



Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Promotion of Waste to Energy Applications in Agro-Industries of Tanzania
GEF ID:	4873
UNIDO ID:	140077
GEF Replenishment Cycle:	GEF-5
Country(ies):	United Republic of Tanzania
Region:	AFR - Africa
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs¹:	n/a
Stand-alone / Child Project:	Stand-alone
Implementing Department/Division:	ENE / CTI
Co-Implementing Agency:	n/a
Executing Agency(ies):	Ministry of Energy, Vice President Office - Environment Division
Project Type:	Full-Sized Project (FSP)
Project Duration:	48
Extension(s):	24
GEF Project Financing:	5,025,714
Agency Fee:	527,700
Co-financing Amount:	26,750,000
Date of CEO Endorsement/Approval:	12/12/2014
UNIDO Approval Date:	10/2/2015
Actual Implementation Start:	3/24/2015
Cumulative disbursement as of 30 June 2022:	3,680,367
Mid-term Review(MTR) Date:	3/31/2019
Original Project Completion Date:	28/02/2019
Project Completion Date as reported in FY21:	2/28/2022
Current SAP Completion Date:	12/31/2022
Expected Project Completion Date:	12/31/2022 28/02/2021

¹Only for GEF-6 projects, if applicable

Expected Terminal Evaluation (TE) Date:	11/30/2022
Expected Financial Closure Date:	6/30/2023
UNIDO Project Manager²:	Josy THOMAS

I. Brief description of project and status overview

Project Objective
<p>This project aims at promoting waste-to-energy (WTE) application in agro-industries. The main objective is to promote investments in WTE technologies for electricity generation in agro-industries. This project aims at promoting the use of WTE technologies, i.e., biomass and biogas technologies, in agro-industry. The proposed intervention will enable agro-industries to utilize the wastes produced in their facilities to generate energy, while also offsetting GHG emissions. Additionally, the project expects to remove the existing barriers that currently limit the deployment and utilization of abundant agricultural waste to generate power, thereby increasing the share of national income and improving the livelihoods of the population at large.</p>

Baseline
<p>Tanzania Electric Supply Company (TANESCO), the national grid company, has been facing serious challenges in providing electricity due to a number of barriers, such as; a) lack of developed distribution systems; b) lack of high-level network; c) lack of sufficient hydropower output; d) high electricity tariffs; e) lack of network voltages and adequate investments; and f) decrease in hydropower capacity, etc. As a result of these issues, less than 18% of the total population has access to electricity from the national grid, with more than 50% of the population, who live in poverty, spending above 35% of their household income to meet their energy needs. Despite these conditions, TANESCO has so far not properly explored the utilization of the WTE potential that is estimated to be able to generate up to 650 kW of electricity, available from agricultural activities. In 2011, UNIDO undertook a study, "Carbon footprint reduction in the agro-industrial sector of Tanzania," which focused on four agro-industries; sisal, dairy, tobacco, and edible oils. The study, aimed at identifying opportunities for reducing carbon footprints in the selected agro-industries, clearly states that most of the industries were using carbon-intensive technologies, contributing substantially to GHG emissions. The primary carbon reduction opportunities in these industries were found to be the use of renewable energy for electricity generation. Captive power generation will increase the reliability of electricity supply and excess electricity, when exported, will also reduce unreliability in power supply in the country and foster the country's economy.</p>

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY22. Please also provide a short justification for the selected ratings for FY22.

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY21, in the last column.

