Mid-Term Evaluation of UNDP/GEF Project:

"Nationally Appropriate Mitigation Action for Improved Waste Management and Biogas Production in Uganda"

Final MTE Report

PIMS NO: **UNDP 5574**
GEF PROJECT ID: **9210**

DURATION: **02 August 2018 to 02 August 2023**
MID-TERM EVALUATION TIME-FRAME: **3 September – 31 July 2022**

COUNTRY: **UGANDA**

EXECUTING ENTITY: **UNDP**
IMPLEMENTING PARTNER: **Ministry of Energy and Mineral Development**

Mid-Term Evaluation Team

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26 July 2022

Cover photos: Staff from cities of Mbarara, Masaka, Mbale and Jinja visiting National Water and Sewerage Corporation (NWSC) Biogas power generation facility in Kampala, MTE Team visit to Mbale landfill site, Briquettes made from waste by a women's group in Masaka and MTE team with the leader of waste pickers association at Jinja landfill site.

Acronyms and Abbreviations

AWP	Annual Workplan
CCD	Climate Change Department
CDF	City Development Forum
CDO	Community Development Officer
CSO	Civil Society Organization
DWRM	Directorate of Water Resources Management
ESIA	Environment and Social Impact Assessment
EO	Environmental Officer
ERA	Electricity Regulatory Authority
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
HI	Health Inspector
IEC	Information, Education and Communication
IWM	Integrated Waste Management
IWMB	Integrated Waste Management and Biogas
KCCA	Kampala Capital City Authority
KOICA	Korea International Cooperation Agency
Ltd	Limited
M&E	Monitoring and Evaluation
MEMD	Ministry of Energy and Mineral Development
MFPED	Ministry of Finance, Planning and Economic Development
MoU	Memorandum of Understanding
MSC	Most Significant Change
MSW	Municipal Solid Waste
MTE	Mid-Term Evaluation
MWE	Ministry of Water and Environment
MW	Mega Watt
MWh	Mega Watt hour
NAMA	Nationally Appropriate Mitigation Action
NCCP	National Climate Change Policy
NDCs	Nationally Determined Contributions
NDP	National Development Plan
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NIM	National Implementation Modality
NUSWMP	National Urban Solid Waste Management Policy
NWSC	National Water and Sewerage Corporation
OECD	Organisation for Economic Co-operation and Development
PA	Participatory Approach
PMU	Project Management Unit
RED	Renewable Energy Department of MEMD
RP	Responsible Partner
RTA	Regional Technical Advisor
SDG	Sustainable Development Goal
SSA	Sub-Saharan Africa
ToR	Terms of Reference
UBoS	Uganda Bureau of Statistics
UIA	Uganda Investment Authority
UNCDF	United Nations Capital Development Fund
UNDAF	United Nations Development Assistance Framework
UNDP-CO	United Nations Development Programme Country Office
WWT	Wastewater Treatment
WWTP	Wastewater Treatment Plant

Acknowledgements

The MTE team expresses its deep appreciation for the support provided by the UNDP Country Office, the UNDP focal point, the GEF Regional Technical Advisor, and the Project Management Unit (PMU) during the execution of its mandate.

We recognize the positive collaboration of the Implementing Partner, the Ministry of Energy and Mineral Development, for their continued support under evolving conditions. During the execution of the survey, the MTE team received the assistance of the City clerks and technical staff and partners in the cities of Jinja, Mbale, Mbarara and Masaka, as well as the Kampala Capital City Authority. The Team is grateful for the time spent in consultations, both physical and virtual, and for sharing insights about the project perspectives and constraints. Likewise, the Team appreciates the participation of the representatives of other agencies involved in the project, namely the National Water and Sewerage Corporation and Electricity Regulatory Authority. Lastly, the team thanks Ms. Sarah Aminah Namiiro of Makerere University, who volunteered to assist the MTE Team during the field mission and with note taking for the meetings and engagements.

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1. EXECUTIVE SUMMARY

This report presents findings of the mid-Term Evaluation (MTE) for the UNDP supported GEF project entitled "Nationally Appropriate Mitigation Action on Integrated Waste Management and Biogas in Uganda" conducted between September 02 and July 31, 2021. The MTE was conducted by Eduardo Quiroga, the international consultant and team leader until March 2022, and Michael Mbogga, the national consultant and team leader until July 2022 .

Table 1. Project information table

Project Title:	NAMA on Integrated Waste Management and Biogas in Uganda		
UNDP Project ID (PIMS #):	5574	PIF Approval Date:	4 June 2015
GEF Agency Project ID:		CEO Endorsement Date	2 August 2017
GEF project ID:	9210	ProDoc Signing Date:	13 August 2018
ATLAS Business Unit, Award # & Project ID:	Business Unit: ATLAS Award ID: 00100437	Date Project Manager hired:	October 2019
Country(ies):	Uganda	Inception workshop date:	19-20 February 2019
Region:	Africa	MTE Completion Date:	November 2021
Focal Area	Multi-Focal Area	Planned closing date:	August 2023
Integrated Approach Pilot	IPAC-Food Security	Corporate Programme	
Executing Entity/ Implementing Partner	Ministry of Finance, Planning & Development, and Ministry of Energy and Mineral Development		
Project Financing		at *GEF endorsement (US$)*	at *MTE 2021 (US$)*
(1) GEF Trust Fund or LDCF or SCCF or other vertical fund:		2,170,030	**522,226**
(2) UNDP TRAC		900,000	92,215.8
(3) Government		938,000	17,707,962
(4) private investors		12,050,000	4,000,000
(5) other international donors		900,000	0
(6) other national stakeholders		350,000	0
(7) Total co-financing (2+3+4+5+6)		15,138,000	21,800,778.8
PROJECT TOTAL COST (1+7)		**17,308,030**	

1.1 Project Description

The "*NAMA on Integrated Waste Management and Biogas in Uganda*" project aims to provide environmental benefits and reduce greenhouse gas emissions from improper and inadequate management and treatment of wastewater and organic waste in towns, municipalities, cities, and agro-processing industry in Uganda. The project addresses institutional and technical capacity gaps for the implementation of integrated waste management (IWM) in cities and municipalities in Uganda. In

addition, the project demonstrates successful biogas-based technology for electricity generation as well as the production of electricity from agricultural waste. The project also focuses on working through Public-Private Partnerships (PPPs) to demonstrate and invest in Municipal Solid Waste (MSW) and wastewater-based biogas plants. After successful demonstration of the technical and economic feasibility of MSW and wastewater-based biogas technologies, the project will move on to scaling-up the use of these technologies through the establishment of a grant and technical assistance fund. The purpose of the fund is to address financial and technical barriers to establishment of PPPs in MSW-based biogas plants in other cities around the country.

1.2 Project Progress Summary

There is slow progress towards outcomes because of delayed start of the project, and restrictions due to Covid19 lockdown in Uganda making project unlikely to meet all end of project targets. The project has built capacity and promoted public awareness for IWM in more than 10 cities across the country. Two waste-to-energy plants have been developed by project partners for wastewater and agricultural waste to energy (National Water Sewerage Corporation in Kampala and Kakira in Jinja respectively).

Feasibility studies to identity suitable site for MSW-to-energy plant at the Kampala landfill and for options for enhancing feedstock for the NWSC wastewater electricity plant have been completed. The MSW to energy plant at the Kampala requires a capital investment of US14.8m. Enhancing feedstock at the wastewater biogas plant is viable with a 70:30 mix, but only if there is no additional cost associated with delivering organic waste to the plant. The project is highly relevant and has raised interest in the business sector to use MSW and wastewater for generating electricity in Uganda.

Despite having two demonstration plants, the project has not been able to attract a private investor for the MSW plat at the Kampala Land fill. The process of securing private sector investor to work with cities requires a SPV which is a lengthy process. Any other arrangement that can bring in the private sector to invest in waste-energy enterprises should be pursued.

The project needs remedial action to address shortcomings in the monitoring and evaluation of project outputs and on sharing lessons learner with all stakeholders as well as in making the project fully gender responsive.

1.3 MTE Ratings & Achievement Summary Table

Table 2. MTE Ratings & Achievement Summary Table

Measure	MTE Rating	Achievement Description
Project Strategy	**N/A**	The project is highly relevant to country's development objectives and in meeting its climate change mitigation objectives. Project indicators are not fully SMART and need to be revised to reflect what the project is doing and what is realistically attainable.
Progress Towards Results	**Goal** **MU**	Capacity of cities and municipalities to undertake IWM approaches has been enhanced through continuous training, awareness raising and sensitization. Policies and local regulations with regards to waste management, have been strengthened; stakeholders along the waste management value chain trained in different aspects of IWM and resource recovery from waste. The project has not been able to attract private sector to invest in a waste to energy electricity generation plant at the landfill in Kampala. Such a plant, which was expected to be working

Measure	MTE Rating	Achievement Description
		by mid-term, would have served as a key demonstration for similar investments in other cities.
	Objective **MU**	Lifetime direct GHG emission reductions of 254,552 tCO_2 eq and lifetime indirect GHG emission reductions of 491,104 tCO_2 eq, from two waste to energy demonstration plants.
	Outcome 1: **MS**	Capacity building and IWM awareness raising conducted in 10 cities and 3 municipalities (Jinja, Masaka, Mbale, Mbarara Soroti, Lira, Gulu, Arua, Hoima and Fort Portal Kabale, Masindi and Tororo). Cities supported to update gender-responsive waste management plans and waste management ordinances. IWM and MSW-based biogas technology promoted, waste collectors in the different cities and municipalities trained, and raised awareness, about IWM through several channels. Contributed to the evaluation of the National Urban Management policy for Uganda, incorporating aspects of waste-to-energy. A multi-stakeholder platform on waste management and energy recovery established. Support provided to establish a Technical Working Group for waste, sanitation management and resource recovery in the Greater Kampala Metropolitan Area (GKMA).
	Outcome 2: **MU**	Feasibility studies to: i) identify a suitable site for a biogas-to-electricity plant utilizing waste from the Kampala Capital City Authority and ii) enhance biogas production at the National Water and Sewerage Corporation (NWSC) biogas plant at the Nakivubo Wastewater treatment plant completed in December 2021 and January 2022 respectively. Due to the lengthy process involved in developing PPP between cities and the private sector, no investor has been secured for the Kampala landfill MSW-to- energy plant. Two waste-to-energy plants have been developed by project partners for wastewater and agricultural waste to energy (National Water Sewerage Corporation in Kampala and Kakira in Jinja respectively). The project team is contemplating options of ensuring that timely delivery of waste to energy demonstration plant for Kampala landfill or funds reallocated for alternative activities to help meet the project outcomes. Apart from those from stakeholders, project has not been able to directly undertake any investments.
	Outcome 3: **MU**	A gender strategy and action plan to incorporate gender aspects in activity implementation at all levels developed. Waste flow surveys and feedstock characterization studies for Mbale and Mbarara commissioned. The three end-of-project indicators for this outcome are i) establishing a technical assistance fund to attract MSM-based investments, ii) 5 MSM-based biogas project concepts prepared and iii) $900,000 in grants disbursed from the fund. Achievements of these is based on successful implementation of the demonstration in component 2, which has not yet happened.

Measure	MTE Rating	Achievement Description
	Outcome 4: **MU**	A project website developed, standardized baselines for the computation of emission reduction from biogas generation from municipal solid waste and industrial wastewater developed. Lessons learned in the course of activity implementation documented which will be necessary in informing further dissemination of similar biogas to electricity facilities in the country. The project website is no longer online, and even then, did not carry up-to-date information about the project. It would have been better to hold the project website on the domain of the ministry of Energy and Mineral Development for continuity. Waste management guidelines neither developed nor disseminated.
Project Implementation and Adaptive Management	**MU**	The project suffered a delayed start for nearly 12 months. This together with the unforeseen and intervening elements tied to the Covid-19 pandemic, which superseded the ordinary complexities of project implementation. The amalgamation of these factors led to a setback of the Project's potential to deliver outputs and generate outcomes. The project has suffered delays in approval of annual workplans and delayed disbursement of funds, which subsequently affect execution of planned activities and procurement of services.
Sustainability	**MU**	The Project has solid political support at both the central and local government levels. The project board has representation from the city clerks from each of the five beneficiary cities. The Prodoc anticipated the investment of the private sector, to the tune of US $ 12m, targeted to the conversion of waste to energy. The investment by National Water and Sewerage Corporation wastewater to energy plant in Kampala is more than US $15m, and Kakira Sugar Works Limited has invested US $ 4m in generating electricity from agricultural waste. Feasibility studies have indicated that the Waste to energy plant at the Kampala landfill requires US $14.8m. No private sector investor has been secured to make this investment. Engaging and bringing the private investors on board is essential, not only to ensure the achievement of project activities, but also to enable the sustainability of the interventions from the social, economic and environmental standpoints.

1.4 Summary of conclusions

Project strategy

Conclusion 1: The project is highly relevant to national efforts for climate change mitigation. It is well aligned with the National Climate Change Policy 2015, National Climate Change Act 2021 and institutional frameworks to address climate change objectives and ambitions such as Vision 2040, and the National Development Plan (ii and iii) and is aligned with Uganda's Nationally Determined Contributions to the Paris Agreement.

Conclusion 2: Indicators for the project objective are not fully SMART. GHG emission reduction of 83,300 CO2eq/yr might not be achievable by the end of the project, given that it is likely there will be no replication of biogas plants in the other cities by project end.

From the results framework, the project only makes mention of Municipal Solid waste, yet the project is currently working and reporting on MSW, wastewater and agricultural waste. Indicator on component 2, focuses on only MSW, yet the computed 2.9MW generated comes from the three demonstration sites one for KCCA based on MSW and another for NWSC based on wastewater.

Project implementation and adaptive management

Conclusion 3: The project planned to involve the private sector in waste-to-energy generation in Kampala and other cities mainly through Public-Private Partnerships. Private sector involvement is key to sustainability of interventions since these come in to fill the critical financing gap in the energy sector. Success of the next phase of the project as well as sustainability of the interventions beyond the lifetime of the project is highly dependent on attracting private sector investment into the waste to energy value chain.

Conclusion 4: The Project has solid political support at both the central and local government levels. The project board has representation from the city clerks from each of the five beneficiary cities. From the stakeholders' responses to the survey, it is clear that the value of sustainability has risen considerably as far as stakeholders are concerned.

Conclusion 5: Project implementation was delayed for about a year after project start up due to the project's internal management issues. Part of the delay was caused by negotiations between MEMD and UNDP to reallocate outputs under component 1 from international consultants to NEMA, since it had been realized that NEMA carried the requisite capacity to conduct activities for these outputs. Additionally, the implementing Partner chose to recruit a technical project manager who is technically competent in energy rather than a general project manager, which took longer than anticipated.

Delivery of project outputs was affected by the nation-wide lockdown due to the outbreak of Covid-19. Although the PMU and others responsible parties tried to reach out to stakeholders using the internet, this did not have the same effectiveness as face-to-face trainings.

Conclusion 6: Auditors recognized delays in approval of annual workplans and delayed disbursement of funds, which subsequently affect execution of planned activities and procurement of services. Release of funds for any year is normally done at end of the first quarter. Disbursement of GEF funds is not on track, with only 16% and 52% of the budget funds for 2019 and 2020 respectively. These delays could not be explained by Covid-19 lockdown since they appear in 2019 before the lockdown.

Conclusion 7: Whereas many of the different aspects of M&E have been followed, the project did not make an explicit M&E plan at the inception meeting as had been provided for. This has led to limited reporting on total number of stakeholders that the project has been able to reach. Even with the limited implementation of project activities so far, the PMU appeared to underestimate the tasks related to reporting on project achievements and documenting/sharing of lessons learned. It is likely that the PMU and the implementing agency carried out activities with potential results that have been under reported.

***Conclusion 8*:** The project has involved some women in trainings and awareness activities, however the move towards gender responsiveness is lacking. The project has a gender strategy and reports gender disaggregated number of women and men reached directly by the project. However, there is no clear focus to target women in project activities, yet the prodoc mentions that women are key players in the waste sector in the cities and municipalities

1.5 Recommendation Summary Table

	Recommendation	Responsible
1	Revise project objective indicator to what can realistically be achieved. Additionally, revise outcome indicator to reflect what can realistically be achieved. Revise indicator for outcome 2 to include use of MSW, wastewater and agricultural waste in waste to energy projects.	MEMD/PMU, Project Board
2	Explore alternative approaches other than SPVs to bring the private sector to invest in waste-to-energy ventures in Kampala and other cities. These could include encouraging the cities to implement the polluter-pays-principle and thus reduce the operational costs of securing MSW.	MEMD/PMU, Project Board
3	Re-allocate funds for pilot plants to procurement of a demonstration mobile waste separation and sorting trommel machine(s) and equipment for monitoring biogas plant at Nakivubo Wastewater treatment plant NWSC. These mobile trommels could be used to demonstrate recovery of resources from Waste-Integrated waste management approaches since organic waste is used to produce biogas and/or organic fertilizer.	MEMD/PMU, Project Board, UNDP
4	Re-allocate funds for pilot plants to activities that prepare other cities for private sector investment in waste-to-energy ventures.	MEMD/PMU, Project Board, UNDP
5	Build on political support in the cities to expand work to attract private sector involvement in IWM in the different cities beyond IWM capacity building and awareness creation activities	MEMD/PMU, Project Board
6	Submit a request for a no-cost extension for 18 months to make up for the time lost, as the result of the ~12 months delay to start implementation of project activities and lockdown due to covid19 restrictions.	MEMD/PMU, Project Board
7	MEMD and UNDP should work together to ensure timely approval of annual workplans, disbursement of funds and reporting of project outputs and accounting for advanced funds.	PMU, MEMD, UNDP
8	Strengthen monitoring and reporting of implementation of project implementation and give more attention to recording and reporting on lessons learned and project achievements. This might require recruitment of an M&E officer as part of the PMU or hiring a national consultant for the remainder of the implementation.	PMU
9	Implement recommendations of the gender strategy to ensure that women and men are adequately represented in the IWM activities in the cities	PMU

2. INTRODUCTION

2.1 Purpose of the Mid-Term Evaluation and objectives

The purpose of this Mid-Term Evaluation (MTE) is to provide information about the status of implementation of the project entitled *"NAMA on Integrated Waste Management and Biogas in Uganda"* to ensure accountability for the expenditures to date and the delivery of outputs to enable managers make mid-course corrections as appropriate. It is expected that the MTE will also lay the foundation for the Terminal Evaluation. The purpose of the MTE is spelt out in greater detail in the ToR for the MTE (Annex i).

Objectives of the MTE are:

i) evaluation project design and strategy,
ii) assess progress towards the achievement of the project objectives and outcomes as specified in the project document, and
iii) assess early signs of success or failure including risks to sustainability.

The goal of this MTE is to identify and recommend the changes necessary to set the project on-track to achieve its intended results. It is expected that the recommendations in this MTE report shall be used by the project implementers to as a means in adaptive management.

The project's overall objective is improved waste management practices in towns and municipalities through the introduction of integrated waste management, and the deployment of biogas energy systems based on the organic fraction of municipal solid waste (MSW), agro-processing waste, sewerage sludge and wastewater for biogas energy generation. Waste management practices have an effect on practically every segment of the social structure. As a result, the project's target population is diverse, cutting across the national socio-economic structure and touches on the cities of Mbarara, Masaka, Jinja Mbale and Kampala, as manifested from the PMU's list of stakeholders.

2.2 MTE Scope & Methodology

The purpose of the MTE was to provide information about the status of implementation of the project to ensure accountability for the expenditures to date and the delivery of outputs so that managers can make mid-course corrections as appropriate. The main objective is to assess early signs of project success or failure with the goal of identifying the necessary changes to be made to set the Project on-track to achieve its intended results. The MTE also evaluationed the Project's strategy and its risks to sustainability.

The MTE relied on four tools viz., (i) evaluation of project formulation documents, technical and financial reports and other relevant documents, (iii) interviewing staff in cities and other agencies, (iii) assessment of community impressions about the project interventions, approach and benefits through interviews of key staff of participating cities and other partner organizations, and (iv) on-site observations. Field observations were made in five cities where the project is operating namely Kampala, Jinja, Masaka, Mbale and Mbarara. The MTE Team conducted 62 key informant interviews with the city staff, the private companies working on waste management in the cities and representatives of other agencies.

The MTE methodology and approach followed the UNDP Guidance for Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects.[1]

The MTE was conducted between September 02 and July 31, 2022. Initially, the MTE Team evaluationed the documentation available about the project. The complete list of documents evaluationed is provided in Annex v. Because of covid-19 restrictions, the International Consultant could not travel to Uganda. The National Consultant undertook the mission to the different cities between September 6 and 17, 2021 according to the itinerary listed in Annex vi. The International Consultant participated in the important meetings virtually mainly via Zoom. The MTE team held virtual weekly consultative meeting with the Project Management Unit (PMU).

Using gender (male /female) as a core constant, the segments of the population sampled were the following:

a) representatives of the central and local governments (officers working for the cities, municipalities, and relevant national ministries or agencies),
b) non-governmental organizations (NGOs) and civil society organizations (CSOs),
c) advisory groups (UNDP and other international advisors),
d) private sector, which comprises individuals and corporations operating in the waste management sector for profit.
e) The informal sector is comprised of the waste pickers, involving unemployed youth without educational opportunities and women from poor households eking out a living in peri-urban areas. The MTE team interacted with a handful of waste pickers that were found in at landfill sites in Mbale, Jinja, Masaka and Mbarara (this number is not part of the 62 individuals that were interviewed).

From the total of 143 stakeholders that the project had directly interacted with, the MTE interviewed a sample of 62 individuals 27% of whom where female and 73% male. Interviewed stakeholders fell into five categories as indicated above, including central government employees (8), city or local government employees (34), NGO/CSOs engaged in waste management (6), private sector (11), informal sector (1) and PMU (2). During the MTE mission, stakeholders were interviewed using an open-ended questionnaire (shown in Annex iii). The questionnaires' open-ended questions were connected to the revised Evaluation Matrix (Annex ii). The evaluative questions were rephrased using the OECD evaluative criteria and were articulated in a more thoughtful and practical manner.[2] The names and contact details of stakeholders interviewed is listed in Annex vi. The MTE team also visited landfill sites in the cities of Jinja, Masaka, Mbale and Mbarara to interact with waste pickers at these sites. Representatives of other organizations engaged in the project such as the Electricity Regulatory Authority (ERA) and National Water and Sewerage Corporation (NWSC) were also interviewed.

In order to streamline sharing of project data and achievements by the PMU, the MTE team prepared three templates for this purpose (annex iv). These included the following:

- Template 1: PMU Briefing on Output Completion; facilitating the compilation of data to report on the completion of outputs. The aim was to induce the evolution of completed activities into immediate, intermediate, and completed outputs.
- Template 2: PMU briefing on Management; streamlining data associated with the organization and management of project implementation.

[1] UNDP. 2014. Guidance for conducting midterm evaluations of UNDP Supported GEF financed projects. UNDP-GEF Directorate. http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Evaluation%20_EN_2014.pdf

[2] [2] OECD Applying Evaluation Criteria Thoughtfully, OECD Publishing, Paris, 2021 https://doi.org/10.1787/543e84ed-en

- Template 3: PMU Briefing on Performance; streamlining data associated with the management of project performance.

The evaluation and analysis followed the guidance defined in the evaluation matrix, attached as Annex ii.

2.3 Structure of the MTE report

The drafting of the MTE report followed the guidelines of the UNDP-GEF's "Project-level Monitoring: Guidelines for Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects" of 2014.

