program

The TSE4ALLM project team 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). Information about the BCI SUPER credit line was shared with members of farmers’ associations and the

district government (SDAE). The Magude district has a great potential for development of biogas systems due to the availability of raw materials resulting from the intense agricultural and livestock activity

Renpower Mozambique event (28th April, 2022)

Organized 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 UNIDO's 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.

Meeting with CAMCO Energy

On February 10th the TSE4ALLM projects met with CAMCO Energy, a UK based climate and impact fund manager, to coordinate efforts for the submission of a letter to the MEF expressing interest to implement a GCF project under the RISA programme, which aims to mobilise private sector capital for climate adaptation projects and businesses in the agriculture sector in Mozambique. UNIDO will be acting simultaneously as the accredited entity for the GCF and the host of PFAN. In the program, PFAN will contribute with its global network of climate financing experts, providing technical assistance and promoting investment readiness. Later in the month a letter subsequently two concept notes were sent to the MEF for the consideration of Mr. Albano Manjate the focal point of the GCF National Designated Authority (NDA).

Meeting with ALER

The project met ALER (Lusophone Association for Renewable Energy) in May 2023, at UNIDO office where ALER representatives discussed project progress updates and presented PESM (Program of Sustainable Energy for Women) as a suggestion for UNIDO's consideration in Mozambique. PESM is currently under implementation in a few African countries and it provides capacity building, mentoring and networking platforms to candidates that participate in a contest to win a prize of up to five thousand dollars (\$5,000), an office working space and free laptop. In general, the aim of the meeting was to foster networking, share information, and facilitate debate about pertinent matters regarding the renewable energy sector in Mozambique

USAID/WASHFIN Panel Discussions

On the 6th of June, the TSE4ALLM project participated in panel discussions on the private sector perspectives of finance mobilization. The main goal of the panel discussion was to facilitate dialogue on the expansion of financing for viable water and sanitation service providers to enable them to invest and improve their service quality and/or increase client access to safe drinking water and adequate sanitation. UNIDO was invited to discuss about the financing opportunity available for renewable energy projects through the BCI SUPER credit line. As a result, some participants expressed interest in accessing the credit line for the financing of water sector productive activities

Pemba energy transition technical meeting (9th June, 2022)

On June the 9th, the Pemba City Council in partnership with the British High Commission organized a technical meeting to present the Pemba City infrastructure and urbanization plan as well as the energy transition plan. The role of development partners and the private sector in the implementation of the energy transition plan was tackled. This space provided an opportunity to share information about the TSE4ALLM project, especially the BCI SUPER credit line.

Meeting with "Green SME/EL4D" (21st June, 2022)

The meeting held at the UNIDO premises was convened by the 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. Subsequently on 23rd of June, UNIDO made a follow up presentation on lessons learned from the project perspective. This meeting was scheduled as a follow up of the first meeting held on 21st June. In this meeting lessons learned from the TSE4ALLM project were shared with the consultants as part of a World Bank contract where UNIDO highlighted major lessons learned regarding to Policy and regulations, capacity building, and Renewable Energy systems scale-up interventions.

Energypedia-Case study about TSE4ALLM projects.

A meeting was held on 10th August with Energypedia, a knowledge hub focusing on RE sector in Mozambique. The purpose of the meeting was to establish how the TSE4ALLM project could contribute to the hub. Subsequently 2 project case studies were added to the hub and are available at the following links: [ADPP smallholder farmers clubs](#) and [SUPERKWICK solar irrigation system](#)

Meeting with MD Consultores

MD Consultores is local consulting company that was seeking advice from the TSE4ALLM project on waste to energy challenges and achievements. The meeting was held on the 8th of September in the ambit of a market study of Water and sanitation services in Mozambique commissioned by the National Directorate of Water Supply and Sanitation (DNAAS). The consultants will be sharing the study findings in the near future for comments and review.

Meeting with German Development Bank KfW.

The meeting was held on 4th August with Internationale Projekt Consult - IPC GmbH consultants, commissioned by the German Development Bank KfW, aimed at providing the consultants with relevant information for a feasibility study to analyse the potential creation of a rural finance facility for financial assistance to reach SMEs in rural areas.

Meeting with Practica Foundation SPIS project Gaza Province

The meeting was held with Practica Foundation on 10th August 2022. It entailed exchange of information about the TSE4ALLM project and potential partnership with the foundation as regards to Solar Powered Irrigation Systems (SPIS) in rural areas. Discussion was held on the possibility of project beneficiaries in Gaza participating in the SPIS training scheduled for November. In addition, project partner contacts including FUNAE and BCI were shared alongside links to project media available on Youtube tackling the subject of interest.