² Person responsible for report content

³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

Overall Ratings ⁴	FY22	FY21
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	Satisfactory (S)	Satisfactory (S)
<i>Using the progress rationale reported in section II, please briefly justify the selected FY22 GEOs/DOs ratings versus the GEOs/DOs ratings reported in FY21.</i>		
Implementation Progress(IP)Rating	Moderately Satisfactory (MS)	Moderately Satisfactory (MS)
<i>Using the progress rationale reported in section II, please briefly justify the selected FY22 IP ratings versus the IP ratings reported in FY21.</i>		
Overall Risk Rating	Low Risk (L)	Low Risk (L)
<i>Using the progress rationale reported in section II and III, please briefly justify the selected FY22 risk rating versus the risk ratings reported in FY21.</i>		

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 FY22
Component 1 – Capacity Development and Knowledge Management				
Outcome 1: Improved awareness, knowledge and capacity on WTE technology in Tanzania				
Output 1.1: An Information and Learning Centre established for WTE at the Dar Es Salaam Institute of Technology (DIT)	<ol style="list-style-type: none"> Business plan and annual work plans created Creation and operation of the centre 	Lack of one-stop technical centre on WTE	<ol style="list-style-type: none"> Business plan and Annual work plan creation within first 3 months of the GEF project start Creation and operation of the centre within 6 months of the GEF project start 	Several delays have been experienced with these two targets. DIT has been following up with the Ministry of Finance to get the go-ahead to continue with the establishment of the Centre. Within the last one year, representatives from the Ministry of Finance have met with counterparts from Vice President's Office and DIT, to agree on the way forward and finalize the process of establishing the I&LC WTE. The MoF just gave the approval in July 2022 but yet to officially

⁴ 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

				communicate the decision with UNIDO.
Output 1.2: Capacity developed for at least 50 policy makers	<ol style="list-style-type: none"> 1. Number of training organized 2. Number of key policy makers trained 3. Number of Women trained 	Inadequate capacity among the key policy makers	<ol style="list-style-type: none"> 1. Conduct at least 2 trainings 2. Educate and train at least 50 policy makers on WTE potential, technology and project development 	No new progress to-date, the government is yet to approve Dar-es-Salaam Institute of Technology (DIT) to host the WTE I&LC
Output 1.3: Technical capacities developed for relevant RE institutions, agro-industries and project developers (target at least 50 numbers each)	<ol style="list-style-type: none"> 1. Number of training organized for different target groups 2. Number of persons trained 3. A number of women trained 	Insufficient local capacity to develop, support, operate and maintain WTE plants	<ol style="list-style-type: none"> 1. Conduct at least 2 trainings 2. Train at least 50 personnel from each of the target group 3. Include at least 10 women for each target group 	No new progress to-date, please refer to the comment above
Component 2 – Demonstration of WTE technologies				
Outcome 1: Increased use of WTE technologies in agro-industries				
Output 1.1: Detailed plant design prepared for participating in demonstration projects	Project progress status	Lack of plant design reports for further project development	Detailed plant design reports for the demonstration projects	
Output 1.2: WTE power plants established for 6.8 MW cumulative capacity	MW of installed capacity	<ol style="list-style-type: none"> 1. Lack of demonstrable commercial WTE plants 2. Agro industries depend on diesel or grid (fossil-fuel dominant based) electricity 	6.8 MW plants supplying electricity to agro-industries	There are six demonstration sites developers (UNIDO project contractors) to date which have been engaged with a cumulative of 5.71 MW (Out-Growers Tanzania Ltd - 2.9 MW, REDCOT- 0.2 MW, Wananchi Power Providers - 0.16 MW, Purandale Industries - 0.75 MW, Kisiwa Farming Limited - 1.4 MW and Olivado Tanzania - 0.3 MW). One plant (2.9 MW) is operational to date and the rest are in various stages of implementation.
Output 1.3: WTE technology transferred to agro-industries	<ol style="list-style-type: none"> 1. Number of technology know-how workshops conducted 	Agro industries have inadequate knowledge on WTE technologies and its potentials	<ol style="list-style-type: none"> 1. Conduct at least 2 technology know-how workshops 	Awaiting launching of the WTE I&LC and thus to become operational to facilitate these capacity building trainings