This MTE report is structured as follows:

- Executive summary, including (i) Project Information Table, (ii) Project Description, (iii) Project Progress Summary, (iv) MTE Evaluation Rating and Achievement Summary Table, (v) A Concise Summary of Conclusions, and (vi) Recommendations Summary Table.
- Introduction, including, (i) Purpose of the MTE and objectives, (ii) Scope and Methodology; Principles and Design and Execution of the MTE, Approach and Data Collection Methods, Limitations to the MTE, and (iii) Structure of the MTE Report.
- Project Description and Background Context, including, (i) Development Context, (ii) Problem that the Project Sought to Address, (iii) Project Description and Strategy, (iv) Project Implementation Arrangements, (v) Project Timing and Milestones, and (vi) Main Stakeholders.
- Findings, including (i) Project design, (ii) Progress Towards Results, (iii) Project Implementation and Adaptive Management, and (iv) sustainability.
- Conclusions and recommendations, including (i) conclusions, and (ii) Recommendations.
- Annexes, covering ToRs of the MTE, evaluative matrix, sample questionnaires used, PMU Briefing Templates on Management, Performance and output completion, rating scales, MTE mission itinerary, list of persons interviewed, list of documents evaluationed, co- and progress towards results matrix

2.4 Rating Scales

Rating of project delivery follows the guidance for midterm evaluation of UNDP-supported, GEF-financed projects. The first evaluation theme (i) Project strategy is not rated during the MTE. The next two themes (ii) Progress towards results, and (iii) Project implementation and adaptive management are rated along a six-point scale ranging from highly unsatisfactory to highly satisfactory. For the fourth evaluation theme (iv) Sustainability, four sub-themes, including institutional framework and capacities, financial, socio-economic, and environmental sustainability are rated along a four-point scale ranging from unlikely to likely. All four sub-themes are considered critical and therefore the lowest rating is automatically assigned as the overall rating for the entire sustainability theme. For details of the rating scales refer to Annex v.

2.5 Ethical Considerations

2.6 Limitations

The following are some of the limitations encountered during this MTE and how these limitations were overcome or managed.

Evaluative questions were not ready at the signing of the MTE contracts and had to be revised by the project team with approval of the commissioning unit. Evaluative questions were collectively

evaluationed by the PMU together with the MTE team, with the final version only used after approval by the RTA.

Evaluative data was not ready the beginning on the mission. In order to deal with this limitation, MTE team prepared templates to be completed by PMU. Information in the completed templates helped to provide critical an idea of the accomplishments of the project at the key management aspects of the project.

Another limitation to this MTE was the restrictions on travel of the MTE team leader due to covid-19. This resulted into a redefinition of the roles within the MTE team. New arrangements were reached with the UNDP-CO such that the National Consultant led the field data collection in all the cities and with all stakeholders. The responsibility of expected results was redefined, and the data tabulation and analysis were based on this arrangement. Additionally, the international consultant resigned from the MTE team after preparing the draft MTE report. The MTE Commissioning Unit then handled over the responsibility of finalizing the MTE report together with responding to comments to the report to the national consultant.

3. PROJECT DESCRIPTION AND BACKGROUND CONTEXT

3.1 Project Context

Uganda's economic activity was hit by COVID-19 lockdowns in 2020 and 2021. Growth recovered from a contraction of 1.5% in 2020 to 6.0% in 2021, lifted by household consumption and investment. Agriculture was the least affected sector; industry was supported by strong expansion in mining and construction, while manufacturing remained sluggish. Services are returning to pre-COVID-19 trends, driven by public administration and education. Stable prices in 2020 and 2021 – with with inflation at 2.2% in the latter year – led the central bank to reduce its policy rate from 9% to 6.5% over the two years[3]. Whereas economic recovery was expected to continue, in 2022 with GDP projected at 4.6% and 6.2% and 2023, driven by services, following the reopening of schools in 2022 and recovery in the hospitality sector, this is likely to be slowed by the rising inflation attributed to the conflict in Ukraine leading to higher food and oil prices and continued supply chain disruptions.

In 2020, Parliament approved the creation of 15 new cities, including the four municipalities where the project is working. Urbanization is a global trend and has largely been a positive force for economic growth, poverty reduction and human development[4]. This is likely to drive up the human population in these cities, improve urban planning, improve revenue collections, and improve resources available for managing the cities including those allocated for waste management. However, the current model of debt-financed public spending which emphasizes infrastructure and has crowded out private sector borrowing and is limiting private sector driven growth[5].

Uganda's third National Development Plan 2020/21-2024/25 (NDP III) seeks to increase household incomes and improve the quality of life of Ugandans through sustainable industrialization for inclusive growth, employment and sustainable wealth creation. One of the objectives of NDP-III is to maintain or restore a clean healthy and productive environment including improving waste management practices in cities. Another relevant objective is to promote inclusive climate resilient and low emissions development at all levels.

[3] African Development Bank. https://www.afdb.org/en/countries/east-africa/uganda/uganda-economic-outlook
[4] Advocates Coalition for Development and Environment (ACODE)
[5] https://www.worldbank.org/en/country/uganda/overview

According to the Uganda Bureau of Statistics (UBoS) on-grid electricity access in Uganda stood at 19% in 2021, another 38% of the population have off-grid access. Wood fuel is a major source of energy in the homes both in rural and urban areas as well as for institutions such as schools, hospitals and prisons. Improving access to electricity, is not only seen as contributing to improved livelihoods but also an effort to protect the environment since less trees will be cut to supply fuelwood.

A National Climate Change Policy (NCCP)– 2015 – aims to harmonize climate change action across all sectors and levels of governance, from central to local governments, with special reference to addressing issues related to decentralized waste management. In addition, both Vision 2040 and the NCCP prioritize green growth and a green economy. In 2017, with the assistance of the UNDP, Uganda prepared a Green Growth Development Strategy to harmonize climate change action. Uganda's NDCs prioritize the waste sector as key for climate change mitigation in the country. A National Climate Change Act (NCCA) 2021 was enacted to help to give the force of law in Uganda to the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement; to provide for climate change response measures; to provide for participation in climate change mechanisms; to provide for measuring of emissions, reporting and verification of information and providing institutional arrangements for coordinating climate change response measures and provide for climate financing.

The Ugandan government estimated that 30% of the cost of climate action over the next 15 years can be met from national sources, while the 70% gap will need to be met by substantial international finance including resources from the GEF9. In this connection, the UNDP/GEF Project is in line with the Uganda vision 2040, the five-year NDP and the NCCP (2015). This Project intends to tackle both the underlying development issue and the global environmental problem of greenhouse gas emissions which results from improper and inadequate management and treatment of wastewater and municipal solid waste (MSW) in towns and municipalities in Uganda.

The UNDP GEF Project is cross-cutting and addresses seven of the 2015 UN Sustainable Development Goals (SDGs): (5) gender equality; (6) clean water and sanitation; (7) affordable and clean energy; (9) industry innovation and infrastructure; (11) sustainable cities and communities; (12) responsible consumption and production; (13) and climate action.

3.2 Problems that the project sought to address: threats and barriers targeted

With a population of about 45.7 million (2020)[6] growing at 3.18% per annum, Uganda is experiencing rapid population growth and consequently, soaring urbanization growth. In Sub Sahara Africa (SSA) and other regions, growth of urbanization brings about the expansion of informal settlements associated with the rural exodus tied to the dwindling agricultural yields resulting from climate variability. The demand for food and electricity increases as well as the consumption of household goods and the amount of waste generated by the urban settlers surges correspondingly.

In a typical urban center, the amount of waste generated is greater than the existing capacity to collect and manage it. Similarly, the capacity to treat and manage urban-based wastewater is deficient. Agriculture is the backbone of the economies in most SSA countries. The emergent agro-processing industry generates organic waste at a rate beyond the existing capacity to collect and manage it. In the peri-urban zones, there are marginalized settlements inhabited by low-income families from rural areas. At landfill sites, women and youth carry out plastics collection and sorting without protective gear.

The business-as-usual scenario reflects the current conditions of waste management, which are characterized by the following features:

[6] Most recent estimate. Cf: data.worldbank.org

1. The prevailing approach to waste management is disorganized and haphazard. This is exemplified by a recent household survey[7] revealed that one-half of total waste is uncollected, three quarters of which is burned, and the rest dumped in open places.

2. Fewer than one-third of industries and factories have wastewater treatment facilities or discharge permits. The current management practices to operate urban waste flows are sporadic and do not address prevailing barriers.

3. The current market conditions do not foster medium and large-scale waste-to-energy projects such as biogas, as there are no incentives for private developers of renewable energy projects to design and operate biogas-based power systems.

4. It is clear that the institutional and financial framework tied to the MSW sector is inadequate to foster private sector initiatives. This is compounded by a limited expertise in the expansion and management of energy projects within the waste sector.

5. The key challenge for community members is participating in waste reduction/sorting at the source and paying for waste collection. Although awareness raising and sensitization are sufficient in this process, the necessary step is to embed the "polluter pays principle" into the process. This principle is provided for in Uganda's Environment Act[8]. It affirms that those who produce pollution/waste should bear the costs of managing the waste to prevent damage to human health or the environment.[9] Every owner/occupant of a dwelling/commercial premises is responsible for waste generated at those premises until it is collected either by the local council or its appointed agents/operators licensed by the council. For instance, a factory that produces a potentially poisonous substance as a by-product of its activities is usually held responsible for its safe disposal.

6. There are technical/procedural challenges to instituting this principle effectively in many countries, including Uganda. Research[10] has noted that the polluter pays principle is not applied uniformly to the same extent depending on the environmental policy area.
   Specifically: (i) In the industrial sector, the polluter pays principle would be relatively well applied to the most polluting installations. (ii) In the waste sector, the research acknowledges that most legislation takes the polluter pays principle into account, but it does not guarantee that the polluters will pay the entire cost of the pollution. Public investments are often necessary to overcome the financing deficit. (iii) In water pollution, polluters would not bear all the costs of their pollution. For instance, European Union households would pay most of the cost of the water supply and its sanitation even though they only consume 10% of this water.

7. To achieve effective waste management in Uganda's urban centers the following actionable agenda is central:

   a. Consider mainstreaming waste management based on the 'polluter- pay principle' into local development plans supported by effective fiscal decentralization from central government.

[7] Allan J. Komakech,1,2,⁄ Noble E. Banadda,2 Joel R. Kinobe,1,3 Levi Kasisira,2 Cecilia Sundberg,1 Girma Gebresenbet,1 and Björn Vinnerås. 2014. Characterization of municipal waste in Kampala, Uganda. Journal of the Air & Waste Management Association: 64 (3), 340-348. https://www.tandfonline.com/doi/citedby/10.1080/10962247.2013.861373?scroll=top&needAccess=true

[8] The National Environment Act 2019.
https://nema.go.ug/sites/all/themes/nema/docs/National%20Environment%20Act,%20No.%205%20of%202019.pdf

[9] The polluter pays principle is part of a set of broader principles used to guide sustainable development worldwide, formally known as the 1992 Rio Declaration. Cf: https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-polluter-pays-principle/

[10] Cf: https://www.lawyer-monthly.com/2021/08/european-court-of-auditors-publication-of-its-special-report-on-the/

b. All evidence points to the existence of an effective demand for genuine fiscal decentralization based participatory planning where urban councils are empowered for resource mobilization and implementation. To this end, urban councils need continuity over time; thus, they need neutrality from the process of electoral politics.
c. The 1995 Ugandan Constitution empowers local governments to levy, charge, collect and appropriate fees and taxes for investment in infrastructure and service delivery, such as solid waste management. However, the constitution does not establish regulations as to how much and how such fees are to be collected, especially for solid waste.
d. At the municipal level many solid waste management ordinances empower councils to levy and collect fees for the collection and disposal of solid waste, payable by the person or entity generating the waste. However, municipal councils require regulations to collect fees for the collection and disposal of solid waste, including the NWSC that collects a fee for disposal of liquid waste.
e. Therefore, it appears necessary to enact regulations based on the polluter pays principle. (1) The law must regulate how much and how such fees can be collected for solid waste. (2) Similarly, regulations must be enacted so that cities and municipal councils can collect fees for the collection and disposal for solid water, including the NWSC that must collect fees for the disposal of liquid waste.
f. Moreover, the private sector holds a pivotal role, as they are anticipated to provide about 70% of the Project's total cost—but also they impart an organizational framework for the sub sector. Whenever UN organizations and national governments are partnered to work jointly with the private sector, it is incumbent on the national government to offer an enabling environment and legal framework so that the proposed partnership (UN/government/private sector) is socially acceptable, economically viable and environmentally respectful. [11]

Barrier Analysis

While there are clear benefits for integrated waste management, there are several barriers in place impeding the widespread application of effective waste management practices, including biogas energy technology and wastewater treatment. These include barriers related to:

Institutional capacity (related to the waste management sector)

- Budgetary allocations for waste management are low.
- The waste sector is plagued by inefficient institutional coordination and a lack of cooperation among stakeholders in MSW management.

Technical capacity

- Lack of technical capacity to carry out key project activities, such as the preparation of bankable feasibility studies and market assessments.
- The lack of an operating project in Uganda with sound technology has hindered skill development and lesson learning on the waste management collection, sorting, and treatment for anaerobic biogas system.

Technology

- Municipalities are hampered by the lack of inadequate equipment and solid waste handling facilities.

[11] UN Global Compact, Bertelsmann Stiftung, UNDP. Partners in Development How Donors Can Better Engage the Private Sector for Development in LDCs, New York, 2011.

- There is a lack of successful examples of biogas-based, on-grid electricity generation.

Information barriers

- Information barriers were also identified in respect to the coordination and exchange of information between key stakeholders, including government institutions.

Policy, legal and regulatory

- In Uganda, key policy and enforcement gaps exist in municipal and city council Solid Waste

Management Ordinances.

- The growing populations and industries in municipalities, in combination with lack of mechanisms for the charging of fees
- collection and absence of enforcement under municipal ordinances, leaves an increasing volume of unchecked solid waste generated in municipalities.

Finance

- City and urban authorities are cash constrained with very limited resources to invest in IWM infrastructure development.
- Efforts to mobilize private sector investment for other renewable energy projects and rural electrification have proven unsuccessful due to insufficient financial returns.

Delivery models

- Linked to the above financial barriers, there is a lack of economically and financially viable business models in the waste sector.

Awareness

- There is inadequate awareness of the importance of reducing waste and disposing off waste properly due to inadequate sensitization in industry and households
- There are currently no avenues for effective community participation in waste management planning.

3.3 Project Description and Strategy

Project Objective: The overall objective of the project is improved waste management practices in towns and municipalities through the introduction of integrated waste management and deployment of biogas energy systems based on the organic fraction of MSW, agro-processing waste (where combined with municipal wastes), sewerage sludge and wastewater for biogas energy generation.

Relevant global environmental benefits include support for transformational shifts towards a low-emission and resilient development pathway. With a total installed capacity of at least 2.90 MW at the demonstration sites, it is estimated that together the three biogas plants initially foreseen for this project will produce about 20,300 MWh of electricity per year. The grid emission factor in Uganda has been estimated as 0.550 tCO_2/MWh. Thus, the annual GHG emission reductions from producing renewable energy would be approximately 11,165 tonnes of CO_2eq. Factoring in the expected 20-year lifespan of the biogas plants, the direct GHG emission reduction from the GEF project from producing renewable electricity would be 223,300 tonnes of CO_2eq.

Additionally, the burning of biogas (which contains methane) results in a significant reduction on CO_2eq, since every tonne of methane has a warming potential of 21 times that of CO_2. It is estimated that for

every MWh of electricity produced, 3.80 tonnes of CO_2eq reduction would occur due to the reduction of methane which would otherwise be produced through decomposition of organic wastes in landfills. The annual direct emissions reduction from the elimination of this methane is estimated to be 77,150 tonnes of CO_2eq. Over the 20-year lifetime of a plant, the total emissions reductions due to methane avoidance would be an additional 1,542,000 tonnes of CO_2eq. Combining the reductions from renewable electricity production with the methane reduction, the annual benefits would be 88,315 tonnes CO_2eq – or 1,766,000 tonnes CO_2eq over a 20-year investment period. In addition to global environmental benefits, biogas interventions also have many positive impacts on the local environment. Biogas production reduces landfill waste and as a result, it can dramatically reduce odours. The use of an anaerobic digester can protect water quality since it lowers pathogen levels. Moreover, the bio-fertilizer byproduct is a nutrient-rich fertilizer that can be used in the agricultural sector to increase crop yields. Biogas production also brings many economic benefits. It can create jobs, turns a cost item (waste treatment) into a revenue-generating opportunity, and can operate in conjunction with composting operations.

The project aimed at facilitating innovation and technology transfer, with the use of supportive policies and strategies:

- Institutional strengthening and capacity building
- Demonstration and investment
- Scaling up the use of MSW-based biogas technologies and knowledge management

The first two phases of the project anticipated to establish technical capacity, create enabling policy conditions and promote biogas technology and business models amongst municipalities and agro-processing partners leading to increased demand and capacity for MSW-based biogas systems. The project is intended to drive demand and enhance capacity for MSW-based biogas energy systems based on standardized systems and approaches (with context adapted systems and approaches) to ensure quality is maintained. Once their technical, operational, and economic feasibility has been demonstrated, the third phase focuses on scaling up the use of MSW-based biogas technologies through the establishment of a grant and technical assistance fund to address financial and technical barriers preventing the establishment of MSW-based biogas plants and PPP.

The Project seeks to use demonstrations and investments in integrated waste treatment and agro-processing biogas plants to help strengthen institutions and build capacity for improved waste treatment. The project also seeks to help establish an improved regulatory framework to ensure sustainability and replicability of interventions. The project is comprised of four related components, namely:

> Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner
>
> Outcome 2: Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational
>
> Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund
>
> Outcome 4: Lessons learnt, and success of the demonstration projects supports replication and scaling-up of project results

The project is being implemented in Kampala, the capital, as well as in four other cities: Jinja, Masaka, Mbale and Mbarara and to a limited extent the project reached out to other cities and municipalities across the country.

This project is expected to result into up 83,000 CO_2eq of emissions reduction from biogas energy plants. It is expected that up to 2m people will benefit from integrated waste management in the participating cities. The project is expected to mobilize up $11.5m for MSW-based biogas energy system. Demonstration MSW-biogas plants are expected to generate up 20,300MWhr/yr of electricity.

3.4 Project Implementation Arrangements:

UNDP is the GEF implementing agency for the project, with MEMD as the implementing partner. NEMA is one of the responsible agencies implementing component 1 of the project, MEMD is implementing components 2-4. GEF trust funds are disbursed to MEMD. The project signed MoUs with NEMA and with KCCA, and cities of Jinja, Masaka, Mbale and Mbarara. Feasibility studies were commissioned as part of the implementation strategy.

The project is overseen by a board which comprises representation as shown in table 3.

Table 3. Composition of the project board

	POSITION	ORGANIZATION
	Government Ministries & Agencies	
1.	Permanent Secretary	Ministry of Energy and Mineral Development
2.	Permanent Secretary	Ministry of Water and Environment
3.	Permanent Secretary	Ministry of Local Government
4.	Permanent Secretary	Ministry of Agriculture, Animal Industry & Fisheries
5.	Managing Director	National Water and Sewerage Corporation
6.	Executive Director	Kampala Capital City Authority
7.	Permanent Secretary,	Ministry of Finance Planning & Econ. Development
8.	Executive Director	National Environment Management Authority
	Development Partners	
9.	Resident Coordinator	UNDP/ GEF focal representative
	Local Governments	
10.	City Clerk	Mbale City Council,
11.	City Clerk	Mbarara City Council
12.	City Clerk	Jinja City Council
13.	City Clerk	Mbale City Council
14.	Director Public Health Services and Environment	Kampala Capital City Authority
	Private Sector and Associations	
15.	Chairperson	Urban Authorities Association of Uganda
16.	Managing Director	Kakira Sugar Limited

3.5 Project timing and milestones

Table 4 provides timelines and milestones for the NAMA on IWM and biogas project. The project duration is five years starting in 2018.

Table 4. Timelines and Milestones for the NAMA on IWM and biogas project

	Date	Event
1.	4 August 2015	PIF Approval date

2.	2 August 2017	CEO Endorsement date
3.	2 August 2018	Project document signature date
4.	19-20 February, 2019	Project Inception Workshop
5.	01 October 2019	Project manager hired by MEMD
6.	19 December 2019	Signing of MoU between MEMD and NEMA
7.	20 December 2019	Signing of MoU between MEMD and Kampala Capital City Authority
8.	13 November 2019	Mbarara city inception meeting
9.	15 November 2019	Masaka City inception meeting
10.	5 November 2019	Mbale City, Jinja City inception meeting
11.	5 November 2019	Jinja City, Jinja City inception meeting
12.	August 2019	First transfer from funds from UNDP to MEMD
13.	September 2021 - May 2022	Midterm evaluation
14.	July 2023	Expected date of Terminal Evaluation
15.	April 2023	Planned project closing date
16.	**July 2024**	Proposed closing date
17.	??	Project implementation closing date

3.6 Main stakeholders: summary list

Table 4. provides a list of stakeholders for the NAMA on IWM and biogas production in Uganda project

Table 5. Stakeholders for the NAMA on IWM and biogas production in Uganda project

Organization name	Role in the project
Ministry of Energy and Mineral Development (MEMD)	Implementing partner
National Environmental management authority (NEMA)	Waste policy development, creation of an enabling environment for waste-water treatment and utilization of biogas technology
Climate Change Department (CCD)	Oversee climate change work in Uganda, capacity development registering project in UNFCCC NAMA registry
Ministry of Finance, Planning and Economic Development (MFPED)	The Ministry of Finance, Planning and Economic Development's mission is to formulate sound economic policies, maximise revenue mobilization, and ensure efficient allocation and accountability for public resources. The Ministry will be engaged through Component 1 in particular during the design and submission of proposals for financial incentives such as tax breaks for biogas equipment.
Ministry of Water and Environment (MWE)	Providing an advisory role in developing institutional frameworks for IWM and establishing policy regulations governing renewable energy from biogas technology from sewage sludge and MSW feedstock. Providing advice on the reuse and recycling of products in order to safeguard the environment.
National Water and Sewerage Corporation (NWSC)	Planning and design of the integrated wastewater and biogas plants, provision of the necessary data on wastewater. Managing the biogas plants constructed under the project in Kampala
Kampala Capital City Authority (KCCA)	Management of waste in Kampala capital city. Development of waste management guidelines, awareness creation. Will work with a private sector investor in to develop and operate the demonstration biogas plant under the project.
Mbale City	Beneficiary, local level management of waste, capacity building
Jinja City	Beneficiary, local level management of waste, capacity building

Organization name	Role in the project
Masaka City	Beneficiary, local level management of waste, capacity building
Mbarara City	Beneficiary, local level management of waste, capacity building
Kakira Sugar Limited Ltd	Private sector, using agricultural waste to generate electricity for the grid
Electricity Regulator Authority (ERA)	National regulator for power generation
Ministry of Local Government (MoLG)	Coordinating project activities with the municipal local governments, ensuring that legal requirements are addressed and quality services are delivered within the development plans in a coordinated and cost effective manner.
Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	Advising on the quality and quantity of bio-slurry and by-products from biogas production that is useful for agricultural production.
Uganda Investment Authority (UIA)	The Uganda Investment Authority is a semi-autonomous government agency which drives national economic growth and development in partnership with the private sector. As an investment promotion agency, UIA mainly: markets investment opportunities; promotes packaged investment projects; ensures local and foreign investors have access to information, especially about the business environment so as to make more informed business decisions; and offers business support, advisory and advocacy services. Their involvement will entail promoting waste-to-energy technology to investors, with demonstrated potential in the pilot municipalities.
Directorate of Water Resources Management (DWRM)	Expected to play an important role in improved compliance with the regulatory framework and functioning of the WWT plants.
Waste Pickers Alliance Uganda	Helping to formalize waste picking in urban centers
Private Sector Foundation of Uganda (PSFU)	It will be involved in developing and carrying out effective policy advocacy activities on behalf of the private sector on issues related to business development in the project, especially, investment opportunities and operations and maintenance of the integrated waste management systems established under the project.