WFP-Collaboration on Energy

WFP convened a meeting with the TSE4ALLM project on 3rd August 2022 seeking for possible collaboration within the UNIDO private sector network concerning technology solutions in the WFP energy access component including access to energy, solar irrigation, cold storage and food processing projects. Subsequently, the TSE4ALLM database of companies working in the RE technology areas of WFP interest (type of technologies available, prices and capacity) was shared with WFP to feed into their subsequent activities.

Energy Markets Group survey on SME and climate change preparedness

From the 29th of August, the TSE4ALLM project provided support to Energy Markets Group (EMG) a World Bank funded initiative, to be able to reach out to project partners and encourage them to participate in a survey called "*Small and Medium Green Enterprises prepared for climate change in Mozambique*". The survey questions were circulated to UNIDO Mozambique in partnership with EMG. It was designed to support SMEs in Mozambique to become better prepared for frequent occurrences of adverse events resulting from the climate change that the country and the world has been experiencing.

Financial Inclusion week 2022

On 19th October, the TSE4ALL-M project was invited by FSDMoç (Financial Sector Deepening Mozambique) to discuss "Financial services to respond to the needs of those affected by climate risks: innovative approaches to support climate risk mitigation and resilience" in the context of the Financial

Inclusion Week 2022. The platform was essential for the dissemination of the successes and challenges registered thus far in the implementation of the credit SUPER financial mechanism

Regulatory framework for energy access in off-Grid zones Conference – 24/11/2022

The TSE4ALLM project was invited by SNV to participate in a panel discussion on *“The role of productive use of energy and impacts in rural economic development”*. The conference aimed at sharing the regulatory approaches, experiences and best practices from Mozambique and the region in the creation of enabling environments towards universal access and a sustainable off-grid market. TSE4ALLM’s experience and lessons learned from the supported Productive Use of Energy initiatives was highlighted and prospective partnerships identified at the conference.

Meeting with IOM

On the 8th of November 2022, the TSE4ALLM project participated in a meeting with IOM on to share the experience of providing sustainable energy solutions in Mozambique. The IOM informed that they intend to launch a Call for Innovative Partnerships (CfIP), and TSE4ALLM participation in the bi-lateral meeting was vital in ascertaining how the project can partner with IOM in the future.

B2B Event - Enhancing liquidity for the Mozambican Renewable Energy sector

On the 8th of December, 2022, the TSE4ALLM project participated in an exclusive B2B Financial Sector Networking conference organized by GET. Invest Mozambique. The event brought together the local financial sector with leading European and global Development Finance Institutions (DFIs) to explore opportunities in providing affordable credit and dedicated guarantees to the Mozambican renewable energy market.

LED lighting pilot project

Two meetings were held in December between UNIDO and ARQUILED, a Portuguese company, leader in the manufacturing of Solar Lamps for urban and rural public lighting, seeking to establish partnerships with Mozambican companies for the installation of their LED luminaries. UNIDO was identified as a potential partner for conducting the pilot project that will entail the installation of two Gemini lights with long-life lithium batteries, which have an intelligent control and management system. Consequently, it was suggested that ADDP Mozambique be brought on board as the implementing partner through which the pilot project will be executed and the first installation done in February 2023

Handing over of photometric compliance testing equipment to MIREME

On 22/12/ 2022, the TSE4ALLM project joined other UNIDO staff at the event for the delivery of photometric compliance testing equipment to MIREME as part of the Energy Efficient Lighting and Appliances Project implemented in partnership with MIREME and INNOQ in collaboration of SACREEE_SADC.

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>

XI. GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate.

Web mapping applications such as [OpenStreetMap](#) or [GeoNames](#) use this format. Consider using a conversion tool as needed, such as: <https://coordinates-converter.com>

Please see the Geocoding User Guide by clicking [here](#)

Location Name	Latitude	Longitude	Geo Name ID	Location and Activity Description
Mozambique - Maputo	-25.96553	32.58322	Maputo	In February 2020, the project signed a cooperation agreement with the Eduardo

				<p>Mondlane University in Maputo that will allow it to implement several initiatives in partnership with the university including capacity building and knowledge management activities.</p> <p>On 12 April 2021, UNIDO, in partnership with the Commercial Investment Bank (BCI) and the FUNAE in Maputo, launched the BCI-SUPER credit line, based on a Guarantee Fund of one million dollars (USD 1,000,000.00) to facilitate access to capital (loans) for Micro, Small, Medium Enterprises (MSMEs), Individual Entrepreneurs, Associations, Cooperatives, NGOs and promote investments in renewable energy systems for productive uses in Mozambique.</p>
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Please provide any further geo-referenced information and map where the project interventions is taking place as appropriate.

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 (-17, 37), Sofala (-19.2, 34.8) and Tete (-16.15639, 33.58667), targeting 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.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2022 – 30 June 2023.
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 <u>all</u> 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 <u>achieve most</u> of its <u>major</u> global environmental objectives, and yields satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> 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 <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> 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, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> 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 <u>most</u> 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 <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components in <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess 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.
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