	2. Number of field visits to WTE plants		2. Conduct at least 2 field visit and hands-on training at WTE plants	
Component 3 –Creation of favourable investment environment				
Outcome 1: Increased involvement of private investors in WTE projects				
Output 3.1: Gap analysis on policy requirements conducted	Gap report	Existence of few policies to promote renewable energy. On the other hand, there is lack of motivation among private investors	One detailed gap analysis report within the first year of the GEF project start	Awaiting launching of the WTE I&LC and thus to become operational to facilitate activities related to this output
Output 3.2: Incentives and soft loans facilities designed	1. Number of incentives schemes designed 2. Number of soft loan facility designed	Inadequate financing facilities to attract investment in WTE projects	1. At least one incentive scheme designed 2. At least one soft loan facility designed	No new progress in the FY, however, a proposal from Tanzania Investment Bank to setup and manage a bioenergy incentive facility to the tune of USD 1,300,000 has been received.
Output 3.3: Incentive scheme established under REA for investors of WTE projects	USD incentive based on incremental cost principal to WTE projects	Inadequate financing facilities to attract investment in WTE projects	Establish incentive scheme with USD 3.4 million GEF grant for the demonstration and replication project	Given the delays in implementation of the project, UNIDO, has undertaken the role of availing the incentive facility to the developers identified in the project. UNIDO has been reviewing the progress achieved by the various developers and has been allocating the incentive funds on a performance/milestone achievement basis. A number of the developers have not been able to make progress towards achieving the required milestones for this facility, some for financial reasons and others due to the conditions placed by their intended off-taker – the national Utility Company which was envisaged to be the off-taker for all the electricity which the developers would produce. However, changes in the utilities outlook stalled the development of the projects being undertaken by the developers, who faced uncertainties with markets for their electricity production. Currently, the trend seems to be favouring electricity purchases from developers of renewable

				energy projects and steps are being taken to see how to accommodate the developers.
Output 3.4: Soft loan facility established under REA for investors of WTE projects	<ol style="list-style-type: none"> 1. USD soft loan 2. Number of private companies benefitted through the soft loan facility 	Inadequate financing facilities to attract investment in WTE projects	<ol style="list-style-type: none"> 1. USD 9.6 million soft loans established 2. At least 5 private sector initiatives benefitted under the soft loan scheme 	Given the delays in implementation of the project, UNIDO, in consultation with TIB development Bank and REA is looking to set up a Bio-Energy Promotion Facility which will support SMEs in the Bio-Energy and Sugar/Ethanol sector in undertaking feasibility studies, preparation of Bankable proposals, as well as creating an incentive grant facility to support SMEs in undertaking projects in the Bio-Energy sector in Tanzania. TIB has been reviewing the required ToR for establishment of this facility in TIB. UNIDO expects to provide seed-funding for the facility amounting to at least US\$ 1 million.

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) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
1	WtE technologies are relatively new in the countries and there is lack of technical expertise for development and implementation of such projects	Modest risk (M)	Detailed technical-economic feasibility studies will be carried out. The technical personnel in the industries will be trained on deployment of the RE in industries settings. Capacity of the government officials and relevant institutions will be built.	<p>There are good numbers of local technical experts to offer various services required in undertaking RE projects. The government of Tanzania under support of the international community including UNIDO has been on forefront to ensure building of local capacity where many academic and non-academic institutions are offering various training and apprenticeship program.</p> <p>UNIDO is looking to scale up uptake of WtE technologies through the establishment of the National Waste to Energy Information and Learning</p>	<input type="checkbox"/>

⁵New risk added in reporting period. Check only if applicable.