4. FINDINGS

4.1Project Strategy

4.1.1 Project Design

This project was approved under GEF-6 climate change mitigation. The project is consistent with the priorities identified in National Communications, Technology Needs Assessment, or other enabling activities (such as Technology Action Plans, Nationally Appropriate Mitigation Actions (NAMA) under the UNFCCC. The project helps to meet United Nations Development Assistance Framework - UNDAF/Country Programme Outcome: 3.1., *viz* "By end 2020, natural resources management and energy access are gender responsive, effective and efficient, reducing emissions, negating the impact of climate-induced disasters and environmental degradation on livelihoods and production systems, and strengthening community resilience". The project also contributes to UNDP Strategic Plan Output 1.4:, *viz* "Scaled up action on climate change adaptation and mitigation cross sectors which is funded and implemented".

This UNDP/GEF Project is aligned with objectives of Uganda's vision 2040[12], two five-year National Development Plans, for the 2015/16-2019/20[13] and 2020/21-2024/25[14] periods (NDP II and III respectively), the National Climate Change Policy (NCCP) 2015 and the Green Growth Development Strategy for Uganda (2017)[15]. These policy documents address both the underlying development issue and the global environmental problem of greenhouse gas emissions resulting from the deficient management and treatment of wastewater and municipal solid waste in towns, municipalities and cities.

The Project is cross-cutting and addresses seven of the 2015 Sustainable Development Goals (SDGs) of the United Nations including: gender equality (5); clean water and sanitation (6); affordable and clean energy (7); industry innovation and infrastructure (9); sustainable cities and communities (11); responsible consumption and production (12); and climate action (13).

The project emphasizes capacity building and institutional strengthening. In addition, the project focused on successful demonstration of industrial scale MSW and wastewater-based biogas electricity generation plants. Success of the project was hinged on effective demonstration of economic and financial viability of MSW-based and wastewater biogas production through Public Private Partnerships (PPPs). The premise was that the cities and concessionaires share revenues from energy generation. However, the law governing electricity generation in Uganda requires that government entities (such as the cities) can only engage in electricity generation through a Special Purpose Vehicle (SPV), a PPP between the government entity and a private sector partner who takes charge of the investment with shares for each member of the partnership. This requirement was not well articulated at the beginning of the project, thereby causing delays with the engagement and involvement of the private sector stakeholders that show interest in waste-to-energy investments in Kampala and the other cities. Greater efforts are required from government authorities to bring the private sector on board through the preparation of SPVs.

The Project objective is targeted to be achieved through four closely interconnected Outcomes that in turn will result from several outputs generated by the Project (Table 5) on the condition that external assumptions are fulfilled.

[12] http://www.npa.go.ug/uganda-vision-2040/
[13] http://npa.go.ug/wp-content/uploads/NDPII-Final.pdf
[14] http://www.npa.go.ug/wp-content/uploads/2020/08/NDPIII-Finale_Compressed.pdf
[15] http://www.npa.go.ug/about-npa/uganda-green-growth-development-strategy/

Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner. Financing: US $250,000 requested from the GEF and US $588,000 co-financing. The objective of Component 1 is to enhance the knowledge, technical and managerial capacities of cities, municipalities, NEMA and Ministry of Land Housing and Urban Development (MLHUD) to support the deployment of biogas energy systems based on organic fraction of MSW, agro-processing waste (where combined with municipal wastes), sewerage sludge and wastewater for biogas energy generation. The idea was to have an expert team support capacity building in these agencies. However, at project inception this was changed, because it was felt NEMA had the requisite capacity. Thus, NEMA took over implementation of this component.

Outcome 2: Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational. Financing: US $1,180,000 requested from the GEF and US $12,050,000 co-financing. Component 2 targeted demonstration of MSW or wastewater-based biogas energy systems. The project planned to take a gender-responsive approach with respect to impact of the project on neighbouring communities including formal and informal workers in the energy sector, especially women waste pickers. Implementation of this component is hinged upon attracting co-financing from the private sector to invest in the KCCA waste-to-energy biogas plant. The prodoc specified that the PPP approach will be used to attract investment in the biogas plants for electricity generation.

The biggest part of the project budget is allocated for the purchase of equipment for the for the waste-to energy demonstration plant in Kampala (outcome 1) and to support investments to upscale waste to energy investments in other cities (outcome 3). Because this money is not yet spent or committed, the project delivery is still very low. Given that these funds may not be easily committed to the procurement of equipment for the biogas to electricity plant at Kiteezi due to delays in forming the SPV and undertaking the PPP model of financing alternatives to utilizing the funds are being evaluationed. The four 4 alternatives are being considered are:

i) **Supporting waste to energy investment readiness** in the other four pilot cities of Jinja, Mbale, Mbarara and Masaka. This would involve conducting detailed feasibility studies for the cities so as to assess the viability of establishing biogas to electricity plants. The studies will also generate data that can attract investment into waste to energy systems in the country. Each detailed feasibility study in addition payment of NEMA fees for certificates could cost up to US $180,000. This option is directly within the control of the PMU given the experience obtained from the two accomplished feasibility studies carried out. The feasibility studies for the four additional cities can be carried out within the remaining project duration.
ii) **Establishment of a waste transfer station**; the Ministry is working with the Global Green Growth Institute (GGGI) in collaboration with Korea International Cooperation Agency (KOICA). under the Technical Working Group for Greater Kampala Metropolitan Area (GKMA) to assess areas where at least 4 transfer stations could be located in the GKMA region. Potential to collaborate on establishment of one transfer station is being considered. Collaboration with regards to the implementation stage is dependent on agreement by the respective entities i.e. Municipalities or cities and between MEMD/GGGI and KOICA. The cost of establishing one transfer stationis approximately US $ 4,500,000, implying that co-financing of at least US $ 3,700,000 would be required.
iii) The project team together with KCCA is currently evaluationing the Environment and Social Impact Assessment (ESIA) for closure of Kiteezi site to assess areas of collaboration with the World Bank closure project. Here, the project will assess the **possibility of collaboration to close Kiteezi, focusing on using the landfill gas to generate electricity** which could be fed into the grid. This could be considered as phase 1 prior to eventually installing a biogas to electricity plant as phase 2 of the project. Currently, the cost of cleaning up Kiteezi by installing

necessary infrastructure to trap the landfill gas and installing a combined heat and power plant to generate the electricity is estimated at US $ 5,510,000. Implying that provision to co-finance would still be required to the tune of US $ 4,620,000. Moreover, the procedures of attracting the private sector to co-finance would still need to be adhered to.

iv) Drawing from experiences obtained during the benchmarking visit of project technical and focal persons to Ghana, the project team will also assess the option of **purchasing a demonstration mobile waste separation and sorting machine** for one or more of the of the pilot cities already involved in utilization of organic waste for compost production. The only limitation to this option is the quality of the compost which has been reported to have numerous impurities and undefined nutrient quality.

Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund. Financing: US $497,965requested from the GEF, US $ 900,000 from UNDP and US $2,000,000 co-financing. This component focuses on scaling up from demonstrations achieved under component 2, to develop a pipeline of MSW-based biogas projects, identifying conditions for additional investment through a biogas strategy and implementation plan and providing grants or technical assistance to attract investment in a MSW and wastewater-based biogas sector.

Outcome 4: Lessons learnt, and success of the demonstration projects supports replication and scaling-up of project results. Financing: US $138,730 requested from the GEF and $60,000 co-financing. The component was aimed at delivering a number of knowledge management and monitoring and evaluation (M&E) products. Activities such as a website, guidelines on waste management practices, lessons learned and best practices etc. were expected to form the knowledge management strategy for the project including the wider communication and dissemination of project lessons and experiences to support the replication and scaling-up of project results. The UNDP CO will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The Prodoc specifies that a staged demonstration of biogas to energy generation, capacity development of municipalities, market facilitation and municipal level project pipeline development to ensure delivery of outcomes are robust and to control project risks. The approach of the project was to support or facilitate innovation and technology transfer with supportive policies and strategies.

The project build on lessons from other initiatives that have addressed the aspect of IWM in Uganda cities. The project objectives are relevant to national development priorities and are in line with objectives of the National Climate Change Policy 2015 and help the country meet its GHG emission reduction objectives. Sustainability, decision making and gender

The hierarchy of project objectives outputs and activities and how these relate to the four outcomes is provided in table 6.

Table 6. Hierarchy of Project objectives outputs and activities

Project objective	
Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner	
Output 1.1 Capacity development of municipalities other waste sector stakeholders on integrated waste management	Activity 1.1.1 – Workshops for municipalities and other waste sector stakeholders
	Activity 1.1.2 – Exchange visits between municipalities
Output 1.2 Support towns and municipalities on the design and development of waste management plans and	Activity 1.2.1 – Evaluation and compile existing data on organic quantity and composition of waste streams for IWM plans for five municipalities (where necessary) to include waste to energy considerations
	Activity 1.2.2 – Provide guidance in updating and developing waste management plans including the selection of appropriate biogas technology

introduction of MSW disposal/off-taker fees	Activity 1.2.3 – Support to introduce MSW disposal/off-taker fees and enforcement frameworks at the municipal level
Output 1.3 Promotion of MSW biogas technology among municipalities, project developers, industry and the general public	Activity 1.3.1 – Development of sensitisation campaign
	Activity 1.3.2 – Training of promoters of IWM and source separation and the development of guidelines
Output 1.4 Integration of MSW-based biogas in national policies, programmes and incentive instruments targeting renewable energy development, environmental protection and climate change mitigation	Activity 1.4.1 – Incentives introduced into national policy, legal and regulatory environment to promote increased uptake of IWM and biogas technology
	Activity 1.4.2 – Evaluation draft National Solid Waste Management Plan and provide updates and recommendations for inclusion of biogas systems where necessary
	Activity 1.4.3 – Recommendations made for IWM enforcement strategy in line with the draft National Solid Waste Management Plan and environmental protection legislative framework
	Activity 1.4.4 – Policy advocacy for private sector and recommendations made for renewable energy and electricity regulation
Output 1.5 Multi-stakeholder platform on waste management and biogas established, whereby stakeholders will take on joint responsibility	Activity 1.5.1 – Assist MEMD, NEMA, UAAU, PSFU to establish multi-stakeholder platform on waste management and biogas
Outcome 2: Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational	
Output 2.1 Business models designed for biogas digester systems for a range of plant sizes	Activity 2.1.1 – Development and promotion of MSW biogas business models
Output 2.2 Feasibility studies, permitting procedures and final engineering plans executed and formalization of responsibilities of project partners	Activity 2.2.1 – Feasibility studies conducted/evaluationed for three sites
	Activity 2.2.2 – Permitting procedures conducted
	Activity 2.2.3 – Development of final engineering plans conducted
	Activity 2.2.4 – Clarification of roles, evaluation of cash flow projections and optimization of financial structure
Output 2.3 Technical support and training for pilot projects	Activity 2.3.1 – Training of technical staff and preparation of manuals and procedures
	Activity 2.3.2 – Monitoring and optimization of operational procedures and technical performance of pilot plants
Output 2.4 Investment financing for the 3 plants facilitated and secured	Activity 2.4.1 – Support to pilot sites to secure finance
Output 2.5 Procurement and construction or modification of biogas demonstration plants	Activity 2.5.1 – Procurement and construction of biogas plant at New Kampala Landfill
	Activity 2.5.2 – Procurement and construction of biogas auxiliary systems at Nakivubo wastewater treatment plant
	Activity 2.5.3 – Procurement and construction of biogas auxiliary systems at Kakira sugar factory
Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund	
Output 3.1 Development of a pipeline of MSW-based biogas projects	Activity 3.1.1 – Elaboration of conceptual proposals
	Activity 3.1.2 – Assistance to facilitate access to existing financial products and facilities
Output 3.2 Mid and long-term strategy for the replication of biogas projects developed and implemented	Activity 3.2.1 – Biogas strategy and implementation plan drafted
	Activity 3.2.2 – Learning days at biogas sites
Output 3.3 Grant/technical assistance fund and approach to attract investment into MSW-based biogas sector developed	Activity 3.3.1 – Grant and technical assistance fund for MSW-based biogas projects
Outcome 4: Lessons learnt, and success of the demonstration projects supports replication and scaling-up of project results	
Output 4.1 Project website	Activity 4.1.1 – Development of Project website
Output 4.2 Guidelines on waste management practices updated,	Activity 4.2.1 – Conduct lessons learned studies
	Activity 4.2.2 – Dissemination of lessons learned studies

lessons learned and best practices documented and disseminated	
Output 4.3 Biogas technology for energy generation and lessons learned from pilot projects integrated into the national renewable energy and MEMD programmes, standardized baselines for calculating emission reductions established, and NAMA registered on the UNFCCC NAMA Registry.	Activity 4.3.1 – Design and submit proposals to update and enhance regulatory framework for Biogas technology for energy and integrate lessons learned from pilot projects into the national renewable energy and MEMD programmes
	Activity 4.3.2 – Development of standardized baselines for calculating Emissions reductions from Biogas
	Activity 4.3.3 – Registration of project on UNFCCC NAMA Registry
Output 4.4 Annual Project Implementation Evaluations	Activity 4.4.1 – Conduct annual Project Implementation Evaluations
Output 4.5 Mid-Term Evaluation	Activity 4.5.1 – Conduct Mid Term Evaluation
Output 4.6 Project Terminal Evaluation	Activity 4.6.1 – Conduct Terminal Evaluation

4.1.2 Results Framework/Logframe

The project results framework was assessed against "SMART" criteria to evaluate whether the indicators and targets were sufficiently specific, measurable, achievable, relevant, and time-bound.

Project goal and objective

The SMART criteria assessment of the goal and objective level components of the Project's results framework is given in Table 6.

Indicators for the project objective are not fully SMART. GHG emission reduction of 83,300 CO_2eq/yr is not achievable by the end of the project, given that there will be no replication of biogas plants in the other cities by project end.

Table 7. SMART analysis of the NAMA on IWM and biogas strategic results framework (goal and objective)

Indicator	Baseline	End-of-project target	MTE SMART Analysis				
			S	M	A	R	T
Objective: Improved waste management practices in towns and municipalities through the introduction of integrated wastewater treatment plants and biogas digesters							
1: Achieved direct GHG emission reductions by pilot biogas energy plants and replication (ton CO_2eq/yr)	0 tonnes CO_2eq/yr;	88,300 tonnes CO_2eq/yr					
2: Number of people benefitting from improved organic waste management	0	1,980,000 (male = 990,000, female = 990,000)					
3: Financing mobilized for investment in MSW-based biogas energy systems (US$)	0	US$ 11.5m					
4: Annual volume of electric energy produced by biogas pilots (MWh/yr)	0 MWhr/yr	20,300 MWh/yr					

Outcome 1 indicators are not fully SMART. The project has undertaken some capacity building activities in 10 cities and three municipalities. The number of cities or municipalities reporting increased capacity to undertake IWM is not likely to extend beyond the 10 cities and 3 municipalities. Outcome 2 indicator of 2.9MW installed capacity of MSW is not fully SMART. Indicator on component 2, focuses on only MSW, yet the computed 2.9MW was for the three demonstration sites one for KCCA based on MSW, for NWSC based on wastewater and at Kakira Sugar Limited from agricultural waste. This indicator should

be changed to read "Electricity generation capacity for MSW, wastewater and agricultural waste-based biogas pilot projects" to reflect work the project is doing for both MSW and wastewater management in Uganda's urban centers.

Initial assumptions regarding investment related to the 2.9MW. Outcome 3 indicator of 5 biogas project concepts prepared is not achievable. This was based on the assumption that a concept will be prepared for teach of the 5 participating cities. This number can be revised to three to cover Kampala, Mbarara and Mbale.

Table 8. SMART analysis of the NAMA on IWM and biogas strategic results framework outcomes and outputs

Indicator	Baseline	End-of-project target	MTE SMART Analysis				
			S	M	A	R	T
Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner							
Number of policy and regulatory proposals developed and adopted (#)	0	Support to 5 municipalities to introduce MSW disposal/off-taker fees and enforcement frameworks					
Number of municipalities (#) reporting increased capacity to undertake IWM, as a result of the projects capacity development activities	0	19					
No. of functional platforms established to engage citizens at all levels for sustainable environment and natural resources, disaggregated by category)	0	1					
Outcome 2: Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational							
Installed electricity generating capacity of MSW-based biogas pilot projects (MW)	0 MW	2.9 MW from all demonstration sites					
Number of investments undertaken	0	3					
Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund							
Grant/technical assistance fund and approach to attract investment into MSW-based biogas sector established	-	Grant/ technical assistance fund established					
Number of MSW-based biogas project concepts prepared (#)	0	5 concepts prepared					
Grants disbursed from the fund (either technical assistance or investment)	0	US $900,000					
Outcome 4: Lessons learnt and success of the demonstration projects supports replication and scaling-up of project results							
Number of Knowledge Management products developed and disseminated (#)		Project website updated (1) Guidelines on waste management practices updated and disseminated (1) Lessons learned and best practices documented and disseminated (1)					
Standardized baselines for calculating emissions reductions established		Standardized baselines for emissions reductions from biogas					

NAMA registered on the UNFCCC Registry		UNDP/GEF Project is a registered UNFCCC NAMA for Uganda					

4.2 Progress Towards Results

4.2.1 Progress towards outcomes analysis

Table 9. Progress towards results (project objective)

Project objective: improved waste management practices in towns and municipalities through the introduction of integrated waste management, and deployment of biogas energy systems based on organic fraction of MSW, agro-processing waste (where combined with municipal wastes), sewerage sludge and wastewater for biogas energy generation.				
Progress towards Objective:				
Indicator	**Baseline**	**Midterm status**	**End of project target**	**MTE Assessment**
Achieved direct GHG emission reductions by pilot biogas energy plants and replication (ton CO2eq/yr)	0 tonnes CO_2eq/yr	12,277.6tonnes[16] CO_2eq/yr	88,300 tonnes CO_2eq/yr	MU
Number of people benefitting from improved organic waste management	0	1,100,500 (1005 direct beneficiaries and 1,000,500) estimated from awareness and sensitization campaigns	1,980,000 (male = 990,000, female = 990,000)	S
Financing mobilized for investment in MSW-based biogas energy systems (US$)	0 MWh/yr	US$19,646,557m	US$ 11.5m	S
Annual volume of electric energy produced by biogas pilots (MWh/yr)	0	2,800 MWh/yr-Kakira	20,300 MWh/yr	MU

Given the progress made so far, the project is not on target to achieve the end of project targets. The demonstration MSW to energy plant at Kampala is not likely to be accomplished given the high investment cost required plus the lengthy process of negotiating the SPV needed to bring the private sector on board. Without this demonstration plant and the pilots in the different cities, the targeted annual volume of electricity generated from waste will not be realized.

Table 10. Progress Towards Outcomes Analysis

Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner	Indicators: • No. of policy and regulatory proposals developed and adopted (#) • No. of municipalities and cities (#) reporting increased capacity to undertake IWM, as a result of the projects capacity development activities • Multi-stakeholder platform established
Progress toward achieving the outcome is rated as:	MU

[16] From the Kakira Sugar Limited biogas generation plant

Indicative budget in prodoc	US $ 250,000
Annual costs incurred to this outcome until MTE (Dec 2021)	US $ 231,946
Outcome 2: Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational	Indicators: • Installed electricity generating capacity of MSW-based biogas pilot projects (MW) • No. of investments undertaken
Progress toward achieving the outcome is rated as:	MU
Indicative budget in prodoc	US $ 1,180,000
Annual costs incurred to this outcome until MTE (December 2021)	US $ 201,679
Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund	Indicators: • No. of investments undertaken Grant/technical assistance fund and approach to attract investment into MSW-based biogas sector established • No. of MSW-based biogas project concepts prepared (#) • Grants disbursed from the fund (either technical assistance or investment)
Progress toward achieving the outcome is rated as:	MU
Indicative budget in prodoc	US $ 497,965
Annual costs incurred to this outcome until MTE (December 2021)	US $ 58,858
Outcome 4: Lessons learnt and success of the demonstration projects supports replication and scaling-up of project results	Indicators: • Number of Knowledge Management products developed and disseminated (# • Standardized baselines for calculating emissions reductions established • NAMA registered on the UNFCCC Registry
Progress toward achieving the outcome is rated as:	MU
Indicative budget in prodoc	US $ 138,730
Annual costs incurred to this outcome until MTE (December 2021)	US $ 76,537

Outcome 1: enhance capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner: Moderately satisfactory

The project has conducted capacity building activities in the five cities. The project has also undertaken awareness creation for IWM in the cities of Kampala, Jinja, Masaka, Mbale and Mbarara. It is not easy to estimate the number of people (part of the public) that have been reached by the IWM messages aired on FM radio stations in the project cities. The capacity building interventions have directly benefited 110 individuals (31% female and 69%), mainly technical staff of the cities are as well as staff of private companies engaged in waste collection. The project has supported cities to develop waste management plans, additionally cities have been supported to update waste management ordinances. The ordinances are waiting to be validated by the respective city councils and approval by the Solicitor General. The project developed a communication strategy and conducted training of waste promoters.

The project has supported evaluation of the draft energy policy for Uganda to enable the elaboration and incorporation of waste-to-to energy interventions into the policy. Additionally, the project is supporting the evaluation of the National Urban Solid Waste Management policy to include use of biodigester technology for organic waste streams as part of Municipal Solid Waste installations. A multi-stakeholder platform has also been established. The purpose of this platform is to bring together

stakeholders along Uganda's waste to energy value chain to share experiences, lessons learned, build partnerships, identify synergies and mobilize resources for an improved waste management system.

Outcome 2: Biogas and wastewater plants using MSM feedstock and sewerage sludge procured and fully operational: Moderately unsatisfactory.

Two feasibility studies were commissioned. The first evaluationed the methodology for site selection, conducted feedstock supply studies and waste characterization studies, a grid impact study, and the choice of appropriate biogas technology for the MSW electricity generation plant for KCCA. The second identifiedd suitable feedstock for co-digestion with sewage sludge to enhance biogas production and the assessment of legal and financial models, including the supply and handling of solid waste for the Nakivubo wastewater treatment plant (WWTP). Results from these studies indicate that Kampala produces about 1,410 tons of waste per day, while 1,300 tons are received at the Kiteezi landfill site (comprised of 916.5 tons collected from Kampala City and 385.5 tons from neighbouring Wakiso District. This implies that only 65% of waste generated in Kampala city is collected. The waste received at the landfill is more than 90% organic, presenting high suitability for biogas production. The second feasibility study focused on the following thematic areas i) technical feasibility assessment to determine the suitability of the Nakivubo WWTP and the technological options that can be employed to enhance biogas production; ii) the Environmental and Social Impact Assessment (ESIA) to assess how the existing plant may be affected by the proposed interventions; iii) financial feasibility assessment to determine the project's financial and economic potential so as to enable co-financing / investment opportunities; iv) the Legal Assessment to determine the legal requirements of the project and NWSC's mandate for electricity generation and finally v) grid impact studies to determine the full requirements for evacuation of electricity to the national grid. The second feasibility study found that co-digestion of the organic fraction of MSW with sewerage sludge at a ratio of 7:3 as the only viable option of enhancing electricity generation at the NWSC biogas to electricity plant in Kampala. This will require installation of auxiliary structures and equipment for preparation and pretreatment of MSW since the original plant was only designed to handle wastewater and its sludge. The ESIA found that the project has positive environmental and social impacts. The undertaking was also fund to be economically viable is the initial investment capital was the only investment undertaken. The legal, policy and institutional framework analysis also found that generating power that is sold to that national grid requires a license from Electricity Regulatory Authority (ERA)

In addition to the PPP, there are however several other models of private sector involvement that the IP can pursue to bring the private sector on board. Success of the next phase of the project as well as sustainability of the interventions beyond the lifetime of the project is highly dependent on attracting private sector investment into the waste to energy value chain.

Construction of the demonstration biogas to electricity plants in Kampala will require substantial investment from the private sector (capital investment of US $14.8m). Project development envisaged that this investment would come in terms of PPPs between city authorities and the private investors. The PPP for waste to energy has proved to be a long process that involves long negotiations between the private investor and city authorities. The other player in this is MEMD who has the mandate for electricity generation. Electricity generation is out of the mandate of city and municipalities. The project team is contemplating options of ensuring that timely delivery of waste to energy demonstration plant for Kampala landfill or funds reallocated for alternative activities to help meet the project outcomes.

In addition to generating electricity from bagasse, Kakira Sugar Limited generates electricity from biogas. The total investment for the Kakira biogas electricity generation plant is US $ 4m. The capacity of the biodigester plant is 523m^3 of molasses-based distillery spent wash feed per day, generating 30,000m^3 of CH4/day. The biogas plant generates 9.6MWh per day, all of which is used inhouse in the distillery unit. This provides a saving of approximately US $216,000 that would otherwise be used to purchase electricity for the distillery. However, the methane generated by this plant is lower than planned, forcing the company to install an external superheater for the steam.

Outcome 3: Replication of biogas technology in other municipalities with the help of a grant and technical assistance fund: Unsatisfactory

The project has developed a gender strategy and action plan to incorporate gender aspects in activity implementation at all levels. A gender mainstreaming strategy was developed in April 2021. Implementation of the gender mainstreaming strategy has been costed at US $ 176,142[17] for the next two years. A gender situation analysis commissioned by the project found that awareness of gender mainstreaming and responsiveness at the project level was inadequate. Also, that at the institutional level, there are cases of gender stereotypes. Policies were also found to have gaps in addressing gender inequalities in the waste value chain. The purpose of the gender mainstreaming strategy is to guide the implementation of the project activities to ensure that they are gender responsive, sensitive and inclusive to benefit women and men equitably. It was recommended that the project should track spending on gender mainstreaming and on activities that involve gender issues at both the national and local levels.

The project document recognizes the importance of gender and recognizes a range of gender issues in the waste management sector such as many women employed in the informal waste sector in cities and urban centers, very few women in decision making positions in the waste sector, women voices on IWM going unrecognized. It also provided a range of interventions to ensure that project outcomes are gender responsive (prodoc page 44).

The project has also procured consultants to carry out waste flow surveys and feedstock characterization studies for Mbale and Mbarara. These studies will further inform feasibility assessments for the biogas plants in the pilot cities. This is part of the technical assistance aspect of the project supported under component three.

Outcome 4: Lessons learnt and success of the demonstration projects support replication and scaling up of project results: Moderately Satisfactory

The project developed a project website; (https://namabiogasug.com). However, the website did not carry up-to-date information about the project. It needed to be regularly updated. Project team or MEMD needs to assign someone the job of updating the website. The project website is using a standalone domain. It is not clear what will happen to the information on the website at the end of the project. It would have been safer to have the project website carried on MEMD domain for sustainability. For example, the project website has not been online for more than six months between December and June 2021, yet the website of the project IP (https://energyandminerals.go.ug/) is online. Despite the project having numerous ongoing activities, the news and events link of the website is silent on these. Project is referred to as NAMA. Yet the project is one of the many NAMAs that Uganda is developing.

[17] Gender strategy and costed gender mainstreaming action plan for the NAMA on integrated waste management and biogas production project, April 2021.

The project has also documented various lessons learned in the course of activity implementation, which will be necessary in informing further dissemination of similar biogas to electricity facilities in the country. However, there was no evidence that lesson learnt are shared with project stakeholders.

The project also procured a consultant to develop standardized baselines for the computation of emissions reduction from biogas generation from municipal solid waste, agricultural waste and industrial wastewater.

Table 11. provides Progress towards results matrix (achievement of outcomes against - End of project targets)

Table 11. Progress towards results matrix (achievement of outcomes against - End of project targets)

Indicator assessment Key							
Green= Target Achieved			Yellow =On Target to be achieved		Red = Not on target to be achieved		
Indicator	**Baseline level**	**Level in 2021 PIR**	**Midterm Target**	**End of Project Target**	**Midterm Level and assessment**	**Achievement Rating**	**Justification for Rating**
Objective: Improved waste management practices in towns and municipalities through the introduction of integrated wastewater treatment plants and biogas digesters							
Indicator 1: Achieved direct GHG emission reductions by pilot biogas energy plants and replication (ton CO_2eq/yr)	0 tonnes CO_2eq/yr;		12,200 tonnes CO_2eq/yr	88,300 tonnes CO_2eq/yr	12,277.6 tonnes CO_2eq/yr	S	0.4MW of electricity is currently produced from the Kakira Sugar Limited plant.
Indicator 2: Number of people benefitting from improved organic waste management	0		7,500 (male = 3,750, female = 3,750)	1,980,000 (male = 990,000, female = 990,000)	1,005 (674 male and 331 female) have directly benefited from project activities, building capacity through training, benchmarking activities etc. An unknown number has benefited from raising awareness and sensitization through spot messages, radio talk-shows, keep city clean drives in the pilot cities of Kampala, Jinja, Mbale, Mbarara and Masaka as well as the additional cities Tororo, Masindi, Arua, Lira, Fort Portal and Kabale. Audience coverage of the various radios where the spot messages, radio adverts and TV shows were held was conservatively estimated to reach at least 1000 people each giving a very rough estimate	MS	Trainings resulting in capacity building with direct beneficiaries and raising awareness and sensitization drives have been held by the project in 7 cities and 3 municipalities. The project has not been able to adequately estimate the people that have benefited from IWM awareness creation activities conducted so far. No information on IWM from cities or municipalities other those where the project is working

Indicator assessment Key							
Green= Target Achieved			Yellow =On Target to be achieved		Red = Not on target to be achieved		
Indicator	**Baseline level**	**Level in 2021 PIR**	**Midterm Target**	**End of Project Target**	**Midterm Level and assessment**	**Achievement Rating**	**Justification for Rating**
					1,100,500 people have been reached.		
Indicator 3: Financing mobilized for investment in MSW-based biogas energy systems (US$)	0		US$ 6.5 million	US$ 11.5m	Despite US$15,646,557 as equity contribution by NWSC for the biogas plant and $4m by Kakira Sugar Limited, funding has to found for the demonstration plant at Kampala land fill site.	MS	Financing computed based on investment for biogas plants systems installed i.e Kakira Sugar Limited and National Water and Sewerage Corporation.
Indicator 4: Annual volume of electric energy produced by biogas pilots (MWh/yr)	0 MWh/yr		2,800 MWh/yr	20,300 MWh/yr	2,800 MWh/yr-Kakira	MS	Kakira Sugar Limited installed
Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner							
Number of policy and regulatory proposals developed and adopted (#)	0		3	Support to 5 municipalities to introduce MSW disposal/off-taker fees and enforcement frameworks	0 policies 5 waste management ordinances from the cities of Mbale, Mbarara, Masaka, Jinja and Kampala have been updated. Waste management plans for cities revised	MS	5 ordinances are currently under the evaluation by solicitor general and are yet to be approved by respective city councils
Number of municipalities (#) reporting increased capacity to undertake IWM, as a result of the projects capacity development Activities	0		13	19	10 cities and 3 additional municipalities under the Greater Kampala Metropolitan Area (Nansana, Mukono, Makindye, Kira and Entebbe) are currently reporting on IWM		Capacity of participants from 10 cities and 3 municipalities built in IWM approaches.

Indicator assessment Key							
Green= Target Achieved			Yellow =On Target to be achieved		Red = Not on target to be achieved		
Indicator	**Baseline level**	**Level in 2021 PIR**	**Midterm Target**	**End of Project Target**	**Midterm Level and assessment**	**Achievement Rating**	**Justification for Rating**
Multi-stakeholder platform established	0		1	1	1 Multi-stakeholder platform on IWM in cities and municipalities launched in September, 2021.		Multi-Stakeholder Platform on waste management and energy recovery launched and operational
Outcome 2: Biogas and wastewater treatment plants using municipal solid waste feedstock and sewage sludge procured and fully operational							
Installed electricity generating capacity of MSW-based biogas pilot projects (MW)	0 MW		0.4 MW from Kakira Sugar Limited	2.9 MW from all demonstration sites	0.4 MW from Kakira Sugar Limited	MU	0.4 MW for Kakira Sugar Ltd installed and operational
Number of investments undertaken	0		2	3	2 investments, at Kakira Sugar Limited biogas plant, and NWSC biogas Plant in Kampala		Project has not been able to attract an investor for the waste to energy plant at the Kampala landfill site. The process of working with the private sector through SPVs is lengthy. The estimated cost from the feasibility studies significantly higher than first estimates.
Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund							
Grant/technical assistance fund and approach to attract investment into MSW-based biogas sector established	-		-	Grant/ technical assistance fund established	No grants given out yet	U	The grant/ technical assistance fund to attract investment has not yet been established.
Number of MSW-based biogas project concepts prepared (#)	0		0	5 concepts prepared	1 project concept has been prepared with regards to sourcing for funds to support installation of at least 2.2 MW plant at KCCA although it is at draft stages		Concept ready for discussion at project preparation committee at the MEMD

Indicator assessment Key							
Green= Target Achieved			Yellow =On Target to be achieved		Red = Not on target to be achieved		
Indicator	**Baseline level**	**Level in 2021 PIR**	**Midterm Target**	**End of Project Target**	**Midterm Level and assessment**	**Achievement Rating**	**Justification for Rating**
Grants disbursed from the fund (either technical assistance or investment)	0		0	US $900,000	No grant has been disbursed yet since the grant and technical assistance fund has not yet been created.		No grant disbursed yet under fund
Outcome 4: Lessons learnt and success of the demonstration projects supports replication and scaling-up of project results							
Number of Knowledge Management products developed and disseminated (#)	0		Project website established (1) Guidelines on waste management practices established and disseminated (1)	Project website updated (1) Guidelines on waste management practices updated and disseminated (1) Lessons learned and best practices documented and disseminated (1)	1-Project Website already launched in November 2020 and is operational	MS	Website launched and operational. Guidelines/User's Manual for waste sorting is being finalized by NEMA and will be disseminated once completed.
Standardized baselines for calculating emissions reductions established	-		-	Standardised baselines for emissions reductions from biogas	Standardized baselines have been developed by a consultant		Level of completion of the assignment by the consultant is at 70% and is expected to be completed before terminal evaluation
NAMA registered on the UNFCCC Registry UNDP/GEF			Project is registered on UNFCCC Registry	Project is registered on UNFCCC Registry	Project is a not yet a registered UNFCCC NAMA for Uganda		All necessary documentation for registration of the NAMA for Uganda on the UNFCCC website has been submitted to the Ministry of Water and Environment, who are the designated national authority for the UNFCCC.

Progress of GEF Tracking Tools

The project has so far achieved lifetime direct GHG emission reductions of 254,552 tCO_2eq and lifetime indirect GHG emission reductions of 491,104 tCO2 eq, from two waste to energy demonstration plants. This is against the end of project target of 1,766,000 tCO_2eq, of direct (and 3,533,000 indirect) GHG emissions reduction.

4.2.2 Remaining barriers to achieving the project objective

There are persistent barriers restraining the integrated waste management (IWM) process and the use of bioenergy technologies in Uganda:

Institutional: low budgetary allocations for waste management and inefficient institutional coordination and lack of cooperation among the stakeholders

Capacity: low technical capacity and skill development to carry out IWM assessments. Short supply of project finance skills, limited experience with anaerobic digestion of organic waste, including lack of experience to establish and manage high-tech digesters.

Technology: cities have inadequate equipment and solid waste collection and handling facilities, lack of successful examples experience in biogas-based on-grid electricity generation. Sorting of municipal waste is important to ensure the power plants have the right feedstock. For effective operation, it is better to have the waste sorted at source rather than at the dumping site. Waste can be sorted by households and markets. The feasibility study for the MSW based biogas plant in Kampala recommended the site of the plant at Kiteezi despite a lower overall score (62%) compared to the new landfill site at Dundu (overall score 72%).

Information: Inadequate information about successful biogas-based on-grid electricity generation in the country and the region—including limited know-how about waste-to-energy systems

Legal and regulatory policies: inadequate enforcement of waste management ordinances in the different cities and municipalities—including inadequate measures to collect fees. The project has helped to evaluation waste management ordinances for four cities. Ordinances have now been submitted to the Solicitor General for evaluation and approval. Early evidence suggests that there is no policy or regulatory framework governing establishment of urban waste to energy biogas plants in Uganda.

Financial: insufficient resources at the city and municipal level to invest in waste-to-energy projects. This project needs to demonstrate, the industrial scale generation of electricity from biogas, is financially viable, to be able to attract investors into the sector. Feasibility studies commissioned by this project have reported that waste to energy biogas plant at the Kiteezi landfill site outside Kampala city is financially viable, only if there is not additional investment costs after the initial capital investment. The biogas power plant in Kampala by NWSC is complete using wastewater. This will help to attract private sector investors to partner with the cities, but also facilitate private sector access to loans from financial institutions in similar ventures.

Although the project is creating awareness and generating interest in waste-to energy technologies and the generation of electricity from biogas on an industrial scale, there is an absence of a comprehensive

strategy run by the national government. A comprehensive policy framework to provide the infrastructure investments to enable the involvement of the private sector in waste-to-energy is essential. For instance, one component of this comprehensive strategy would be the legal requirement that private companies must work under Public-Private Partnerships to generate electricity. Given the lengthy process of setting up PPPs/SPVs for power generation, the project should explore other avenues of bringing the private sector to invest in waste-to energy schemes. Another element should be national evaluations to ensure investments that benefit the national and sub national needs. National government leadership is an essential ingredient to ensure investments with egalitarian economic returns, socially acceptable and respect for the environment.

4.3 Project Implementation and Adaptive Management

4.3.1 Management Arrangements

The project is being implemented under the National Implementation Modality with the Ministry of Energy and Mineral Development (MEMD) as the implementing Partner (IP). MEMD assigned an officer to oversee management of the project, as the project coordinator whose responsibility is to provide high level managerial inputs into the project. NEMA is managing component 1 of the project while MEMD manages components 2, 3 and 4.

Day-to-day operations of the project are overseen by the Project Manager. A Finance and Administrative Assistant helps to oversee the financial and administrative activities of the project. An energy officer was recruited in June 2021 to assist the project team. These three comprise the Project Management Unit (PMU) that is hosted by the Ministry of Energy and Mineral Development. The project has a project board with representatives from the IP, responsible agencies such as NEMA, CCD/MWE and the clerks of the five cities where the project is being implemented as well as the private sector and Non-governmental Organizations. The project board is chaired by the Permanent Secretary of the Ministry of Energy and Mineral Development and the UNDP Country Representative. The inaugural board meeting sat on April 4, 2019, thereafter the project board has been meeting twice a year.

The project also has a technical committee with representation comprising of technical staff from key organizations and cities. The role of the technical committee is to approve the quarterly work plans and progress reports while the Board approves the annual work plans and annual progress reports. The project technical committee meets at least once every quarter.

GEF Agency UNDP provides managerial, technical and procurement backstopping to the Project, primarily through its Country Office.

The project suffered a delayed start. Whereas the project inception meeting was held in February 2019, project entry meetings in the different cities were only held in November and December 2019, after a more than six months delay. Signing of memoranda of understanding between MEMD and NEMA the responsible party and with city authorities as well as with NEMA was done in August 2020, more than 12 months since the project was approved. This undoubtedly delayed implementation of project activities and progress towards outcomes. Table 12 provides a summary of key appointments and hiring of consultants by the project.

At project inception, it was agreed that NEMA takes over the duties and responsivities that had been planned for personnel, a lead institutional expert and an environmental expert, subsequently the need for international consultants was reduced. Additionally, US $ 200,000 of project funds were allocated for project staff, since this has not been included in the original budget, hence necessitating reallocations of funds. It was also recommended at inception that the project either recruits a safeguards officer to help with risk management and ensuring compliance to social and environmental standards.

Table 12. Summary of appointments, consultants and stakeholder engagements

	Item	**Date**
	Project manager	1 October 2019
	Finance and Administration officer	July 2019
	Energy Officer	June 2021
	Board meetings	
	Inaugural Board Meeting –	4 April, 2019
	End of year 1	5 December, 2019
	Mid yr 2	20 August, 2020
	End of year 2	27 November, 2020
	Mid yr 3	30 September 2021
	End of year 3	9 December 2021
	Project technical committee meetings	September 2021
		27 – 29 November, 2019 25 June, 2020 23 – 24 October, 2020 16 November, 2020 14 May, 2021 26 August, 2021
	Contracts for services or consultants	
	Developing communication strategy and awareness materials to Ms Energy Explorez International Ltd	1 June 2020
	Feasibility study for the Enhancement of Biogas Production at National Water and Sewerage Corporation, Nakivubo Wastewater Treatment Plant (Savimaxx Limited)	25 November 2020
	Technical feasibility studies to select site for a biogas to electricity plant utilizing the waste generated in Kampala (Esteem International)	11 December 2020
	Developing standardized baselines for calculating emission reductions from biogas generation from waste in Uganda	2 November 2020
	Developing a Gender Mainstreaming Strategy for the project to GIS and Mapping Centre Ltd	2 December 2020

4.3.2 Work planning

The Project document was signed on 23 September 2018, and the Project was formally launched on 18 May 2019. There was delay in getting a Project Manager on board, Project manager and the Finance and Administrative Officer also joined on 1 July 2019. The delay in getting a project manager was due to the change of terms of reference from a conventional project manager to one who is technically competent in the energy sector.

Project activities were initiated with a delayed start and took only in the financial year 2019/20. The project inception meeting was held on February 2019 however inception meetings in the different cities were delayed until November 2021. In addition to the delay in getting a project manager, the delay at the start of the project was also caused by changed in some of the ways in which project activities were to be implemented, The IP requested that international and national consultants be removed from component one for which NEMA is the Responsible Partners (RP). Agreement on this between UNDP, MEND and other partners took time. In addition to the discussions between UNDP and MEMD on how to run the project, the restrictions on movement brought about by the lockdown to limit the spread of Covid-19 both between march and July 2020 and June to August 2021 have affected implementation of project activities. Several planned trainings were conducted online while some where postponed until travel restrictions were lifted.

Annual Work Plans (AWPs) were prepared for 2019, 2020 and 2021 using standard UNDP formats. The Project has also prepared a detailed multi-year work plan for the period 2020-2023. The project multiyear workplan was revised at project inception, to reflect changes proposed by the IP and the RP. For instance, it was agreed the RP for outcome 1, NEMA had the necessary expertise, thus freeing up funds that had been allocated for international and national consultants. Additionally, the allocation for salaries of project staff, was increased from US $ 40,000 to 70,000.

4.3.3 Finance and co-finance

This project is receiving 2.1m as GEF financing, of which US $ 250,000 was for component 1 on establishing market conditions , institutional strengthening and capacity building for improved waste management and promotion of MSW-based biogas systems, US $ 1,180,000 was for component 2 on demonstration and investment in integrated wastewater treatment and biogas plants, US $497,965 was for component 3; on scaling up the use of biogas technologies in other municipalities (cities), and US $ 138,730 for component 4 on knowledge management, and monitoring and evaluation. Amount of the funds disbursed by component is shown in table 13.

Multi-year matrix reallocated funds from what had been earmarked in the prodoc. Figure 1 shows the budget, expenses and budget surplus (unused) per outcome for the period 2019-2021 and Figure 2 shows the cumulative budget, expenditure and surplus [unused] by outcome for the period 2019-2021. Figure 2 highlights the low expenditures linked with the Covid-19 pandemic. In brief, the cumulative delivery of GEF funds stood at US $ 510,525, or 24.7% of the total budget, meaning 75% of funds are unused by MTE. This provides the project with a considerable margin of movement to achieve expected outcomes in the second half of the implementation.

There are variances between the planned and actual expenditures. NEMD and NEMA have used slightly more than half of the amount originally expected. This can be accounted for by the Covid 19 pandemic's

lockdown, combined with management negotiations on the organization of the PMU, which took about a year.

The Auditors reported inconsistencies in the budgeting process for the procurement process for consultancy services in regards to a feasibility study for the enhancement of Biogas production at the National Water and Sewerage Corporation, Nakivubbo Waste Treatment plant. The requisition made for quotations was significantly lower than the budgeted amount (as per annual workplan). This implied a risk for abuse of the system due to inadequate evaluation of the initiation of the procurement process, which could also lock out other prospective bidders and affect the value for money execution of the contract. The auditors recommended ensuring appropriate evaluations over the TORs during contract initiation to avoid such circumstances re-occurring.

Table 13. Project annual budget and expenditure by component

Component	Budgeted			Expenditure			Prodoc Budget	Revised Budget	% of prodoc allocation utilized	Revised Budget Utilized
	2019	2020	2021	2019	2020	2021				
GEF										
Outcome 1	133,161	119,529	92,592	33,634	115,934	202	250,000	250,064	60	149,770
Outcome 2	225,586	194,226	1,027,638	16,195	48,724	96,187	1,180,000	1,160,330	14	161,106
Outcome 3	-	77,360	322,542	10,897	60,474	42,132	497,965	497,965	23	113,504
Outcome 4	60,357	11,500	76,037	17,920	36,153	1,989	138,730	139,749	40	56,061
Project management	60,357	11,500	17,166	26,251	10,243	3,649	103,335	103,345	39	40,143
gain/loss exchange				(892)	(2,896)	(6,282)				(10,050)
Total GEF	**479,461**	**414,115**	**1,535,975**	**104,025**	**268,632**	**137,877**	**2,170,030**	**2,151,543**	**24**	**510,535**
UNDP	**40,000**	**40,000**	**40,000**	**57,260**	**74,309**	**384,349**				
				161,285	**342,941**	**522,226**				

By the MTE the cumulative delivery of GEF funds stood at US $ 510,525 or 24.7% of the total budget.

Co-financing table

The levels of co-financing realized by MTE is indicated in table 14. The reported co-financing at MTE exceeds the total expected for the project. This is mainly due to the $15m for the NWSC wastewater-to-energy plant in Kampala against an anticipated amount of only $7.8m, and US $4m spent by Kakira Sugar Limited against the $2m in the prodoc.

Table 14. Status of co-financing at MTE for the NAMA on IWM and biogas project in Uganda

Source of co-financing	Name of co-financier	Type of co-financing	Amount confirmed at CEO endorsement (US $)	Actual amount contributed at MTE (US $)	Actual % of Expected amount
GEF Agency	UNDP	Grants	900,000	92,215.8	10.25
Recipient Government	MEMD	In-kind	557,000	334,200	60
Recipient Government	NEMA	In-kind	381,000	266,700	70
Recipient Government	NWSC	Equity	7,800,000	15,661,557	200.1
	Jinja city	In-kind	0	474,758.7	N/A
	Masaka city	In-kind	0	62,971	N/A
	Mbale City	In-kind	0	280,703	N/A
	Mbarara city	In-kind	0	233,146	N/A
Recipient Government	KCCA	Equity	2,250,000	623,191	0
Private sector	Kakira Sugar Ltd	Equity	2,000,000	4,000,000	200
	Other national stakeholders	Equity	350,000		
	UNCDF	Grants	800,000	0	0
	UNCDF	In-Kind	100,000	0	0
		Total	15,138,000	21,800,178	

4.3.4 Project-level monitoring and evaluation systems

The M&E Systems of the Project were prepared with standard UNDP-GEF components consisting of the inception report, PIRs, quarterly and PIRs, an MTE and final evaluation.