				Centre (WtE I&LC) at Dar es Salaam Institute of Technology. The centre will be a one-stop shop to offer teaching, training, consultancy on various WtE technologies for both individuals and institutions.	
2	No off-takers for the generated electricity	Modest risk (M)	Rural investment to address the demand-supply gap which is very high in rural of Tanzania	<p>UNIDO has contracted six contracts which have been awarded with a cumulative of 5.71 MW (Out-Growers Tanzania Ltd - 2.9 MW, REDCOT- 0.2 MW, Wananchi Power Providers - 0.16 MW, Purandale Industries - 0.75 MW. Kisiwa Farming Limited - 1.4 MW and Olivado Tanzania - 0.3 MW). The sites in rural areas of Tanzania are namely in Tanga, Njombe, Songea, Iringa, Mafia, Dodoma regions of the country to offer electricity to the community.</p> <p>The Government supports the development of the renewable energy sector and has recently moved to fast-track development of several wind and solar energy projects.</p> <p>While the Government has carried out a large scale extension of the national electricity grid, it is now beginning to shift the focus towards access to the clean cooking energy sector for rural areas.</p>	<input type="checkbox"/>
3	Generation perception that investment in WtE technology-based plants does not provide enough (high) returns and hence the investors are not willing to invest	Modest risk (M)	<p>Revolving fund will be established at REA for supporting WtE financing investment.</p> <p>Partnerships will be developed among commercial bank, investors and financial institutions.</p> <p>Increased awareness, knowledge and experiences created by the successful operation of the demonstration plants are expected to enhance the stakeholder's participation</p>	<p>Since its establishment in 2007, REA's main role is to promote and facilitate improved access to modern energy services in rural areas of Tanzania through financing under various windows that providing grants to qualified project developers. The sources of Rural Energy Fund (REF) at REA comes from the government of Tanzania and as contributions from international financial organizations, multilateral and bilateral agencies and other development partners.</p> <p>Awareness-raising is a continuous exercise and considered as a top priority by promoting investment in RE</p>	<input type="checkbox"/>

				under various support of the development partners including UNIDO.	
4	Application of WtE technologies in Agro-Industries might be halted by the shortage of inputs	Low risk (L)	The installation of WtE plants will be done only after the proper resource assessment is done to ensure the sustainable supply of waste from agro-industries	Numerous studies have been done by the national and international research institutions and continue to be evolving overtime showing a great potential of RE resources including biomass for WtE in the country at a stage the government of Tanzania is promoting both local and foreign investment in the energy sector. There is also the availability of biomass energy strategy in Tanzania (BEST) which bring the actions plans developed that recommend biomass energy policy, supply-side and demand-side actions to be initiated with a long-term view to the year 2030.	<input type="checkbox"/>
5	Lack of human capacity to operate the demonstration projects	Low risk (L)	All the demonstration projects staffs will be trained by the respective suppliers. More over under the project there will be several trainings on successful operation and maintenance of the biomass and biogas projects. In addition to this an Information and Learning Centre will be established for continuous capacity building activities. All these would sustain the objective of the proposed project.	UNIDO in collaboration with Dar es Salaam Institute of Technology (DIT) is underway to establish the National Waste to Energy Information and Learning Centre (WtE I&LC) at DIT. The centre will be a one-stop shop to offer teaching, training, consultancy on various WtE technologies for both individuals and institutions. The sustainability of the project is centred with the centre (WtE I&LC) to offer capacity building services country wide.	<input type="checkbox"/>
6	Failure to implement the project	Low risk (L)	The project will be implemented in close cooperation with in-country project partners, stakeholder and developers. Agreed and transparent modus operandi will be defined before the start of the project implementation. UNIDO have enough experience to mitigate this risk	UNIDO in close collaboration with the Vice President Office Division of Environment (VPO DoE) and the Ministry of Energy (MoE) is implementing the project with various key stakeholder in the energy sector such as TANESCO and REA.	<input type="checkbox"/>
7	Demonstration plants face operational problem due to lack of training to the operators	Low risk (L)	Capacity building at all levels is included in the project which will mitigate this risk	UNIDO in collaboration with Dar es Salaam Institute of Technology (DIT) is underway to establish the National Waste to Energy Information and Learning Centre (WtE I&LC) at DIT. The centre will be a one-stop shop to offer teaching,	<input type="checkbox"/>

				<p>training, consultancy on various WtE technologies for both individuals and institutions.</p> <p>The sustainability of the project is centred with the centre (WtE I&LC) to offer capacity building services country wide.</p>	
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2. If the project received a sub-optimal risk rating (H. S) in the previous reporting period, please state the actionstaken 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 impact of COVID 19 initially affected project implementation due to lock-downs and some travel restrictions. However, conditions have begun easing up in the country with businesses getting back to normal in most situations with emphasis on safety protocols. Some of the developers have experienced delays in importation of equipment due to restrictions faced in other parts of the world. An extension had already been granted to enable remaining activities to be carried out within the extension period.