The M&E budget is US $193,730 (138,730 from GEF and $60,000 co-financing), or 6.4% of the total GEF budget. The M&E budget contains expenses for the inception workshop (US$ 10,000), Monitoring of indicators in project results framework ($13000) NIM audit (US$ 20,000), lessons learned and knowledge generation (US$ 5,000), monitoring environmental and social risks ($15,000), addressing social grievances ($4,000) knowledge management as outlined in Outcome 4 (US$ 21,730), Project board meetings ($5000) UNDP CO supervision and GEF Team oversight mission ($ 9,000), GEF TT at MTE and terminal ($5000, and $15,000), independent MTE (US$ 30,000), and independent terminal evaluation (US$ 46,000).

Whereas the prodoc guided that the M&E plan for the project will be evaluationed during the project inception workshop, this was not done. The PMU's Template on Implementation Matters[18] indicates that from the start, the PMU did not seem to appoint or assign the responsibility of operating and managing the M&E system to anyone. The MTE Team did not have the opportunity to reconfirm if this is part of the intended policy of emphasizing delivery of services during the implementation, while relegating the M&E functions to a minimum, as noted earlier.[19]

[18] PMU. Template on Project Management and Implementation Matters. Proposed outline to brief MTE July 2021

[19] This theme emerged during the Zoom session between the Team and the PMU, plus a UNDP management on matters concerning adaptive management that took place on or about the 27 August 2021

When outlining the M&E plan and its performance, the PMU's template makes reference to the pertinent pages where the M&E plan is discussed in the Prodoc (pp 60-61). It states that the M&E plan was not evaluationed during the Inception workshop and that its purpose and expected achievements are discussed in page 58 of the Prodoc.

The Inception Report that was prepared following the workshop suggested that the M&E system will follow the standard framework proposed in the Prodoc.[20] However, the Inception workshop's participants highlighted concerns with respect to adequately managing risks by recruiting a safeguard officer, followed by the preparation of a management plan for high-risk interventions.

The engagement of pupils/students in waste collection and separation to ensure the sustainability of waste management was underlined, including the idea of putting up project emissions reduction for trading so as to de-risk the co-financing aspect. These concerns showed pertinence and practicality, even though there was no follow up. In particular, there was no evidence about the active participation of pupils/students in waste collection and separation to ensure the sustainability of waste management is a practice with extensive success across cultures and languages.

PMU prepares and submits quarterly reports to UNDP-CO detailing activities implemented by the IP and other responsible parties within a given quarter, along with accountability of funds disbursed. The project manager also prepares project progress reports that are presented to the project technical committee and project board. The project team also prepares Project Implementation Evaluations (PIR) every year. One was submitted for 2019 and another for 2020. This is an adaptive management effort introduced by the UNDP, where partial accountabilities and progress reports are submitted when activities have been implemented. The progress reports detail activities that have been implemented in a given quarter, both by the IP and the different RPs, which are compiled by the Project Management team.

The Project Progress Report (PPR): is compiled by the Project Manager. The report is presented to the Project Technical Committee and Project Board meeting and entails a detailed progress of activities that have been implemented and financial accountability for a given implementation year.

Annual Project Evaluation: The project manager, UNDP country office and the Regional Technical Advisor provide input to the PIR. Given that in 2019 few activities were implemented due to delays, including the recruitment of project staff, 2020 and 2021 provided more results. The Annual Project Evaluation entails a detailed progress of activities that have been implemented, financial accountability, an updated risk log for the project, updates on gender, social and environmental standards, partnerships, adaptive management and other adjustments, ratings and overall assessments of performance, and communicates the impact of the project and knowledge management.

Project Lesson Learned Log: The project lessons learned log was prepared based onthe findings from monitoring activities. This, however, has been hampered by the slow implementation of activities due to Covid-19 and the late disbursement of funds.

The GEF Focal Area Tracking Tools have been updated by the project team.

[20] UNDP/GEF/ MEMD. Inception Report. Nationally Appropriate Mitigation Action (NAMA) On Integrated Waste Management And Biogas Production In Uganda, 2018, pp 15-17.

The Auditor's Findings[21]

The audit conducted on project activities and performance was forward-looking and addressed substantive matters that, in the fullness of time, are now central issues facing the project. The following issues were central in the Audit report and are consistent with the findings of the MTE. It should be noted that evaluators do not get involved in financial analysis. The evaluation is concerned with the economic use of resources.

i) In the Auditor's opinion, the statements of expenses incurred by the Project for the period September 1, 2018 to December 31, 2020 are in accordance with the relevant regulations and rules, policies and procedures of the Implementing Partner. That is, they are in conformity with the approved project budgets, for the approved purposes of the Project and are supported by properly approved vouchers and other supporting documents.

ii) There were inconsistencies in the budgeting process for the procurement process for consultancy services in regards to a feasibility study for the enhancement of Biogas production at the National Water and Sewerage Corporation, Nakivubbo Waste Treatment plant. The requisition made for quotations was significantly lower than the budgeted amount (as per annual workplan). The budgeted amount was 710m UGX (US $ 202,000) versus UGX 153m (US $ 43,700) was requested forThis implied a risk of abuse of the system due to inadequate evaluation of the initiation of procurement. Procurement was conducted by the Procurement and Disposal Unity at the Ministry of Energy and Mineral Development, and the process was approved by the Ministry Contracts Committee. This could also lock out other prospective bidders and hence affect the value for money execution of the contract. The auditors recommended ensuring appropriate evaluations over the TORs during contract initiation to avoid such circumstances re-occurring.

iii) Concerning Project Progress, the Auditors note that the project had been planned to start in 2018. The first disbursement took place in August 2019. That year only 16% of the funds were used. In 2020, the budget was adjusted, that is, UNDP disbursed to MEND and NEMA amounts utilizing only about 52%. Additionally, there were delays in approval of the annual workplan for 2020. "Delayed approvals of the work plan and disbursement of funds has a further effect on the intended execution of planned activities inclusive of procurements of services. Despite the fact that some of the delays indicated above could be due to COVID-19 lockdown measures, the fact that they are spread over two accounting periods points to further underling challenges" (page 42). Therefore, the Auditors note that if delays are not strictly addressed, this could lead to delays in meeting the overall project objectives and not concluding on time as planned in 2023. The Auditors' Project progress evaluation report was unaudited.

The MTE overall assessment is that implementation of M&E during the project is working but is not efficient.

[21] United Nations Development Programme (UNDP)Country Office, Uganda/Implementing Partner: Ministry of Energy and Mineral Development: Project/Award Number: 00100437 - Output ID: 00103399/Project name: Nationally Appropriate Mitigation on Integrated Waste Management and Bio-Gas Production in Uganda Project financial report for the Period from September 1, 2018 to December 31, 2020. Grant Thornton Certified Public Accountant

4.3.5 Stakeholder engagement

The project has interacted with stakeholders along the waste-to-energy chain since its inception, including policy and regulatory bodies, local governments, private sector entities, development partners and others. As the project evolves towards the actual establishment of the biogas to electricity plant, the project is making more synergies with stakeholders involved at this level of the value chain, including the Public Partnership Unit (PPP) at the Ministry of Finance, Planning and Economic Development which regulates PPPs. Potential private investors in the biogas plant, i.e. Siemens energy and Uniphi energy, have expressed their interest in participating in targeted investments.

The Multi-stakeholder platform that was launched on 30 September 2021, presented another opportunity to engage with Civil Society Organizations, research and academic institutions, associations of private sector companies, and local financing institutions such as banks, in order to share experiences, lessons learned and to discuss ways move forward to improve the waste to energy sub-sector.

The project also launched the Technical Working Group for the Greater Kampala Metropolitan Area (GKMA), which brings together technical officers from the five divisions of KCCA and the surrounding municipalities of Mukono, Kiira, Nansana, Makindye, Ssabagabo and Entebbe. The project decision making organs, namely the board and project technical committee, are composed of many stakeholders, given the cross-cutting issue of waste management. Decisions regarding annual and quarterly work plans, procurement plans, approval of annual and progress reports, and the monitoring and oversight functions of the project are undertaken by all sectors represented on the board and project technical committees. Also, given the fact that the cities will be the host of the biogas to electricity plants, they are involved as part of the technical evaluation committees for the feasibility study assignments within their jurisdictions.

Stakeholder involvement has fostered ownership among different stakeholders participating in the waste to energy value chain including regulators, owners of the resource who are the cities, the private sector who have been trained under the project, and stakeholders who have been adopted as part of the Multi-stakeholder Platform and the Technical Working Group for Greater Kampala Metropolitan Area.

The benchmarking activity that was carried out for the cities under component one, where the cities of Mbale, Mbarara, Jinja and Masaka visited Kampala to learn and share in the waste management efforts of KCCA, sparked a conversation between private waste collection companies that were operating in Kampala and the visiting city officials. As a result, Orient City Cleaners, a waste services and waste collection company based in Kampala, supported Mbale City, along with other stakeholders including the project, to re-launch a successful waste management campaign dubbed Keep Mbale clean Day.

Given the fact that the MSW industrial scale biogas plants are a first of their kind in the country, stakeholders are enthusiastic about how much they would contribute towards management of the current waste problem being faced by urban councils. Stakeholders also anticipate that jobs will be created, and incomes generated that could contribute to the self-sustainability of the waste management sector, which is grappling with inadequate funding at the local government level. In addition, the potential uses of digestate as a by-product of the biogas production process have generated interest from stakeholders due to the products that can be harnessed, such as raw material for the manufacturing of briquettes and organic fertilizer.

4.3.6 Reporting

The project has quarterly and annual reports, and PIRs for 2019 and 2020 have been prepared and shared with project stakeholders.

Documentation of lessons learned from project implementation is a key activity under the project's outcome 4. The project team and the respective stakeholders have not only jointly contributed to the previous PIRs, but have also supported evaluation of sections, which has resulted in the documentation of strategies for improvement, which have also been translated into activity implementation in the proceeding years. This can clearly be appreciated in 2021 after the first PIR was documented, improved activity implementation despite being affected by COVID-19 pandemic. This was done by adopting a phased approach to activity implementation rather than having big groups meeting at the same time. In addition, a combination of regular meetings, mainly held virtually, and stakeholder led activity implementation i.e. local groups, technical personnel, champions and private sector players within the respective cities.

The PIRs have been shared with the Project Board and Technical Committee members through the presentation of key findings and the sharing of the reports at the Board meetings held twice a year and Project Technical Meetings held quarterly. This also applied to the audit report.

Lessons learned have been documented in reports shared with partners and the UNDP. Also, key lessons learned have been incorporated in the quarterly progress reports which are shared quarterly with the responsible carters through presentations and compiled reports at the project technical committee meetings. The lessons learned have influenced the strategies developed quarterly for the improvement of project delivery. These were eventually referred to in the planning for activity implementation, improving the delivery of the project in the proceeding years of 2020 and 2021.

4.3.7 Communications

Activity implementation was conducted with partners through communication across platforms like the Project Technical Committee and Project Board, the Technical Working Group on Waste Management, Sanitation and Resource Recovery for the Greater Kampala Metropolitan Area, The Multi-Stakeholder Platform of Waste Management and Energy recovery and the project website.

With the support of a consultancy, a communication policy was launched in 2020 during a project board meeting. The policy focused on Information, Education and Communication (IEC) materials and included a Communication Strategy component, and Radio- spot messages, T-shirts, caps, flyers, banners, posters, and audio-visual messages were developed in the four local languages predominantly spoken in the pilot cities. A website was also developed (www.namabiogasug.com/).

The Radio- spot messages that were primarily broadcast were (Component 1) outputs, i.e. radio- talk shows and radio-spot messages that were undertaken in the pilot cities. To generate greater awareness on waste management, T-shirts, flyers, caps and posters were distributed during workshops. It became clear, however, that funds were insufficient to cover the cost of implementing the communication strategy and awareness campaign. In fact, the actual numbers of (1) radio-talk shows and spot-messages related to the pilot cities, (2) the listenership of the radio stations from the procured broadcast radio-talk shows, and (3) the IEC materials produced/ distributed are unregistered.

As expected, to measure relative changes in mindsets with respect to waste management, under the onslaught of a devastating pandemic, was no straightforward task. The scope of behaviour-adaptation for survival (Covid-19) has greater latitude than incremental behavioural changes with respect to specific waste management practices. This made it difficult to measure changes in mindset about behavioral practices on waste management – unless they were measured before the pandemic.

Early results generated by the Project include (1) an unregistered number of women, youth and disabled persons who were trained in best waste sorting practices using the awareness materials produced; (2) several trained participants contributed to the National Training and User Manual for sorting Municipal Solid Waste; (3) enthusiasm about industrial scale Municipal Solid Waste biogas to electricity plants and the benefits that could accrue from such an establishment among the political and technocrats in the pilot cities increased; and (4) the different actors in the waste to energy value chain have enhanced their understanding about the waste to electricity plant due to greater interaction among these groups.

Under the current operation of the Project website, additional windows opened up to broadcast targeted information and to capture the results of the communication strategy. For instance, the NAMA Biogas website's viewership can be measured over time. Rapid surveys in project sites can be conducted to measure results achieved and lessons learned. Also, the different organizations that participate in the benchmarking of NAMA Biogas Project sites, i.e. the National Water and Sewerage Corporation Biogas to electricity plant and others, were connected through the website and can interact.

It is noteworthy that the project website has unique potential. It can be used to reach out remotely to stakeholders and beneficiaries under a time-bound structured plan. It is a technical solution to situations where it is unadvisable (for health or security reasons) to regularly visit selected sites to conduct activities or interact with stakeholders on planned activities. It does, however, require meticulous planning between the emitter and receiver of the communication in terms of content and timeliness.

4.4 Sustainability

The likelihood that Project results will be sustained after GEF funding ceases has been enhanced by the achievements of the Project so far. However, there is significant risk that the project outcomes will not carry on after the project, stemming from failure to attract private sector investment for waste-to-energy plant at the Kampala landfill. The first hinderance being the high cost of investment (15$m), coupled with the regulations that govern generation of electricity for the national grid, which in the present form do not favor electricity generation from waste, as an environment service but rather for profit. The overall risk to sustainability is Moderately Unlikely,

Overall risks to sustainability The likelihood that benefits will continue to be delivered is rated as:	**Moderately Unlikely**

4.4.1 Financial risks to sustainability

Financial risks to sustainability The likelihood that benefits will continue to be delivered is rated as:	**Moderately Unlikely**

While there is increased interest from the private sector to invest in waste-to-energy ventures, it has not been brought on board sufficiently early in order for them to appreciate the processes necessary to engage and invest in a waste to energy venture. Engaging and bringing the private investors on board is necessary to ensure the achievement of project activities, but also to enable the sustainability of the interventions from the social, economic and environmental standpoints. Failure to attract a private investor for the Kampala waste-to-energy plant will imply that then the budgeted US $ 900,000 from GEF and US$ 900,000 from UNDP meant for procurement of equipment will have to be reallocated to other activities.

4.4.2 Socio-economic to sustainability

Socio-economic risks to sustainability The likelihood that benefits will continue to be delivered is rated as:	**Moderately Unlikely**

There is a growing number of people in Uganda's urban areas that make a living from sorting and recycling waste. Some stakeholders reported a negative attitude towards using waste, specifically human waste, in the conversion to energy, as well as towards other possible alternative uses of waste. Key stakeholders are aware of this predicament and understand that awareness raising campaigns are essential. The data is not available as what proportion of the awareness campaign has focused on this issue. The awareness campaigns conducted need to come out explicitly to address the negative attitudes from the public.

This project is reaching out to a range of stakeholders that deal with waste management in the different cities. Data is reported in a gender disaggregated way. In addition to these, it is important for the project to report on the number of waste pickers that have been reached. Waste pickers comprise the informal sector that make a living from collecting plastic and other waste mainly from landfill sites in the different cities.

Whereas outcomes of the project will lead to reduced waste streams in the cities, the informal sector engaged in waste collection and sorting at the land fill sites are optimistic about project outcomes and agreed that that was the right direction for the cities to take. There are several women groups such as in Masaka and Kampala that are involved in briquette making using organic waste.

The Project has solid political support at both the central and local government levels. The project board has representation from the city clerks from each of the five beneficiary cities. From the stakeholders' responses to the survey, it is clear that the value of sustainability has risen considerably as far as stakeholders are concerned. Moreover, stakeholders expect smart procedures that apply to key environmental issues with a focus on the amelioration of the socioeconomic status and quality of life (health, education).

Whereas the project team has made attempts and documenting lessons learned, and sharing these in the normal reporting cycle, there has been little effort to share or disseminate these lessons.

The prodoc mentions that (para 187), that "the project will work closely with relevant authorities and the waste pickers groups and other local civil society organisations ... to identify ways of improving working conditions and earnings, with particular focus on women in order to set specific indicators and targets related to gender equality. The ultimate aim will be to improve the participation of waste pickers in the integrated management of waste in the municipalities and promote waste recovery and reuse in the country". There has been at least one anecdotal reference of women waste pickers sharing relevant information on livelihood skills. -Otherwise, waste pickers have not been engaged as had been anticipated at project formulation

4.4.3 Institutional framework and governance risks to sustainability

Institutional framework and governance risks to sustainability The likelihood that benefits will continue to be delivered is rated as:	**Moderately likely**

The central government and cities, municipalities and urban authorities recognize the importance of IWM. Whereas capacity for Kampala, the capital to attract investment and manage waste-energy investments is high, that of the other four cities where the project is working is low. City decisions including on IWM are made by councils that have to sit regularly to make decisions. The project has helped the five cities to develop or update waste management plans as well as waste management ordinances. Once these are approved by the Solicitor General, will help the cities to manage waste in a more sustainable manner.

Recent research underlines the importance of building the governance capacity of host governments to take advantage of investors in the conversion from waste to energy. Specifically, capacity enhancements are essential in the areas of administration, regulatory monitoring and enforcement, and with a particular emphasis on land acquisition, alternative livelihoods and the environmental protection of lands and waterways.[22] However, the legal framework, policies, governance structures and processes that are essential to support an institutional framework for sustainability are now starting It has been indicated that

[22] Similarly, research recommends strengthening and building the capacity of local government institutions, particularly through the use of deconsolidation and decentralization processes, which provide the architecture required for regulatory monitoring and enforcement and more equitable distribution of benefits from the targeted investment. Research also recommends building the capacity of central and local governments to utilize natural resources more effectively as an engine for the socio-economic development of rural areas, integrating government social development programs with those targeted investments, thus creating opportunities for collaboration and reducing the negative effects of existing company-centric or investment-centric models. Source: Andrews, T., Gamu, J., Le Billon, P., Oh, C.H., Reyes, D., Shin, J. The Role of Host Governments in Enabling or Preventing Conflict Associated with Mining. Canadian International Resources and Development Institute (CIRDI) and United Nations Development Programme (UNDP), 2018

there are lists of stakeholders where champions are identified. These need to be facilitated by the respective cities to engage community members that are engaged in the waste sector.

4.4.4 Environmental risks to sustainability

Environmental risks to sustainability The likelihood that benefits will continue to be delivered is rated as:	**Likely**

The environmental risks associated with project implementation that could undermine or reverse the project's outcomes are minimal, mainly related to site-specific odour nuisance potential and leachate-associated risks, which are documented in Environmental and Social Impact Assessments realized along with the feasibility studies. Project outcomes are, overall, expected to mainly enhance the environment through the wider dissemination of Integrated Waste Management (IWM) practices.

5. CONCLUSIONS AND RECOMMENDATIONS

This section provides conclusions drawn by the MTE team on project strategy, Project implementation and adaptive management and sustainability as well as the respective recommendations for each of these.

Project strategy

Conclusion 1: The project is highly relevant to national efforts for climate change mitigation. It is well aligned with the National Climate Change Policy 2015, National Climate Change Act 2021 and institutional frameworks to address climate change objectives and ambitions such as Vision 2040, and the National Development Plan (ii and iii) and is aligned with Uganda's Nationally Determined Contributions to the Paris Agreement.

Conclusion 2: Indicators for the project objective are not fully SMART. GHG emission reduction of 83,300 CO_2eq/yr is not achievable by the end of the project, given that there will be no replication of biogas plants in the other cities by project end.

From the results framework, the project only makes mention of Municipal Soil waste, yet the project is currently working and reporting on MSW, wastewater and agricultural waste. Indicator on component 2, focuses on only MSW, yet the computed 2.9MW generated comes from the two demonstration sites one for KCCA based on MSW and another for NWSC based on wastewater

> ***Recommendation 1.*** Revise project objective indicator to what can realistically be achieved. Additionally, revise outcome indicator to reflect what can realistically be achieved. Revise indicator for outcome 2 to include use of MSW, wastewater and agricultural waste in waste to energy projects. For example, the indicator of component 2 should state: Electricity generation for MSW and wastewater-based biogas pilot projects including wastewater and agricultural waste.

Conclusion 3: The project planned to involve the private sector in waste-to-energy generation in Kampala and other cities mainly through Public-Private Partnerships. Private sector involvement is key to sustainability of interventions since these come in to fill the critical financing gap in the energy sector. Success of the next phase of the project as well as sustainability of the interventions beyond the lifetime of the project is highly dependent on attracting private sector investment into the waste to energy value chain.

The Uganda Electricity Act 1999 law requires that a public entity can only get involved in generation of electricity through having a special arrangement with the private sector. Thus, cities intending to generate electricity from waste must enter into a special arrangement with a private investor to create special purpose vehicles (SPV). This requirement was not anticipated in the project design. The establishment of SPVs between the private sector and city authorities requires a lengthy proves and has not yet been done.

The second phase of project will be dominated by establishment of the waste to energy demonstration plant at the Kampala landfill site. This project is providing part of the funds for the project with the bulk of the funds for the demonstration plant expected to come from the private sector. This is an area where the IP needs to put effort to ensure the concept is well understood by the private sector wishing to invest in waste-to-energy venture with urban authorities under the project. Attracting private sector investment is key to this activity, especially under outcome three of the project. If there are other modalities of getting the private sector to invest in waste-to energy ventures, then these can be pursued.

> **Recommendation 2:** Explore alternative approaches other than SPVs to bring the private sector to invest in waste-to-energy ventures in Kampala and other cities. These could include encouraging the cities to implement the polluter-pays-principle and thus reduce the operational costs of securing MSW.
>
> **Recommendation 3:** Re-allocate funds for pilot plants to procurement of a demonstration mobile waste separation and sorting trommel machine(s) and equipment for monitoring biogas plant at Nakivubo Wastewater treatment plant NWSC. These mobile trommels could be used to demonstrate recovery of resources from Waste-Integrated waste management approaches since organic waste is used to produce biogas and/or organic fertilizer.
>
> **Recommendation 4:** Re-allocate funds for pilot plants to activities that prepare other cities for private sector investment in waste-to-energy ventures.

Conclusion 4: The Project has solid political support at both the central and local government levels. The project board has representation from the city clerks from each of the five beneficiary cities. From the stakeholders' responses to the survey, it is clear that the value of sustainability has risen considerably as far as stakeholders are concerned.

> **Recommendation 5:** Build on political support in the cities to expand work to attract private sector involvement in IWM in the different cities beyond IWM capacity building and awareness creation activities

Project implementation and adaptive management

Conclusion 5: Project implementation was delayed for about a year after project start up due to the project's internal management issues. Part of the delay was caused by negotiations between MEMD and UNDP to reallocate outputs under component 1 from intern international consultants to NEMA, since it had been realized that NEMA carried the requisite capacity to conduct activities for these outputs. Additionally, the implementing Partner chose to recruit a technical project manager who is technically competent in energy rather than a general project manager, which took time.

Delivery of project outputs was affected by the nation-wide lockdown due to the outbreak of Covid-19. Although the PMU and others responsible parties tried to reach out to stakeholders using the internet, this did not have the same effectiveness as face-to-face trainings.

> **Recommendation 6:** Submit a request for a no-cost extension for 18 months to make up for the time lost, as the result of the ~12 months delay to start implementation of project activities and lockdown due to covid19 restrictions.

Conclusion 6: Auditors recognized delays in approval of annual workplans and delayed disbursement of funds, which subsequently affect execution of planned activities and procurement of services. Release of funds for any year is normally done at end of the first quarter. Only 16% and 52% of the budget funds for 2019 and 2020 respectively. These delays could not be explained by Covid-19 lockdown since they appear in 2019 before the lockdown.

> **Recommendation 7:** MEMD and UNDP should work together to ensure timely approval of annual workplans, disbursement of funds and reporting of project outputs and accounting for advanced funds.

Conclusion 7: Whereas many of the different aspects of M&E have been followed, the project did not make an explicit M&E plan at the inception meeting as had been provided for. This has led to limited reporting on total number of stakeholders that the project has been able to reach. Even with the limited implementation of project activities so far, the PMU appeared to underestimate the reporting on project achievements and documenting/sharing of lessons learned. It is likely that the PMU and the implementing agency carried out activities with potential results that have been under reported. The anecdotal evidence, which is circumstantial, testifies to this. A recent report captures lessons in 2019 and 2020. These lessons were distilled into lessons learned to take into account in 2021 and onwards. This is indicative of the potential of the PMU to move forward, to use means possible to carefully document, report and use these lessons to make necessary adjustments to ensure that the project remains on track to achieve its objectives.

Additionally, the Project monitoring is part of the project implementation that plays a critical role in providing the necessary information both for the MTE as well as for the Terminal Evaluation (TE). The registered information on outcome achievement is scanty. There is a likelihood that the PMU and the implementing agency have carried out activities with potential results that have been under reported.

> **Recommendation 8:** Strengthen monitoring and reporting of implementation of project implementation and give more attention to recording and reporting on lessons learned and project achievements. This might require recruitment of an M&E officer as part of the PMU or hiring a national consultant for the remainder of the implementation. This will help to ensure (1) achievement of socioeconomic results based on responsible environmental management of vulnerable groups, (2) the project's expected outcomes in waste management and conversion to energy from waste, (3) information availability before the terminal evaluation and (4)

Conclusion 8: The project has involved some women in trainings and awareness activities, however the move towards gender responsiveness is lacking. the project has a gender strategy and reports gender disaggregated number of women and men reached directly by the project. However, there is no clear focus to target women in project activities, yet the prodoc mentions that women are key players in the waste sector in the cities and municipalities

Recommendation 9: Implement recommendations of the gender strategy to ensure that women and men are adequately represented in the IWM activities in the cities.

6. ANNEXES

Annex i: MTE ToR (excluding ToR annexes)

TERM OF REFERENCE
(TOR)

For the procurement of International Consultant to conduct Midterm Evaluation

GENERAL INFORMATION

Project/Program Title	**NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION IN UGANDA**
Scope of Advertisement:	**International**
Type of Contract:	**Individual Consultant**
Post Type:	**International Consultant**
Duty Station:	**Home-based (with mission travel if possible)**
Expected Areas of Travel:	**Selected Cities (Kampala, Mbale, Jinja, Mbarara and Masaka)**
Language of Communication:	**English**
Duration of Contract:	**30 working days spread over a period of two calendar months**
Start Date:	**Immediately after Concluding Contract Agreement**

1. INTRODUCTION

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Evaluation (MTE) of the full -sized UNDP supported Global Environment Facility (GEF) financed project titled: **PIMS 5574: NATIONALLY APPROPRIATE MITIGATION ACTION FOR INTEGRATED WASTE MANAGEMENT AND BIOGAS PRODUCTION IN UGANDA"** implemented by the Ministry of Energy and Mineral Development and five cities of Kampala, Mbale, Jinja, Mbarara and Masaka. The five-year project started on 13th September, 2018 though full implementation commenced in February 2019 with the project technical inception meeting currently in the third year of project implementation. The Terms of Reference sets out expectations for this Mid Term Evaluation (MTE) and its process will follow the *Guidance For Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects:* *http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance* MidtermEvaluation_EN_2014.pdf

2. PROJECT BACKGORUND INFORMATION

The Ministry is implementing a Nationally Appropriate Mitigation Action (NAMA project) on Integrated Waste Management and Biogas with funding from the Global Environment Facility and United Nations Development Program. The objective of the project is to generate at least 2.9MW of electricity generated from the organic fraction of municipal solid waste and waste water produced from industrial processes. This project aims to provide environmental benefits and reduce greenhouse gas emissions from improper and inadequate management and treatment of wastewater and organic waste in towns, municipalities and agro-processing industry in Uganda. The project combines demonstration and investment in integrated waste treatment and biogas plants in agro-processing industry and municipalities (including biogas-based, on-grid electricity generation) with institutional strengthening, capacity building for improved waste management, and an improved regulatory framework so that interventions are

sustainable and can be replicated in other municipalities and across agro-processing industry. The Lifetime greenhouse gases avoided will be from the generation of grid fed renewable electricity production and from methane reduction over the lifetime of investments.

Institutional framework

The Ministry of Energy and Mineral Development is the Implementing Entity of the project and the project is anchored in the Renewable Energy Department. Other Responsible Partners of the project are National Environment Management Authority (NEMA) and National Water Sewerage Corporation, Electricity Regulatory Authority, Kakira Sugar Works, Kampala Capital City Authority, the Cities of Mbarara, Mbale, Jinja, Masaka, Ministry of Water and Environment, Ministry of Local Government.

The project was designed to deliver the following outcomes:

1. **Outcome 1**: Establishing enabling market conditions, institutional strengthening and capacity building for improved waste management and promotion of MSW-based biogas systems;
2. **Outcome 2:** Biogas and WWT plants using MSW feedstock and sewage sludge procured and fully operational;
3. **Outcome 3:** Biogas technology replicated in other potential municipalities in the country based on lessons learnt and success of the demonstration
4. **Outcome 4:** Replication and scaling up of project results supported by lessons learned and success of demonstration projects.

3. OBJECTIVES OF THE MID-TERM EVALUATION

The MTE will evaluation the project design and strategy, assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, assess early signs of project success, or failure including risks to sustainability. The goal will be to identify and recommend the changes necessary to set the project on-track to achieve its intended results. The recommendations in the MTE report shall be used by the project implementers to as a means in adaptive management. A management response shall be prepared by the PMU with partners outlining out how they are to implement the recommendations.

4. APPROACH AND METHODOLOGY

The MTE must provide evidence-based information that is credible, reliable and useful. . The International Consultant will work with a counterpart National Consultant; the latter to provide the local content while the former will be the Lead Consultant to ensure the deliverables are realized. The MTE team will evaluation all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Evaluation/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based evaluation). The MTE team will evaluation the baseline GEF focal Area Tracking Tool (AMAT) submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTE field mission begins.

The MTE is expected to follow a collaborative and participatory approach[23] ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTE[24] Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to: Ministry of Energy and Mineral Development, Ministry of Water and Environment, UNDP, National Water and Sewerage Corporation, project coordinators from five cities of Kampala, Mbale, Jinja, Mbarara and Masaka, Urban Authorities Association of Uganda, the Project Board, Project Stakeholders and academia. If possible the MTE team is expected to conduct field missions to the five cities (Kampala, Mbale, Jinja, Mbarara and Masaka) where the MTE team should be able to meet the project responsible parties and conduct site assessments. However, other methods of interaction could be co-opted in light of COVID restrictions).

The specific design and methodology for the MTE should emerge from consultations between the MTE team and the above-mentioned parties regarding what is appropriate and feasible for meeting the MTE purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The MTE team must use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the MTE report.

The final methodological approach including interview schedule, field visits and data to be used in the MTE must be clearly outlined in the Inception Report and be fully discussed and agreed between UNDP, stakeholders and the MTE team.

The final MTE report should describe the full MTE approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the evaluation.

5. DETAILED SCOPE OF THE MTE

The MTE team will assess the following four categories of project progress. See the *Guidance for Conducting Midterm Evaluations of UNDP supported, GEF-Financed Projects for extended description.* (http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Evaluation%20_EN_2014.pdf

a) Project Strategy

Project design:

- Evaluation the problem addressed by the project and the underlying assumptions. Evaluation the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Evaluation the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
- Evaluation how the project addresses country priorities. Evaluation country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?

[23] For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results, 05 Nov 2013.

[24] For more stakeholder engagement in the M&E process, see the UNDP Handbook on Planning, Monitoring and Evaluating for Development Results, Chapter 3, pg. 93

- Evaluation decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Evaluation the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement.

Results Framework/Log-frame:

- Undertake a critical analysis of the project's log-frame indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time- bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyze beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

b). Progress towards Results

Progress towards Outcomes Analysis:
Evaluation the log-frame indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Evaluations of UNDP- Supported, GEF-Financed Projects*; colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved.

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicator	Baseline Level[4]	Level in 1st PIR (self-reported	Midterm Target[5]	End-of-project Target	Midterm Level & Assessment[6]	Achievement Rating[7]	Justification for Rating
Objective:	Indicator (if applicable):							
Outcome 1:	Indicator 1:							
	Indicator 2:							
Outcome 2:	Indicator 3:							
	Indicator 4:							
	Etc.							
Etc.								

Indicator Assessment Key

Green= Target Achieved	Orange= 0n target to be achieved	Red= Not on target to be achieved

[3] Populate with data from the Logframe and scorecards
[4] Populate with data from the Project Document
[5] If available
[6] Colour code this column only
[7] Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

In addition to the progress towards outcomes analysis:

- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before MTE.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By evaluationing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits

c) Project Implementation and Adaptive Management

Management Arrangements

- Evaluation overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Evaluation the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Evaluation the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.
- Do the Executing Agency/Implementing Partner and/or UNDP and other partners have the capacity to deliver benefits to or involve women? If yes, how?
- What is the gender balance of project staff? What steps have been taken to ensure gender balance in project staff?
- What is the gender balance of the Project Board? What steps have been taken to ensure gender balance in the Project Board?

Work Planning:

- Evaluation any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ log-frame as a management tool and evaluation any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Evaluation the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

Sources of Co- financing	Type of Co-financing	Co-financing amount confirmed at CEO Endorsement (US$)	Actual Amount Contributed at stage of Midterm Evaluation (US$)	Actual % of Expected Amount
UNDP	Cash	900,000		
NEMA	In -Kind	381,000		
MEMD	In- Kind	557,000		
NWSC	Equity	7,800,000		
KCCA	Equity	2,250,000		
Kakira Sugar Limited	Equity	2,000,000	2,000,000	
Uganda Energy Credit Capitalization Company Limited	Loans	350,000	0	
UN Capital Development Fund	Grant	800,000		
	In- Kind	100,000	0	
	TOTAL			

- Include the separate GEF Co-Financing template (filled out by the Commissioning Unit and project team) which categorizes each co-financing amount as 'investment mobilized' or 'recurrent expenditures'. (This template will be annexed as a separate file.)

Project-level Monitoring and Evaluation Systems:

- Evaluation the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?
- Evaluation the extent to which relevant gender issues were incorporated in monitoring systems. See Annex 9 of *Guidance For Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects* for further guidelines

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?
- How does the project engage women and girls? Is the project likely to have the same positive and/or negative effects on women and men, girls and boys? Identify, if possible, legal, cultural, or religious constraints on women's participation in the project. What can the project do to enhance its gender benefits?

Social and Environmental Standards (Safeguards)

- Validate the risks identified in the project's most current SESP, and those risks' ratings; are any revisions needed?
- Summarize and assess the revisions made since CEO Endorsement/Approval (if any) to:
    - The project's overall safeguards risk categorization.
    - The identified types of risks[25] (in the SESP).
    - The individual risk ratings (in the SESP) .
- Describe and assess progress made in the implementation of the project's social and environmental management measures as outlined in the SESP submitted at CEO Endorsement/Approval (and prepared during implementation, if any), including any revisions to those measures. Such management measures might include Environmental and Social Management Plans (ESMPs) or other management plans, though can also include aspects of a project's design; refer to Question 6 in the SESP template for a summary of the identified management measures.

A given project should be assessed against the version of UNDP's safeguards policy that was in effect at the time of the project's approval.

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications and Knowledge Management:

- Evaluation internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Evaluation external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.
- List knowledge activities/products developed (based on knowledge management approach approved at CEO Endorsement/Approval).

d). Sustainability

Validate whether the risks identified in the Project Document, Annual Project Evaluation/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.

Financial risks to sustainability:

[25] [8] Risks are to be labeled with both the UNDP SES Principles and Standards, and the GEF's "types of risks and potential impacts": Climate Change and Disaster; Disadvantaged or Vulnerable Individuals or Groups; Disability Inclusion; Adverse Gender-Related impact, including Gender-based Violence and Sexual Exploitation; Biodiversity Conservation and the Sustainable Management of Living Natural Resources; Restrictions on Land Use and Involuntary Resettlement; Indigenous Peoples; Cultural Heritage; Resource Efficiency and Pollution Prevention; Labor and Working Conditions; Community Health, Safety and Security.

- What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

Conclusions & Recommendations

The MTE team will include a section of the report setting out the MTE's evidence-based conclusions, in light of the findings.[26]

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. See the *Guidance For Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTE team should make no more than 15 recommendations total.

Ratings

The MTE team will include its ratings of the project's results and brief descriptions of the associated achievements in the *MTE Ratings & Achievement Summary Table* in the Executive Summary of the MTE report. See Annex 5 for ratings scales. No rating on Project Strategy and no overall project rating is required.

[26] Alternatively, MTE conclusions may be integrated into the body of the report.

MTE Ratings & Achievement Summary Table for (Nationally Appropriate Mitigation Action on Integrated Waste Management and Biogas Production in Uganda Project**)**

Measure	MTE Rating	Achievement Description
Project Strategy	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
Project Implementation & Adaptive Management	(rate 6 pt. scale)	
Sustainability	(rate 4 pt. scale)	

6. TIME FRAME (DURATION OF WORK)

The total duration of the MTE will be approximately 30 working days over a time period of 6 weeks. A National Consultant will complement the Lead/International Consultant for a period of 20 working days over the 6 weeks period.

ACTIVITY	Number of Working Days	Completion Date	Responsible Partner
Document evaluation and preparing MTE Inception Report and work plan (MTE Inception report due no later than 2 weeks before the MTE mission)	# days (recommended: 2-4 days)	By 28 August 2021	Consultant team (The project will prepare the logistics needed for the meeting
MTE mission: stakeholder meetings, interviews, field visits	# days (recommended: 7 – 15 days)	By 30th September 2021	Consultant team (The project will prepare the logistics needed for the meetings/ trips/ field visits/ interviews
Presentation of initial findings – last day of the MTE mission)	1 day	5th October, 2021	Consultant team (The project will prepare the logistics needed for the meeting
Preparing draft report (due within 3 weeks of the MTE		30th October,2021.	Consultant team

mission)	# days (recommended 5 – 10 days)		
Finalization of MTE Report / Incorporating audit trail from feedback on draft report (due within 1 week of receiving UNDP comments on the draft)	# days (recommended 3 – 4 days)	This date shall be 3-4 weeks after the draft report is presented. By 30th November, 2021	Consultant team

7. **MTE DELIVERABLES**

Deliverable	Description	Timing	Responsibilities
MTE Inception Report	MTE team clarifies objectives and methods of Midterm Evaluation	By 28 August 2021	MTE team submits inception report UNDP CO
Presentation	Initial Findings	By 30th September 2021	MTE Team presents to Project Management and the UNDP CO
Presentation of Draft report	Draft report	5th October, 2021	MTE team presents to UNDP internal Evaluation Committee Project Coordinating Unit, and is evaluationed by RTA and GEF Operational Focal Point
Presentation of Final Report	Full report (using guidelines on content outlined in Annex B) with annexes and addressing comments of internal evaluation committee	30th October,2021.	MTE lead consultant presentation to stakeholders including Project Board, Technical Committee and Responsible Parties
Final Report[10]	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTE report	By 30th November, 2021 or (Within 1 week of receiving UNDP/IP comments on draft)	Final report sent to UNDP CO and UNDP CO will send to MAAIF

The final MTE report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

8. **MTE ARRANGEMENTS**

The principal responsibility for managing this MTE resides with the Commissioning Unit. The

Commissioning Unit for this project's MTE is *UNDP Uganda Country Office,*
The commissioning unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the MTE team. The Project Team will be responsible for liaising with the MTE team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

9. LOGISTICS AND ADMINISTRATION SUPPORT

The UNDP Uganda and MEMD Biogas NAMA Project Implementation Unit through the Project Management Unit will make available all the transport and ensure that the consultant has access to resources, key partners and sites as planned. The Project Management Unit will facilitate the MTE team to meet with and interact with the stakeholders at the national level and in the cities/communities.

b) UNDP will support the Consultant in the following areas:

- Access to required information (copy of project document, Annual Work plans, Progress reports and other project related reports).
- Access to UNDP Office and its infrastructure (e.g. conference room and internet while at UNDP);
- Support and assistance to gain access to relevant stakeholders for consultations;

c) UNDP Kampala and the Project Office will coordinate the study and keep abreast of the Mission's activities during the Consultant's stay.

10. TEAM COMPOSITION

A team of two independent consultants will conduct the MTE - one Team Leader (International with experience and exposure to projects and evaluations in other regions globally) and one National team expert. The Team leader will be responsible for the overall design and writing of the MTE report and provide technical oversight to the completion of the assignment while the National Consultant will be responsible for the assessing emerging trends in regard to the policy, legal and regulatory framework, budget allocations, capacity building, and also work with the project management team in availing the MTE itinerary.

The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas: The weight to all preferred qualifications apart from the minimum academic qualifications and experience are shown in the Technical Evaluation Criteria below.

Education:

- Advanced University Degree (Masters or equivalent) in natural sciences; with a specialization in Renewable Energy, Energy Economics, Environmental engineering, Climate change mitigation (non AFOLU related) or any other closely related field

Experience:

- Minimum 7 years of relevant professional experience in relevant technical areas;
- Minimum of 4 years proven track record of application of results-based approaches to evaluation of projects focusing on renewable energy development, energy recovery from waste, climate change mitigation (non AFOLU related),
- Highly knowledgeable of participatory monitoring and evaluation processes;
- Familiarity with Uganda's development, energy, climate change and waste management policies and other relevant policy frameworks;

Competencies:

- Recent experience with result-based management evaluation methodologies;
- Experience applying SMART indicators and reconstructing or validating baseline scenarios;
- Competence in adaptive management, as applied to GEF Climate Change focal areas;
- Experience working with the GEF or GEF-evaluations;
- Experience working in East Africa;
- Demonstrated understanding of issues related to gender and waste recovery, energy and technology transfer for climate change, experience in gender sensitive evaluation and analysis.
- Excellent communication skills;
- Demonstrable analytical skills;

Language and other skills:
Proficiency in both spoken and written English

Compliance of the UN Core Values:
- Demonstrates integrity by modelling the UN's values and ethical standards,
- Promotes the vision, mission, and strategic goals of UNDP,
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability,
- Treats all people fairly without favouritism,
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.

11. ETHICS

The MTE team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This MTE will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The MTE team must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The MTE team must also ensure security of collected information before and after the MTE and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information, knowledge and data gathered in the MTE process must also be solely used for the MTE and not for other uses without the express authorization of UNDP and partners.

12. SELECTION CRITERIA

Qualified Individual Consultant is expected to submit both the Technical and Financial Proposals. Individual Consultants will be evaluated based on Cumulative Analysis as per the following scenario:
- Responsive/compliant/acceptable, and
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation. In this regard, the respective weight of the proposals are:
    - Technical Criteria weight is 70%
    - Financial Criteria weight is 30%

Evaluation Criteria	Weight	Max. Point
Technical Competence (based on CV, Proposal and interview (if required)	**70%**	100
Understanding the Scope of Work; comprehensiveness of the methodology/approach; and organization & completeness of the proposal		30
Minimum educational back ground		15
Minimum years of experience		15
Additional competences (Waste and Climate Change /M&E)		25
Financial (Lower Offer/Offer X100)	**30%**	30
Total Score	**Technical Score * 70% + Financial Score *30%**	

** It is a mandatory criteria and shall have a minimum of 50%*

13. **PAYMENT MILESTONES**

Instalment of Payment/ Period	Deliverables or Documents to be Delivered	Responsibility for Approval	Percentage of
1st Instalment	upon approval of the final MTE Inception Report and work plan	UNDP and MEMD	20%
2nd Instalment	upon satisfactory delivery and approval of the draft MTE report	UNDP and MEMD	40%
3rd Instalment	upon satisfactory delivery and approval of the Final MTE report by the RTA	UNDP and MEMD	40%

Criteria for issuing the final payment of 40%[11]:

- The final MTE report includes all requirements outlined in the MTE TOR and is in accordance with the MTE guidance.
- The final MTE report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other MTE reports).
- The Audit Trail includes responses to and justification for each comment listed.
- RTA approvals are via signatures on the TE Report Clearance Form)

RECOMMENDED PRESENTATION OF TECHNICAL AND FINANCIAL PROPOSALS

For purposes of generating proposals whose contents are uniformly presented and to facilitate their comparative evaluation, you are hereby given a template of the Table of Content. Accordingly, your Technical Proposal document must have at least the preferred content as outlined in the IC Standard Bid Document (SBD). The financial proposals should be ALL inclusive.

➢ CONFIDENTIALITY

The Individual Consultant shall not either during the term or after termination of the assignment, disclose any proprietary or confidential information related to the consultancy service without prior

[11] The Commissioning Unit is obligated to issue payments to the MTE team as soon as the terms under the ToR are fulfilled. If there is an ongoing discussion regarding the quality and completeness of the final deliverables that cannot be resolved between the Commissioning Unit and the MTE team, the Regional M&E Advisor and Vertical Fund Directorate will be consulted. If needed, the Commissioning Unit's senior management, Procurement Services Unit and Legal Support Office will be notified as well so that a decision can be made about whether or not to withhold payment of any amounts that may be due to the evaluator(s), suspend or terminate the contract and/or remove the individual contractor from any applicable rosters. See the UNDP Individual Contract Policy for further details: https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Individual%20Contract_Individual%20Contract%20Policy.docx&action=default

written consent. Proprietary interests on all materials and documents prepared by the consultants under the assignment shall become and remain properties of UNDP.

ANNEXES

Existing literature and documents that will help Offerors gain a better understanding of the project situation and the work required are provided as annexes to the TOR, including:

- *Guidance For Conducting Midterm Evaluations of UNDP-Supported, GEF-Financed Projects* (2014)
- List of documents to be evaluationed by the MTE Team
- Guidelines on Contents for the Midterm Evaluation Report
- MTE Evaluative Matrix template
- UNEG Code of Conduct for Evaluators/Midterm Evaluation Consultants
- MTE Required Ratings & Achievement Summary Table and Ratings Scales
- MTE Report Clearance Form
- MTE Audit Trail template
- Progress Towards Results Matrix template

APPLICATION PROCESS

Applicants are requested to apply online at https://procurement-notices.undp.org …….. Individual consultants are invited to submit technical and financial proposals as applications together with their CV for these positions. UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

DOCUMENTS TO BE INCLUDED WHEN SUBMITTING THE PROPOSALS.

Interested individual consultants must submit the following documents/information to demonstrate their qualifications **in one single PDF document:**

1) Duly accomplished **Letter of Confirmation of Interest and Availability**
2) **Personal CV or P11**, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references.
3) **Technical proposal:**
    a. Brief description of why the individual considers him/herself as the most suitable for the assignment
    b. A methodology, on how they will approach and complete the assignment.
4) **Financial proposal** that indicates the all-inclusive fixed total contract price, supported by a breakdown of costs.
5) Interested applicants should send an email tomoses.lutwama@undp.org for a detailed copy of the Terms of Reference.

Evaluator ethics

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'.