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

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

I. Conclusions, recommendations and follow-up plan

The changes in government, changes in selection of a national Information and Learning Centre (ILC) and change in National Project Coordinator have contributed to delays on several key components.

The ILC is critical to sustainability and capacity building. This MoU needs to be signed as soon as possible. Should the terms not be agreed, the Rural Energy Agency seems to be performing this function already through the SIDA funded program. UNIDO could donate the grant funds to this program at REA emphasizing the AgroWtE technology.

Workshops should prepare developers for project implementation thus they are needed early in a project.

Workshops with policy makers should be presented and executed as consultatory processes tackling current issues on distributed generation and electrification as well as WtE benefits. Other donors should be invited to join these workshops as the issues are more general in nature.

Demonstrations have encountered technology risk with biomass gasification. Failures have a very powerful negative impact n technologies in the market. Eligibility of biomass gasification to internal combustion engines technology should be suspended. The REDCoT and WPP plants need to be remediated and functioning before

any further biomass gasification projects are supported. Biogas digestors, bagasse cogeneration and simple combustion boiler technologies are all working fine and should remain eligible.

Otherwise the Agro-waste to Energy technologies including biogas digesters to methane, and boilers are relatively risk-free and proceeding well.

The grant modality will be used to get the demonstration sites, however, in future UNIDO/GEF should invest in guidelines for revolving funds that are less disruptive to the marketplace, more sustainable long term and achieve about 4 times more post- project direct impact with co-finance.

Project component/result	Recommendation	Agreed action	Responsibility	Priority & agreed date
1. Information & Learning Centre	Close the MoU	Verbal agreement of UNIDO and DIT was apparent in interview	UNIDO & DIT	2019
1. Demonstrations	Remediate the biomass gasification demonstrations	Training planned, Research project needed	UNIDO, DIT, Husk, WPP, REDCOT	2019
3.1 Policy Gaps	Engage with other donors and government on electrification strategies			
3.3 Finance	Establish guidelines for risk sharing revolving funds		UNIDO management	

If the project has undergone a Mid-Term Review, please summarize the outcome and elaborate on specific actions taken towards implementing the recommendations included in the report.

*NB: The information provided in this section will be used by the GEF Secretariat to measure the project's ability to adopt an **adaptive management approach**. This will be measured through the assignment of a **project-level proactivity index**.*

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)*

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	N/A	N/A	N/A
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)	N/A	N/A	N/A

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).

Progress:

DIT, with the support of VPO have been tasked with follow-up of the Ministry of Finance and Planning (MoFP) to enable consent on the way forward for establishment of the Information and learning Centre at DIT. The current status is that DIT and VPO have held consultations with MoFP and have been requested to amend the LoA to reflect that the centre will be a DIT entity rather than a UNIDO entity. Other than that, MoFP is awaiting those amendments from DIT and will then endorse the Information and Learning Centre's establishment at DIT.

Challenges:

- Lack of timely response from GoT counterparts in the course of LoA final vetting and approval has further delayed the installation and operation of the WtE I&LC

Outcome:

- The project sustainability is at risk as capacity building and knowledge management activities implementation being delayed vs the project closure timeline

1. Engagement with KFL for DIT Students Scholarship and Internship:

Progress:

- Kisiwa Farming Ltd who is implementing a biomass gasification plant in Mafia of 1.4 MW capacity is current exploring possibilities to partner with Dar Institute of Technology (DIT) to offer scholarships and internship/job opportunities for students. The opportunity will help to raise individuals with technical skills to both manage and operate biomass gasification plants. This partnership will also establish a platform for research and development locally to address challenges developers are facing with this technology. The discussion between KFL and DIT are underway establishing the partnership.

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.).

PSC took place on 21st October 2021, whereby meeting was chaired by Vice President Office who is the GEF Focal Point in the country and the following were recommended;

Endorsement of the project grant extension by one more year until February 2023;

- i. Following positive feedback from REA, TIB and MoE with regard to the establishment of the BeGF, this call for more time required to complete pending next phases activities before it's operational.
- ii. Following again good progress so far achieved working on the recommendation to go about the LoA/PIA for UNIDO and DIT agreement, the need for additional time is crucial completing the next activities before launching the centre and it's operational with UNIDO support. The PSC member's participation is appreciated through the resolutions made on the 5th and this 6th PSC meeting to address delays for PIA/LoA approval.
- iii. The above represent two key crucial interventions for the sustainability for the project and demand for additional unlike the plan not only to execute the remain activities but more to cover for stakeholder engagement and participation as key to address the project sustainability through a sense of ownership, inclusion and accountability

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

Please list here the documents which will be submitted in addition to the report, e.g.:

- *Project Steering Committee minutes(Attached as a separate document)*
- *Aide Memoire*
- *Meeting Agenda, etc.*

All attachments are to be named as per the GEF required format, i.e.: "GEFID_Document Title", e.g. 9714_PSC minutes.

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),.

Please note that the UNIDO GEF Coordination team will copy-paste the answer to this question into the GEF Portal.

Gender equality and empowerment of women has made a significant impact on the sustained economic growth and industrial development in Tanzania, which drives poverty reduction and social integration. The project has maintained consistently to support women in improving skills and knowledge on WtE technology follows various opportunities presented by the project. The project has enrolled and will continue to as many women as possible in its planned activities as trainee, trainers and technical consultants. The demonstration sites developers have been enhancing gender mainstreaming approaches to support employees with various opportunities arises such as on the job training programs to enhance their skills and capacity focusing on women. The response from women received showed that gender equality and empowerment measures and program was critical with results observed and impacts made.

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.

The underway process to establish the Waste to Energy Information and Learning Centre (WtE I&LC) will play a key role in knowledge building and management (capacity building) for individuals as well as institutions in the country. The Centre primarily will build capacity to develop the Waste-to-Energy potential in Tanzania. At present, the expertise of the technical institutions or individuals on waste-to-energy conversion technologies is inadequate resulting in difficulty to sustain and replicate the waste-to-energy conversion technologies-based projects in the country

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

Please list the relevant knowledge management mechanisms/tools and any documents that will be submitted in addition to the report, e.g.:

- *online information exchange/sharing platforms*
- *relevant technical reports*
- *Link to project websites, videos, publications*
- *flyers, etc.*

All attachments are to be named as per the GEF required format, i.e.: "GEFID_Document Title", e.g. 9714_Flyer.

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.

Progress:

UNIDO and DIT to revise the LoA and for resubmission at MFP

- Between Jan and August, 2021 the LoA was under revision by both UNIDO FO/HQ and DIT
- 10th August 2021 UNIDO submitted the final revised LoA/PIA to DIT for further submission seeking approval
- 1st September 2021 UNIDO reached out DIT via email and were informed of the ongoing preparation to submit the LoA/PIA to PST at MoFP through their line ministry
- A further follow-up call was made on 27th September 2021 and informed that DIT has already submitted the LoA/PIA
- DIT to provide further updates on the status for the meeting they had with VPO, Ministry of finance and ministry of education.

UNIDO to provide feedback to the PSC regarding the package for soft loan facility creation after consultation with REA and TIB are made

- 4th August 2021 MoE wrote to REA requesting their readiness to participate in the initiative copying UNIDO
- 12th August 2021 REA responded to MoE with their willingness and readiness to participate in the initiative copying UNIDO
- 5th October 2021 UNIDO met with TIB to discuss the way forward
- 12th October UNIDO submitted documents requested by TIB following the meeting on 5th October 2021 for their management review and approval to proceed with the next phases on establishing the BePF “a private sector guarantee scheme”
- Currently awaiting official feedback from TIB (Tentative timeline by November 2021)

Challenges:

1. Continues lack of timely response and informed decisions from stakeholders about approvals of partnership/collaboration required to accelerate project implementation activities.