This TOR is approved by: _____

Signature:

Name and Designation: _____ **Date of Signing:**

Annex ii: MTE Evaluative Matrix (evaluation criteria with key questions, indicators, sources of data, and methodology)

Evaluative Questions	Indicators / Benchmarks	Sources	Methodology
Relevance—the extent to which the activity is suited to local and national environmental priorities and policies and to global environmental benefits to which the GEF is dedicated; this analysis includes an assessment of changes in relevance over time			
1) Do the project activities address the gaps in the policy, regulatory and capacity framework at the national level?	Degree to which the project supports national objectives on energy access and generation, climate and development	National policies Project Document UNDP ACTION PLAN, NDP-III	Document analysis and interviews
2) To what extent is the project suited to local and national development priorities and policies	Addressing gaps and/or inconsistencies in the national and local policies and priorities. Addressing gaps in the capacity framework.		Document analysis and interviews
3) How relevant are the project's intended outcomes?	Degree to which the project supports national energy, climate change and development objectives.	Project documents	Document analysis and interviews
4) How relevant is the involvement of different partners in Project implementation given the institutional and policy framework for the integrated waste and biogas/energy sectors in Uganda?			Document analysis and interviews
5) Were counterpart resources (funding, staff, and facilities), enabling legislation, adequate project management arrangements in place at project entry?	Appreciation from national stakeholders with respect to the adequacy of project design and implementation *to national realities and existing capacities* Coherence of the UNDP and GEF operational programming	Project partners and relevant stakeholders UNDAF, UNDP/GEF Programming statements	Interviews Document analysis
6) Are the counterpart resources adequate to address all issues faced during project implementation?			Interviews
7) Did the risk analysis and assumptions help to determine activities and planned outputs?			Interviews
8) Is the project compatible with the UNDP programming strategy for Uganda?			Interviews
9) To what extent is the project in line with GEF's operational programs?			Interviews
Effectiveness—the extent to which an objective has been achieved or how likely it is to be achieved			
*Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved thus far***?**			
(10) What expected outputs have been achieved thus far?	Degree of achievement vis a vis expected outcome indicators.	PIR 2020 Interviews	Interviews

Evaluative Questions	Indicators / Benchmarks	Sources	Methodology
11) To what extent have the expected outcomes and objectives of the project been achieved thus far?	Degree of achievement vis a vis expected outcome indicators.	PIR 2020 Interviews	Interviews
12) Was the project effective in acquiring policy guidance for future developments in the field of waste regulation, integrated waste management and energy generation?	Policy guidance used for future developments in the field of waste regulation, integrated waste management and energy generation.	Project deliverables, Official publications Interviews	Document analysis Stakeholder interviews
13) How has the project addressed market conditions, institutional strengthening and capacity building for improved waste management and the promotion of MSW-based biogas systems?	Number of new private sector initiatives on MSW-based biogas system		Interviews
14) How has the project addressed capacity gaps at the urban authority level and enabled the sorting of waste?	Number of trainees in public agencies and NGOs		Interviews
15) What other partners can be involved in the Project in a meaningful way to streamline the issue and bypass or address the institutional and policy gaps in the management of the organic fraction of waste?			Interviews
16) How well has the project involved and empowered communities and groups to implement waste management and waste to energy strategies as they relate to integrated waste management in the project areas?	Involvement of (direct and indirect) beneficiaries in project development and implementation. Incorporation of *gender dimension.*	Project outputs and outcomes	Interviews and site visits
17) How has the project incorporated gender issues as they relate to integrated waste management?	Analysis of participation by stakeholders (communities, civil society, direct and indirect beneficiaries, etc.). Effect of project aspects implemented at sites		Interviews and site visits
18) What is causing delays in the implementation and delivery of outputs of the NAMA on Integrated Waste Management and Biogas Production in Uganda?			Stakeholder interviews
19) Where are the implementation 'bottlenecks'?			Stakeholder interviews
20) How can these issues be solved?			Stakeholder interviews
23) What changes need to be implemented?			Stakeholder interviews
Efficiency—the extent to which results have been delivered with the least costly resources possible.			

Evaluative Questions	Indicators / Benchmarks	Sources	Methodology
30-What adaptive management measures have been used thus far?			Interviews
31-How have these modifications to the project contribute to obtaining the objectives?			Interviews
24) How did institutional arrangements influence the project's achievement of results			Interviews
25) To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation?			Interviews
26) Have there been changes to the overall project risk rating and/or the identified types of risks as outlined at the CEO Endorsement stage?			Interviews
Sustainability: the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion; projects need to be environmentally as well as financially and socially sustainable.			
27) Sustainability possibilities: does the Project have an exit strategy?	In what way are the benefits from the project likely to be maintained or increased in the future?	See indicators in project document results framework and log frame	Interviews
28) What components should an exit strategy for this project have?			Interviews
29) What are some of the socio-cultural aspects related to the project?	Is there sufficient public/stakeholder awareness in support of the project' s long-term objectives?	Evidence that particular partnerships/linkages will be sustained.	Interviews
30) What political/financial factors have influenced sustainability of the project?	Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize the sustainability of the project benefits?	Evidence that particular practices will be sustained.	Interviews
31) What are the necessary conditions that enable replicability of waste to energy facilities piloted under the project?	Which of the project's aspects deserve to be replicated in future initiatives?	Government of Uganda, Project team, UNDP	Interviews

Annex iii (a): Sample Questionnaires or Interview Guide used for data collection – city staff

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION

Questionnaire for City/Municipality staff and all other project stakeholders

Background: With support from GEF and UNDP, Uganda's Ministry of Energy and Mineral Development (MEMD) is implementing a five-year project entitled Nationally Appropriate Mitigation Action for Improved Waste Management and Biogas Production in Uganda" in the cities of Jinja, Kampala, Masaka, Mbale and Mbarara. Project implementation has been underway for the last 2 ½ years and it is time for a Midterm Evaluation (MTE). The purpose of the midterm evaluation is to i) evaluation the project design and strategy, ii) assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and iii) assess early signs of project success or failure, including risks to sustainability. As a key stakeholder in the project, your answers to the following questions will be valuable in meeting the objectives of the MTE and in helping the project stay on track to achieve its objectives. This MTE is conducted following GEF guidelines where confidentiality is considered paramount. Your time in completing this questionnaire is appreciated.

Name of interviewee: .....Position .....

Phone..... Email.....City .....

Date .....Interviewer .....

1. How relevant is the involvement of different partners in Project implementation given the institutional and policy framework for integrated waste and biogas/energy sectors in Uganda? (4)
2. How has the project addressed market conditions, institutional strengthening and capacity building for improved waste management and the promotion of MSW-based biogas systems? (13)
3. How has the project addressed capacity gaps at the urban level and enabled sorting of waste? (14)
4. What other partners can be involved in the Project in a meaningful way to streamline the issue and bypass or address the institutional and policy gaps in management of the organic fraction of waste? (15)
5. How well has the project involved and empowered authority communities and groups to implement waste management and waste to energy strategies as they relate to integrated waste management in the project areas? (16)
6. How has the project incorporated gender issues as they relate to integrated waste management? (17)
7. What is causing delays in the implementation and delivery of outputs of the NAMA on Integrated Waste Management and Biogas Production in Uganda? (18)
8. Where are the implementation 'bottlenecks'? (19)
9. How can these issues be solved? (20)
10. What changes need to be implemented? (21)
11. What are some of the socio-cultural aspects related to the project? (new) (29)
12. What Political/financial factors have influenced sustainability of the project? (New) (30)
13. What are the necessary conditions that enable replicability of waste to energy facilities piloted under the project? (31)
14. Any other comments you may have on the project

Annex iii (b): Sample Questionnaires or Interview Guide used for data collection – project executives

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION

Questionnaire for project executives

Background: With support from GEF and UNDP, Uganda's Ministry of Energy and Mineral Development (MEMD) is implementing a five year project entitled Nationally Appropriate Action for Improved Waste Management and Biogas Production in Uganda" in the cities of Jinja, Kampala, Masaka, Mbale and Mbarara. Project implementation has been underway for the last 2 ½ years and it is time for a Midterm Evaluation (MTE). The purpose of the midterm evaluation is to i) evaluation the project design and strategy, ii) assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and iii) assess early signs of project success or failure, including risks to sustainability. As a key stakeholder in the project, your answers to the following questions will be valuable in meeting the objectives of the MTE and in helping the project stay on track to achieve its objectives. This MTE is conducted following GEF guidelines where confidentiality is considered paramount. Your time is completing this questionnaire is appreciated.

Name of interviewee: .....Position .....

Phone..... Email.....City .....

Date .....Interviewer .....

1. Do the project activities address the gaps in the policy, regulatory and capacity framework at the national level? (1)
2. To what extent is the project suited to local and national development priorities and policies**? (2)**
3. How relevant are the project's intended outcomes? (3)
4. Were counterpart resources (funding, staff, and facilities), enabling legislation, adequate project management arrangements in place at project entry? (5)
5. Are the counterpart resources adequate to address all issues faced during project implementation? (6)
6. Did the risk analysis and assumptions help to determine activities and planned outputs? (7)
7. Is the project compatible with the UNDP programming strategy for Uganda? (8)
8. To what extent is the project in line with GEF's operational programs? (9)
9. What expected outputs have been achieved thus far? 10)
10. To what extent have the expected outcomes and objectives of the project been achieved thus far? (11)
11. Was the project effective in acquiring policy guidance for future developments in the field of waste regulation, integrated waste management and energy generation? (12)
12. What adaptive management measures have been used thus far? (22)
13. How have these modifications to the project contribute to obtaining the objectives? (23)
14. How did institutional arrangements influence the project's achievement of results (24)
15. To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation? (25)
16. Have there been changes to the overall project risk rating and/or the identified types of risks as outlined at the CEO Endorsement stage? (26)
17. Sustainability possibilities: does the Project have an exit strategy? (27)
18. What components should an exit strategy for this project have? (28)

Annex iii (c): Sample Questionnaires or Interview Guide used for data collection – project executives

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION

Questionnaire for informal sector

Background: With support from GEF and UNDP, Uganda's Ministry of Energy and Mineral Development (MEMD) is implementing a fiver year project entitled Nationally Appropriate Action for Improved Waste Management and Biogas Production in Uganda" in the cities of Jinja, Kampala, Masaka, Mbale and Mbarara. Project implementation has been underway for the last 2 ½ years and it is time for a Midterm Evaluation (MTE). The purpose of the midterm evaluation is to i) evaluation the project design and strategy, ii) assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and iii) assess early signs of project success or failure, including risks to sustainability. As a key stakeholder in the project, your answers to the following questions will be valuable in meeting the objectives of the MTE and in helping the project stay on track to achieve its objectives. This MTE is conducted following GEF guidelines where confidentiality is considered paramount. Your time is completing this questionnaire is appreciated.

Qno	Name of the interview Site	Coding Category
1	Name of storyteller [beneficiary]	
2	Gender of beneficiary	Male ..... 1 Female 2
3	Tell me how you (the storyteller) became involved with the NAMA on IWM and project	
4	From your point of view, describe the most significant change that has resulted from your involvement with Project [**Last six months before the survey]**	
5	Why is this significant to you?	

Annex iv: PMU Templates Completed

Annex iv (a): PMU Template on Project Management

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION IN UGANDA PROJECT [July 20, 2021]

To the Attention of PMU: Proposed outline to brief MTE on

Project Management and Implementation Matters

Purposes

This is an opportunity for the PMU to discuss its organization in managing project implementation from Inception to the MTE. This includes assessing the results obtained so far, identifying the constraints [either institutional or technical] and proposing actionable lines to enhance project implementation so as to achieve expected outcomes—especially in the light of a severe unexpected event: Covid 19.

A suggested outline is proposed. It is an account of what the PMU has achieved under difficult circumstances. This briefing-document can be used as reference for the MTE.

1-Milestone dates. List key dates related to management decision from project launching to the MTE

2- Organizational framework: compare the proposed framework in the Prodoc to the actual framework. Explain reasons for any differences.

3-Management Arrangements

Summary of the management arrangements planned at the inception of the project.
[What follows is a generic list, the final list should reflect the actual conditions]

1. A Project Steering Committee (PSC) or Project Board who are the members and what are their functions, Frequency of PSC meetings and processes involved in these meetings and results obtained. What is their role in selecting personnel for PMU?
2. The project technical committee, composition, role, and frequency of meetings
3. A National Project Management Unit (PMU) who are the members and what are their functions.
4. Role of UNDP does it provide project oversight (both financial and technical). Are there any other technical and operational services? What is the implementation modality with respect to UNDP role?
5. Stakeholder Engagement. Were there consultations focused on any specific topics. What was their scope and actual results? Did any strategic directions and guidance to the project arise from these consultations? Are there any other national or international organizations that evaluationed the Project technical and economic components?
6. What is the implementation modality of the project to allocate, administer and report on project resources
7. ------- ------ -----

4-Work Planning

What are the standard procedures for planning work activities? What is the modality of organization of the information? Table 1 compares the budgeted annual work plans with the actual annual disbursements,

Table 1 Budget and expenditures

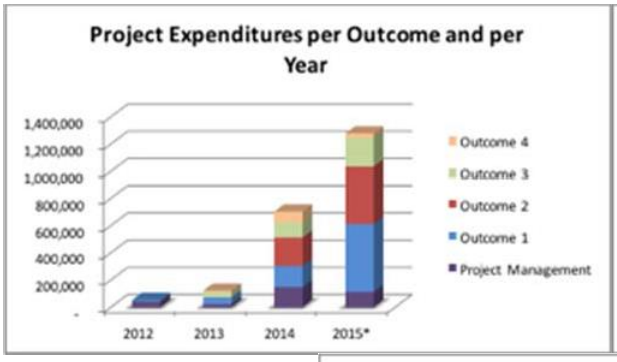
Year	Budget	Actual expenditure	% Spent
1			
2			
3			

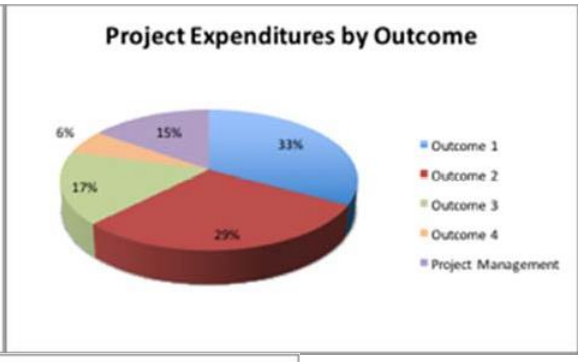
5-Finance and Co-finance

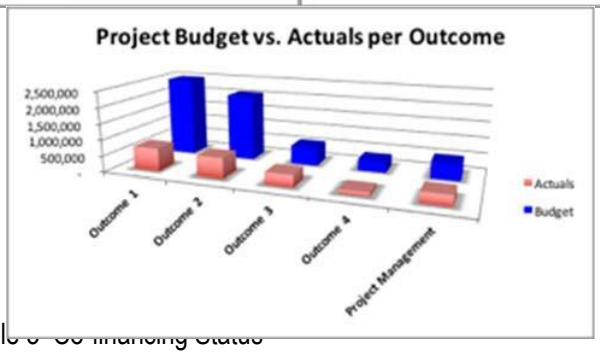
Table 2 show the breakdown of project expenditures by outcome and by year. The three graphs illustrate project expenditure per outcome and per year; project expenditures by outcome; project budget vs actual per outcome. These are useful graphs to illustrate progress.

Table 2 Breakdown Project expenditures by outcome and year

Component	Budget	1	2	3		SubTotal	Total budget
Outcome 1							
Outcome 2							
Outcome 3							
Outcome 4							
Project Management							
TOTAL							







6-Co-financing Status

Table 3 Co-financing Status

Partner	Type	Commitment USD	Actual USD
National Government	In-kind		
UNDP			

GEF			
other	Cash		
other	Cash		
	Total (USD)		

7-Project-level Monitoring and Evaluation Systems
[Note this is a generic list- the final list should reflect actual conditions]

I. Is there a comprehensive M&E plan developed during the project preparation in accordance with standard UNDP guidelines? Explain an discuss content including budget

II. Was the M&E plan evaluationed during the inception phase? Is so what were the changes made?

III. Summarize the structure and function of the operating modalities of the M&E plan, for instance:
- Performance indicators:
- Inception workshop: Purpose and achievements
- Quarterly Assessments: Quality, content and timeliness
- Issue Log: Is there a log of all project risks in the UNDP Atlas system
- Project Progress Report (PPR): Structure, content and timeliness
- Annual Project Evaluation: Structure, content and timeliness
- Project Lesson Learned Log: Is it maintained and updated ?
- External mid-term and final project evaluations
- Audits:

8-List of Performance Indicators

Show and comment on the indicators, each one with a corresponding end-of-project target. This is to monitor the performance of the project at the objective and outcome level. This is shown in the *Strategic Results Framework*. Concretely, Table 4 contains a list of outcomes and outputs with their corresponding indicators and targets

Table 4. List of outcomes and outputs with corresponding indicators and targets
NB: The narrative is generic for illustration

Project Outcomes	Indicators	Targets
Objective - in	1. Number of risk-exposed	• By the end of the project at least.
	2. Number of risk-exposed riverine communities	• Eight (8) riverine communities are protected
	3. Number of provinces with improved climate-related planning and policy frameworks to increase resilience	• At the end of the programme, adaptation to climate change is managed,
Outcome 1 - Reduced exposure and increased adaptive capacity of coastal ***Output 1.1:*** Coastal early warning systems established for observation, data collection ***Output 1.2:*** Coastal flood	4. Number of communities benefitting from improved protection from coastal floods	• By the end of the project, 8 communities are protected from coastal flooding
	5. Number of AWS and voluntary weather stations in operation	• At least 6 tidal gauges and at least
	6. Number of communities covered by the improved coastal warning system and weather information	• One AWS will have been installed in each target 8 communities.

preparedness and response plan and systems established in the • ***Output 1.3:*** Support system for community-led mangrove • ***Output 1.4:*** Integrated coastal adaptation measures implemented to protect 8	7. Number of provinces with comprehensive disaster prepared ness and response plans for coastal flooding in place	• At least four provinces will have a comprehensive disaster preparedness
	8. Number of provincial capitals with assessed engineering measures for adaptation	• For three provincial capitals of Lae, Madang and Wewak suitable coastal engineering measures for adaptation are identified and

9-Reporting

What types of management reports are regularly produced? Are these according to UNDP project management guidelines?
List of issues dealt in the reports.

10-Communications

Did the project address the communication needs? How? Are results being measured?

Is there a strategy or vision in the communication effort? If so, are there any early results?

11. Procurement

Describe the procurement procedures used for goods and services.

I. Procurement of Goods : procedures used:
II. Procurement of Services procedures used:

Iii List of contracts for works conferred by Project

1-Date 2-Type Contract 3-Value 4-Current Status 5-Product Delivery Date

Iv List of contracts for services provided by Project

1-Date 2-Type Contract 3- Value 4-Current Status 5- Product Delivery Date

v. List of Goods Delivered

1-Date 2-Type 3-Quality Analysis

vi. List of Services Delivered

1-Date 2-Type 3-Quality Analysis

Annex iv (b): PMU briefing template on Output Completion

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION IN UGANDA PROJECT [July 20, 2021]

To the Attention of PMU : Proposed outline to brief MTE on

Project Performance and Associated Implementation Matters

1-Project Design [generic list]

I. Analytical evaluation of the project design in the context of the country needs [the development challenge]
II. Analytical evaluation of salient physical features influencing or determining factors in project design [the development challenge]
III. What were the government responses to these development challenges in terms of policies, financial facilities, organizational frameworks, procedures, and the like?
IV. In the context of project design, what were the government policies' linkages to international frameworks led by UN organizations and other regional initiatives and development banks, if any.

2-Results Framework [generic list]

I. Elaborate and show indicative evidence on the linkage between the development challenge and the strategic results framework and, in turn, how this is tied to the expected results?
II. Was the Strategic Results Framework used as "*blueprint*" on a day-to-day basis by the implementation team? Discuss the reasons either way.
III. Show that the Strategic Results Framework is well aligned with national priorities and its logic is appropriate to address national needs, specifically the development challenge.
IV. Summarize in the following table 1: *Strategic Results Framework [*show the -- objective and -- outcomes and --- outputs. For each expected outcome, identify targets to be achieved at the [1] mid-term and [2] end of the project.

Table 1 : Project results framework [27]

Expected Results	Targets at Mid Term	Targets at End of Project
Objective - -		
-		
Outcome 1 – **-**		
Output 1.1		
Output 1.2		
Outputs 1.3		
-		
Outcome 2		
Output 2.1		
-		
Outcome 3- -		
Output 3.1		
Output 3.2		
Output 3.		
-		

3.Comments on the results framework's coherence, in particular were the targets clear and operational

[27] The tables already completed by the project manager can be integrated here.

4.Are there any governance feature with negative or positive consequences on the results-framework and the targets

5.Were there any unanticipated complexities arising from executing activities in several municipalities, if so, what they were. What are the suggestions to address these observed complexities?

6-Progress Towards Results: The core task here is to **share evidence** indicating [1] how effective is the project in delivering expected results and [2] what are the persisting barriers limiting the effectiveness of the project.

7- Progress Towards Outcomes Analysis: [generic list]

To draw Table 2- [Progress Towards Outcome] consider the following items.

I. Corroborate that the project is implemented through [---] outcomes. And the implementation progress is measured though a set of [--] indicators and [--] targets.

II. Show the list of outputs achieved by the MTE --against each outcome --and their corresponding targets.

III. Include a " color classification code " to represent the level of progress achieved so far by the project.

IV. Green=Target achieved
V. Blue = On target to be achieved
VI. Red = Not on target to be achieved

VII. One column contains PMU justification for the given code.

VIII. Another column contains [MTE] observations.

An important qualification =

[1] These ratings [color classification] are based on the assumption that the project will be completed in the stipulated date of ------- according Prodoc.
[2] Unless there are other stipulations from UNDP and others, ordinarily, time-extension request due to delays in implementation are recommended during the MTE.
[3] PMU may want to submit to the MTE and management alternative options for project completion lengthened on time-extension. That is, a project with a longer mold and the same amount of resources. More on this issue see below.

Table 2 List of Results Achieved

Expected Results	Project Targets	Results Achieved	Color Code	PMU Justification	MTE Observation
Objectives					
-					
Outcome1					
Output 1.1					
Output 1.2					
-					
Outcome 2					
Output 2.1					
Output 2.2					
-					

8-Overall assessment of the project's progress up to the MTE. [generic list]

I. Identify and analyse causes of delays: managerial, financial [procurement and/or disbursement issues] technical matters, health-environmental-climate hazards, etc.

II. Are there persistent barriers to achieve the project objectives and outcomes? If so, discuss these barriers in detail and suggest how redress these barriers.

III. Are there ongoing activities, like potential investments derived from consulting assessment, that could influence output generation and outcome results?

IV. Evaluation the viability of these potential investments in terms of the project's timeline. Can these investments be realized within the project timeline? If not, what are the options? These investments, if realized estimate their possible consequence on project completion?

V. In light of the characteristics of the delays so far, will the project achieve outcomes by the date stipulated in Prodoc?

VI. If not, outline options for project completion. Each option must be justified economically, socially and environmentally.

VII. *NB: under the framework of an MTE, an extension is ordinarily proposed by prolonging the completion-date, keeping the total amount of resources constant, with possible redistribution of total amounts among the outcomes and within outputs*.

9-Management of risks. Specific risks: financial risk, socio-economic risks, institutional-governance risks, and environmental risks. [generic list]

I. Describe all the project risks that were identified at the formulation stage and recorded in the Pro Doc, including the risk mitigation strategy for each identified risk.