Achievements

- UNIDO&DIT have reviewed the LoA/PIA to address the agreement made during the 5th PSC meeting in Oct 202.
- DIT has submitted the application for approval at MFP through their line ministry in September 2021

2. Please briefly elaborate on any **minor amendments**⁶ 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	
<input type="checkbox"/>	Components and Cost	
<input type="checkbox"/>	Institutional and Implementation Arrangements	
<input type="checkbox"/>	Financial Management	
<input type="checkbox"/>	Implementation Schedule	
<input type="checkbox"/>	Executing Entity	
<input type="checkbox"/>	Executing Entity Category	
<input type="checkbox"/>	Minor Project Objective Change	
<input type="checkbox"/>	Safeguards	
<input type="checkbox"/>	Risk Analysis	
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	
<input type="checkbox"/>	Co-Financing	
<input type="checkbox"/>	Location of Project Activities	

⁶As 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"/>	Others	
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3. Please provide progress related to the **financial implementation** of the project.

Please provide a description of the main expenditures during the reporting period. Describe the current status of funds mobilization activities and the related implications for project implementation. Provide information on status of obtained / mobilized co-financing, etc. as per CEO Endorsement/Approval document.

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 Componentv	Year 1				Year 2				Year 3				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 – Capacity development and knowledge management													
Outcome 1: Improved awareness, knowledge and capacity on WTE technologies in Tanzania													
Output 1.1: An information and learning centre (I&LC) established for WTE at the University of Dar es Salaam (UDSM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13,624.40
Output 1.2: Capacity developed for at least 50 policy makers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50,000.00
Output 1.3: Technical capacities developed for relevant RE institutions, agro-industries and project developers (target at least 50 numbers each)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	50,000.00
Component 2 - Demonstration of WTE technologies													
Outcome 2: Increased use of WTE technologies in agro-industries													
Output 2.1: Detailed plant designs prepared for participating demonstration projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Output 2.2: WTE power plants established for 6.8 MW cumulative capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	31,387.51
Output 2.3: WTE technologies transferred to agro-industries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30,000.00
Component 3 - Creation of a favourable investment environment													
Outcome 3: Increased involvement of private investors in WTE projects													
Output 3.1: Gap analysis on policy requirements conducted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	87,170.55

Output 3.2: Incentive and soft loan facilities designed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Output 3.3: Incentive scheme established under REA for investors of WTE projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	800,000.00
Output 3.4: Soft loan facility established under REA for investors of WTE projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Component 4 – Monitoring and Evaluation												
Outcome 4: Effectiveness of the outputs assessed, corrective actions taken and experience documented												
Output 4.1: Mid-term M&E Report prepared	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60,000.00
Output 4.2: End of Project M&E Report prepared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	76,635.67

X. Synergies

1. Synergies achieved:

UNIDO, Tanzania Development Bank (TIB Bank) and Rural Energy Agency (REA) under the Ministry of Energy (MoE) are working together in developing, monitoring and implementing a Private Sector Guarantee Facility called Bioenergy Promotion Facility (BEPF) for supporting local enterprises in their waste to energy and biofuel investment projects.

The facility will support energy developers to access finance for implementing projects. The major among many challenges developers are facing to be addressed is tied with collateral as a key condition for accessing the finances in commercial banks.

The facility with seed money amounting 1 M USD from UNIDO will allow various stakeholders (GoT, DP's, etc) to contribute or donate to the fund basket and therefore supporting energy sector development in the country; thus, contributing to the economic and social benefits of industrial productivity, profitability, and circularity practices and solutions.

3. Stories to be shared (Optional)

Please provide a brief summary of any especially interesting and impactful project results that are worth sharing with a larger audience, and/or investing communications time in. Please include links to any stories/videos available online.

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 <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 yield 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 is <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.