II. Evaluation all of the anticipated risks tied to the implementation of this project.

III. Has the PMU been monitoring these risks systematically? Were they reported timely? Show samples of evidence

IV. The Prodoc rated the project risks as ------ ; Is there evidence to indicate that these risk are either Higher or Lower as of the present MTE ? Discuss and justify the relative changes in the risk rates. Table 3 shows the original project risks and ratings the Prodoc mitigation measures and current management response for each of the risks.

Table 3: List of Risks Identified in Prodoc

Project Risks	Rating	Prodoc Mitigation Measures	Updated Mitigation Measures

Besides the set of risks listed in the Pro doc, did PMU identify additional risks? If so list in table 4 the additional risks including their respective management responses

Table 4: List of Additional Risks Identified since Project Inception

Risks / Assumptions	Priority	Mitigation Measures

10-Sustainability [generic framework]

The core task is to link up each and all of the risks considered [i.e. those in the Prodoc and the new risks identified by PMU, if any] to project sustainability. For the present MTE sustainable development, simply, describes the **processes for improving long-term economic well-being and quality of life** without compromising future generations' ability to meet their needs.

I. Financial risk to Sustainability. Discuss to what extent financial risk is one area where the long-term sustainability of project achievements need consideration, if so, what are the options to consider.

II. Socio-economic risk to Sustainability. Discuss to what extent socio-economic risks could threaten the sustainability of project achievements; if so, what are the options to consider.

III. Institutional and governance risk to Sustainability. It is anticipated that the government will continue to implement waste management and biogas production in the foreseeable future, however, there can be unanticipated events in the process of up-taking the benefits derived from investments on infrastructure. Evaluation potential unanticipated events tied to governance and institutional features that could threaten sustainability of the Project results. Outline options to consider.

IV. Environmental risk to Sustainability. Ultimately, the achievements of the project – through mitigation action for improved waste management and biogas production-- should have a medium and long-term positive environmental impact over ---- municipalities. Evaluation potential unanticipated events tied to the environment that could threaten sustainability of the Project results. Outline options to consider.

Annex iv (c): PMU briefing template on Output Completion

MTE: NATIONALLY APPROPRIATE MITIGATION ACTION FOR IMPROVED WASTE MANAGEMENT AND BIOGAS PRODUCTION [July 20, 2021]

To the Attention of PMU: Proposed outline to brief MTE on

Output Execution and Completion

OUTCOME 1
1.1 Output:
A Specific activities undertaken 1- 2- 3
B Procedures used to execute activity 1-Name of Agency / 2-Contract #/ 3-Approximate Value USD 4-Length of execution 5-Summarize methodology 6-# PMU supervision reports / 7- Summary of last monitoring report 8-Date of Agency's final report 9-Summary of results achieved expected/ unexpected
Results from Output Completion
C- Capacity Building /Training Sessions [as example] 1-Subject Matter 2-#sessions 3-Procedures 4-Length of Training 5- Expected Results 6-User Assessment [survey]
D-Beneficiaries 1-Number 2-Gender 3-Age 4-Current Occupation 5-Place of Residence
E- PMU observations on the output execution and completion 1- 2-
F-Linkages anticipated after Output Completion Discuss procedures/arrangements to ensure the completed output contributes to corresponding Outcomes or any other
1.2 Output

Annex v: Ratings Scales

A matrix summarizing progress towards results will be developed using the template in the MTE guidelines[28].

Ratings for Progress Towards Results Rating Scale: (one overall rating)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (MU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components

Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Evaluation
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

[28] UNDP. 2014. Guidance for conducting midterm evaluations of UNDP Supported GEF financed projects. UNDP-GEF Directorate. http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Evaluation%20_EN_2014.pdf

Annex vi: List of documents evaluationed

	Document
1.	PIF
2.	Project inception report and inception meeting reports
3.	Project Initiation Plan
4.	UNDP Project document
5.	UNDP Environmental and Social Screening results
6.	Combined Delivery Reports
7.	Annual Project Report 2019
8.	Annual Work Plan 2020
9.	PIR 2020
10.	Project board minutes 2019
11.	Project board minutes 2020
12.	Quarterly progress reports 2019
13.	Quarterly progress reports 2020 Q2-2020
14.	Activity Reports 2019
15.	Activity Reports 2020
16.	Consultancy reports • Site Feasibility study reports • Energy Explores International Ltd to develop a communication strategy, awareness materials and project website • standardized baselines for energy recovery from waste
17.	Audit reports
18.	Finalized GEF focal area Tracking Tools at CEO endorsement and midterm (LD, and Biodiversity)
19.	Financial and Administration guidelines used by Project Team??
20.	Training workshop reports a) Enhancing capacity of city/municipalities to undertake sensitization campaign on biogas and waste management for females and males b) Training of male and female promoters of IWM and source separation c) Workshop for development of standardized baselines for calculating emission reductions from biogas
21.	MoUs between MEMD and NEMA, KCCA and other stakeholders • MEMD and NEMA
22.	Gender mainstreaming strategy and costed gender mainstreaming action plan for NAMA on integrated Waste Management and Biogas production
23.	Lessons learned reports

Annex vii: MTE mission itinerary

Timeframe	Key deliverables and associated activities	Roles and responsibility (evaluation team)
29 June 2021	Submit draft inception Report to UNDP	MTE team*
Tuesday, 06 July 2021, 1500-1730 Hrs	Inception meeting with MTE Team, UNDP, PMU and stakeholders on Zoom	PMU, MEMD, MTE team
Thursday 07 July 2021, 1500-1700 Hrs	Meeting with PMU to Clarify evaluation questions on Zoom	MTE Team, PMU, UNDP
Friday 08 July 2021, 1400-1500 Hrs	Continuation of Meeting with PMU to Clarify evaluation questions on Zoom	MTE Team PMU, UNDP
Thursday 15 July 2021, 1500-1700hrs	Continuation of Meeting with PMU to Clarify evaluation questions on Zoom	MTE Team PMU, UNDP
Wednesday 21 July 2021, 1500-1700 Hrs	Continuation of Meeting with PMU about data and information templates	MTE Team PMU, UNDP
Wednesday 28 July 2021, 1500-1700 Hrs	Continuation of Meeting with PMU to Clarify evaluation questions on Zoom	MTE Team PMU, UNDP
Wednesday 04 August 2021, 1500-1700 Hrs	Weekly interaction with PMU and UNDP	MTE Team PMU, UNDP
Wednesday 11 August 2021, 1500-1700 Hrs	Weekly interaction with PMU and UNDP	MTE Team PMU, UNDP
Wednesday 18 August 2021	Submit revised Inception Report	MTE team
Wednesday 18 August 2021, 1500-1700 Hrs	Weekly interaction with PMU and UNDP	PMU Miria, Justine, Lazarus &, MTE team
Wednesday 04 August 2021, 1400-1500 Hrs	Interact with MEMD, via Zoom	MTE Team, Michael Ahimbisibwe, Wilson Wafula and John Tumuhimbise
	Interviews with NEMA	EQ, NEMA focal person
	Interview with NWSC	EQ, NWSC Project focal person
	Interaction with members of the project board	EQ
	Interview with ERA	EQ
Field mission to the cities		
Monday 06 September 2021 1500-2100 Hrs	Travel to Mbale	MTE team (MM, NS)
Tuesday 07 September 2021	Interviews with Mbale City Stakeholders	MM, NS
1030-1300Hrs	Mbale City staff and Champions	
1400-630Hrs	Other MSM stakeholders in Masaka city	
	Visit sites in Mbale city	MM, NS
Tuesday 06 September 2021 1630-1830 Hrs	Travel to Jinja	MM, NS
Tuesday 08 September 2021	Interviews with Jinja City Stakeholders	
1000-1330 Hrs	Mbarara City team	MM, NS
	Other MSM stakeholders in Jinja	MM, NS
1400-1600	Site visits in Jinja	MM, NS

Wednesday 08 September 2021, 1400-2100Hrs	Travel to from Jinja to Masaka	MM, NS
Thursday 09 September 2021 0900-1000hrs	• Masaka City	MM, NS
1100-1300	• MSM stakeholders in Masaka City	
1400-1500	• Masaka City team / project steering committee	MM, NS
1500-1600	Masaka landfill site vist and interaction with the informal sector	
Thursday 09 September 2021 1630-1830 Hrs	Travel from Masaka to Mbarara city	MM, NS
Friday 10 September		
1000-1300	Interviews with Mbale City Stakeholders	MM, NS
1400-1700	Mbale City team/ project steering committee	MM, NS
	Other MSM stakeholders in Mbale city	
Saturday 11 September 2021, 1000-1600hrs	Travel to Kampala	MM, NS
Thursday 12 September 2021	Continue interactions with Kampala based stakeholders	MM, NS
	• MSW and biogas stakeholders in Kampala	MM, NS
	•	
Friday 17 September 2021 0800-1100Hrs	Travel to Jinja	MM, NS
1100-1500hrs	Interview with KCCA Team/project steering committee	MM, NS
	NWSC Homeklin	MM, NS
Monday 05 October 2021 1500-1700 Hrs	Interview with members of the PMU	
Tuesday 12 October 2021	Interview with UNDP	
15 November 2021	Validation meeting	MTE Team, PMU, KCCA, NEMA
	Submit validation report	
Tuesday 13 October 2021	Submit draft MTE report for comments from PMU, MEMD, UNDP-CO	EQ and MM, PMU, MEMD
	• Submit draft MTE report responding to comments from PMU, MEMD and UNDP-CO for evaluation by RTA	EQ and MM
	• Submit final MTE with Audit Trail responding to comments on the Draft MTE report	EQ and MM
Dec 9, 2021	• Project Board Meeting	
Jan 13, 2022	• Special Project Board Meeting	
March 9, 2022	•	
March 18, 2022	• Meeting to discuss way forward	PMU, MEMD, UNDP, MTE Team
May 26, 2022	• Meeting to discuss comments on draft MTE report	PMU, MEMD, UNDP, MTE Team

Annex viii: List of persons interviewed

	Date	Name	Sex (M/F)	City/responsibility	Phone	Email
1.	Sep 7, 2021	Nathan Waluya	M	Mbale, Compost site Manager	0772848532	walulyanathan@gmail.com
2.	Sep 7, 2021	Anthony Sakwa	M	Mbale City, Compost Site Supervisor	0770678403	anthonysakwa76@gmail.com
3.	Sep 7, 2021	Juliet Kitui	F	Mbale City, Health Inspector-Northern Division	0782464015	kituijuliet4@gmail.com
4.	Sep 7, 2021	Robert Walyaula	M	Mbale City, Health Inspector	0704912379	robertronaldwalyaula2017@gmail.com
5.	Sep 7, 2021	Dominic Wanzira	M	Mbale City, CDO/ag Clerk to Council	0704614061	dominicwanzira@yahoo.com
6.	Sep 7, 2021	James Kutosi	M	Mbale City, PRO	0773010319	kutosijms1@gmail.com
7.	Sep 7, 2021	Paul Musaka	M	Mbale City, Environment Officer	0775343514	musakapaul@gmail.com
8.	Sep 7, 2021	Steven Gidudu	M	Mbale City,	0774775766	stevengidudu@gmail.com
9.	Sep 7, 2021	Rhoda Nyaribi	F	Mbale City, Senior Environment Officer	072693722	nrhoda22@yahoo.co.uk
10.	Sep 7, 2021	Angella Neumbe	F	Mbale City, PCDO	0782523464	aneumbe2017@gmail.com
11.	Sep 7, 2021	Ayub Madoi	M	Mbale City, Public Health Officer	075909823	madoiayub@gmail.com
12.	Sep 7, 2021	Ismail Murenga	M	Mbale City, Khontso Investments Ltd	0773441299	murengaismail@gmail.com
13.	Sep 7, 2021	Emmanuel Musana Wabinga	M	Mbale City, Pick-It Waste Mgt Service	0775745888	emm20man@gmail.com
14.	Sep 7, 2021	Mary Nadunga	F	Mbale City, Health Inspector	0787713275	marynadunga@gmail.com
15.	Sep 7, 2021	Julius Wamondo	M	Mbale City, Wajla Invt. Co Ltd	0775969879	wamondojulius@gmail.com
16.	Sep 7, 2021	Yusufu Nsubuga	M	Mbale City, Central Market, General Secretary	0702672459	nsuyus@gmail.com
17.	Sep 8, 2021	Fred Muwanguzi	M	Jinja City, Alliance Water Solutions	0782522970	alliancewatersolutions@gmail.com
18.	Sep 8, 2021	Alex Mugoya	M	Jinja Joint Development Association (JJODA)	0755332571	jjoda2010@gmail.com
19.	Sep 8, 2021	Leviticus Kizito	M	Jinja City, Planner	0776120556	kizitolevi@gmail.com
20.	Sep 8, 2021	Joseph Sserunjogi	M	Jinja City, JCDF	0772902779	ssendijo@gmail.com
21.	Sep 8, 2021	Moses Mulondo	M	Jinja City, JCDF, secretary	0758054063	mulounca@yahoo.com
22.	Sep 8, 2021	Prossy Nakito	F	Jinja City,	0706076865	prossynakito@gmail.com
23.	Sep 8, 2021	Leonard Mulenzi	M	Jinja City, Bison Consult Intern.	0757936057	mulenzileonard@gmail.com
24.	Sep 8, 2021	Harriet Mirembe	F	Jinja City, Landfill	0700134521	-
25.	Sep 8, 2021	John Choli Goloba	M	Jinja City,	0772446477	cholijohn@gmail.com
26.	Sep 8, 2021	Amina Kainza	F	Jinja City,	0759241025	kainzaa37@gmail.com

	Date	Name	Sex (M/F)	City/responsibility	Phone	Email
27.	Sep 9, 2021	Vicent Kasumba	M	Masaka City, Development Forum, President	0751522229/0782522229	kasumbavicent@gmail.com
28.	Sep 9, 2021	Pauline Nabadda	F	Masaka City, Environment Officer	0753310966	npauline61@yahoo.com
29.	Sep 9, 2021	Musa Maberi	M	Masaka City,	0782355115	maberimusa@gmail.com
30.	Sep 17, 2021	Wilson Kizza	M	Masaka City, SEDO	0703484442	wilsonkizza4@gmail.com
31.	Sep 20, 2021	Christopher Ssemwanga	M	Masaka City, CDO	0702986531	chris.ssemwanga2@gmail.com
32.	Sep 18, 2021	Mark Tamale	M	Masaka City, CDF	0779644015	-
33.	Sep 17, 2021	Grace Isagara	F	Masaka City, Secretary	0752637309	-
34.	Sep 18, 2021	Modester Nankunda	F	Masaka City, Health Inspector	0701620624	nankunda24@gmail.com
35.	Sep 10, 2021	Moderate Nahumuza	F	Mbarara City	0772975999	nahumuza@yahoo.com
36.	Sep 10, 2021	Benjamin Ssebuliba	M	Mbarara City, MCE	0704068641	-
37.	Sep 10, 2021	Michael Abigaba	M	Mbarara City, MCE	0706847938	abigabamiko@gmail.com
38.	Sep 10, 2021	Reagan Twinomujuni	M	Mbarara City, APSE Uganda Limited	0779303244	-
39.	Sep 10, 2021	Deus Mwijukye	M	Mbarara City, Homeklin (U) Ltd Coordinator	0776187173	dmwijukye@gmail.com
40.	Sep 10, 2021	Umaro Rumanzi	F	Mbarara City,	0755159468	-
41.	Sep 10, 2021	Amina Naluyima	F	Mbarara City,	0702297137	aminakatende59@gmail.com
42.	Sep 10, 2021	Samuel Aisu Weri	M	Mbarara City,	0759958274	samuelaisuweri@gmail.com
43.	Sep 10, 2021	Achileo Asiimwe	M	Mbarara City,	0701430977	asiimweak9@gmail.com
44.	Sep 10, 2021	Ronald Ahimbisibwe	M	Mbarara City,	0750362622	ahimbisibweronald57@gmail.com
45.	Sep 10, 2021	Muzaphal Sekulima	M	Mbarara City, Koyinawo	0760260251	koyinawo@yhaoo.com /saferoadsug@gmail.com
46.	Sep 10, 2021	Didas Muganzi	M	Mbarara City, TATI Waste Solutions	0706238168	tatiwastesolutions@gmail.com/ didasmuganzi@gmail.com
47.	Sep 10, 2021	Victor Ddungu	M	Mbarara City, Koyinawo Waste Management	0757619033	thevicotr494@gmail.com
48.	Sep 10, 2021	James Arinaitwe	M	Enrorancy Solutions	0755196792	-
49.	Sep 17, 2021	Emily Namanya	F	KCCA	0781091084	enamanya@kcca.go.ug
50.	Sep 17, 2021	Joseph Kirabira	M	KCCA	0111237737	jkirabira@kcca.go.ug
51.	Sep 17, 2021	Samuel Mukwanga	M	KCCA	0752203823	mukwangasamuel@gmail.com
52.	Sep 17, 2021	Dan Kiguli	M	NEMA/ Environmental Inspector	0775074849	dankiguli@nema.go.ug
53.	Sep 17, 2021	Richard Mugambwa	M	NEMA/ Environmental Inspector	0773770164	richard.mugambwa@nema.go.ug
54.	Sep 17, 2021	George Masengere	M	Mukono Municipal Council, SEO	070209095	gmasengere@gmail.com

	Date	Name	Sex (M/F)	City/responsibility	Phone	Email
55.	Sep 17, 2021	Peter Kityo	M	Electricity Regulatory Authority (ERA)		p.kityo@era.or.ug
56.	Sep 17, 2021	Jude Byansi Zziiwa	M	KCCA		jzziwa@kcca.go.ug
57.	Sep 19, 2021	Irene Chekwoti	F	Climate Change Department (CCD)		chekwoti.irene@gmail.com
58.		James Maiteki	M	National Water and Sewerage Corporation (NWSC)		jamesmaiteki@gmail.com
59.	Oct 5, 2021	Miria Frances Agunyo	F	PMU	0782514800	m.agunyo@energy.go.ug
60.	Oct 5, 2021	Lazarus Mark Oketcho	M	PMU	0774703643	oketchlazo@gmail.com
61.	Oct 5, 2021	Michael Ahimbisibwe	M	Ministry of Energy and Mineral Development (MEMD)	0752996710	mahimbisibwe@yahoo.com
62.	Oct 5, 2021	Justine Akumu	F	Ministry of Energy and Mineral Development (MEMD)	0789784613	j.akumu@energy.go.ug
63.	Oct 12, 2021	Daniel Mc Mondo	M	UNDP-CO		daniel.omodo@undp.org
64.	Oct 12, 2021	Johnson Nkem	M	UNDP-CO		johnson.nkem@undp.org
65.	Oct 12, 2021	Polly Akankwatsa Mugisha	M	UNDP-CO	+256772419423/702419423	polly.mugisha@undp.org

Annex ix: Progress towards results matrix

Table 2 PROGRESS TOWARDS OUTCOMES ANALYSIS

GEF Tracking Tools (TT) A completed GEF Tracking Tool

PROJECT RESULTS FRAMEWORK

Expected results	Objective and Outcome Indicators	Baseline	MidTerm Target		MTE Evaluation Comments
			Projected (prom pro doc)	Actual	
	Fund level impacts				
Project Objective: Improved waste management practices in towns and municipalities through the introduction of integrated wastewater treatment plants and biogas digesters	*Indicator 1:* Achieved direct GHG emission reductions by pilot biogas energy plants and replication (ton CO2eq/yr)	0 tonnes CO_2eq/yr;	12,200 tonnes CO_2eq/yr	3,080 tonnes CO2eq/yr From Kakira works plant and NWSC bogas plant which is currently being tested	
	Indicator 2: Number of people benefitting from improved organic waste management	0	7,500 (male = 3,750, female = ,750)	Total of 645 people mainly from trainings, sensitization workshops held although indirectly, upto 8,000 are estimated to have been reached through the spot messages, radio talkshows and pressers held in the cities of Mbale, Jinja, Masaka and Mbarara	
	Indicator 3: Financing mobilized for investment in MSW-based biogas energy systems (US$)	0	US$ 6.5 million	Upto at least 15,646,557 USD mobilized for NWSC biogas plant which is currently being tested. Meanwhile, exact figure for the Kakira plant is not yet obtained.	
	Indicator 4: Annual volume of electric energy produced by biogas pilots (MWh/yr)		2,800 MWh/yr	2,800 MWh/yr from 0.4MW Kakira Sugar Limited plant	
	Project level outcomes, outputs, activities				
Expected results	**Indicator**	**Baseline**	**Mid-term Target**	**Actual**	

Expected results	Objective and Outcome Indicators	Baseline	MidTerm Target		MTE Evaluation Comments
			Projected (prom pro doc)	Actual	
Outcome 1: Enhanced capacity of municipalities to develop waste management plans and manage municipal solid waste and wastewater in a more sustainable manner	Number of policy and regulatory proposals developed and adopted (#)	0	3	5 ordinances for the five cities of Mbale Jinja Mbarara, Masaka and Kampala in final stages of evaluation by technical committees and councils	
	Number of municipalities (#) reporting increased capacity to undertake IWM, as a result of the projects capacity development activities	0	13	5 pilot cities of Masaka, Mbale, Jinja Mbarara and Kampala moreover, 5 additional municipalities of Nansana, Mukono, Kira, Enttebbe and Makindye under thr Greater kampala Metropolitan Area(GKMA) will be reporting as well since project has been enaging with Kampala as GKMA and is on track to support the launch of the GKMA technical working group on waste management and resource recovery	
	Multi-stakeholder platform established *(in line with UNDP Country Programme* Output indicator: 3.1.3.1: No. of functional platforms established to engage citizens at all levels for sustainable environment and natural resources, disaggregated by category)	0	1	Stakeholde plantform to be launched in September, 2021	
Outcome 2: Biogas and waste water treatment plants using municipal solid waste feedstock and sewage sludge procured and fully operational	Installed electricity generating capacity of MSW-based biogas pilot projects (MW) Number of investments undertaken	0 MW	0.4 MW from Kakira Sugar Limited	0.4 MW from Kakira Sugar Limited already installed and feeding electricity to the grid. 2 investment have been currently undertaken (Kakira Sugar Limited Biogas Plant and NWSC biogas plant)	

Expected results	Objective and Outcome Indicators	Baseline	MidTerm Target		MTE Evaluation Comments
			Projected (prom pro doc)	Actual	
Outcome 3: Biogas technology replicated in other potential municipalities with the help of a grant and technical assistance fund	Grant/technical assistance fund and approach to attract investment into MSW-based biogas sector established	0	0	No Grant/Technical assistance fund has been created yet.	
	Number of MSW-based biogas project concepts prepared (#)	0	0	Only one aimed at sourcing for funds for installation of atleast a 2.2 MW biogas plant at KCCA is still being developed by the PMU and in draft stages	
	Grants disbursed from the fund (either technical assistance or investment)	0	0	Non since the fund has not yet been formed	
Outcome 4: Lessons learnt and success of the demonstration projects supports replication and scaling-up of project results	Number of Knowledge Management products developed and disseminated (#)	0	Project website established (1) Guidelines on waste management practices established and disseminated (1)	1 website already established for the project. Also, waste sorting guidelines developed by NEMA in final stages of evaluation.	
	Standardized baselines for calculating emissions reductions established	-	-	Consultant procured and currently undertaking development of standardized baselines. Preliminary data has be received from consultant.	
	NAMA registered on the UNFCCC Registry			NAMA registered on the UNFCCC registry	

Annex x: Signed UNEG Code of Conduct form for Mid Term Evaluation Consultants

Annex xi: Signed MTE final report clearance form

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Midterm Evaluation Report Evaluationed and Cleared by:

Commissioning Unit

Name: ……

Signature: ……Date: ……

UNDP-GEF Regional Technical Advisor

Name:

Signature: ……Date: ……

Annex xii: Annexed in a separate file: Audit trail from received comments on draft MTE report

Annex xiii: Annexed in a separate file: Relevant midterm tracking tools (METT, FSC, Capacity scorecard