INITIATIVE FOR CLIMATE ACTION TRANSPARENCY – ICAT UGANDA

Expansion of the National GHG Inventory Management System and Operationalization of NDC Tracking Framework

Detailed work plan

Deliverable #number: Deliverable B

Date: 25/08/2023

1 DISCLAIMER

1.1.1 PREPARED UNDER

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2 Introduction

The Government of Uganda, through the Ministry of Water and Environment - Climate Change Department (MWE-CCD) has received financing from the Initiative for Climate Action Transparency (ICAT) through the United Nations Office for Project Services (UNOPS). Part of these funds have been earmarked for the development of a Nationally Determined Contribution (NDC) Tracking and Monitoring Framework for Transport and Waste Sector Policies. The project's main objective is to strengthen Uganda's capacity to expand its National Greenhouse Gas (GHG) Inventory Management System and operationalize an NDC tracking framework, allowing the country to track progress towards its NDC targets under the 2015 Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC).

The primary aim of the Paris Agreement is to hold "the increase in global average temperature to well below 2°C above pre-industrial levels" and to pursue measures "to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015). To achieve this goal, each country is required to develop and implement its national climate action plan, known as its NDC. The NDC sets out specific targets and actions to reduce greenhouse gas (GHG) emissions and adaptation measures to address the impacts of climate change. Uganda, as a party to the Paris Agreement, filed its Intended NDC (INDC) in October 2015, its first NDC on 21st September 2016 and its Updated Nationally Determined Contribution in September 2022, in accordance with Article 4 of the Paris Agreement.

2.1 Objectives and Scope of Work

2.1.1 Project Objectives

The project will focus on sustainably enhancing the GHG emission inventory, projections and mitigation analysis modelling capability for the Transport and Waste sectors and enhance Uganda's ability to track the NDC actions in these two sectors. This project has the specific objectives to:

1. Contribute towards ongoing efforts to build a national transparency framework that meets international standards and is tailored to domestic needs;
2. Strengthen the national capacity to apply methodologies and tools to assess GHG and sustainable development impacts, and the effectiveness of policies, measures, actions and plans included in the NDC;
3. Contribute towards ongoing efforts to improve the availability and quality of data required to measure GHG and sustainable development impacts;
4. Support the formulation of NDC indicators in a manner that allow consistent monitoring and evaluation of progress; and,
5. Contribute towards ongoing efforts to develop frameworks that facilitate tracking of progress on NDC implementation and strengthen capacities to construct and apply indicators towards that end.

2.1.2 Scope of Work

The project will consist of two work streams that will focus on the transport and waste sectors:

1) **Strengthen the sector working group's capacity to manage sector GHG inventories, conduct baseline and mitigation scenario projections**

This work stream will aim to enhance the data collection and management process for the Transport and Waste sectors to improve Uganda's ability to produce emission inventories and track the mitigation actions set out in the NDC. These two sectors have received little attention in the past with regards to developing both the national inventory and the NDC. A workshop will be held to review current activity data for the Transport and Waste sector inventories and build capacity on the requirements for moving to Tier 2 in both sectors. Data collection templates will be developed to assist Uganda to improve the data collection process for these two sectors. These templates will be piloted so initial data can be gathered and to ensure the templates are suitable for the various data providers. This base willassist in the development of improved baseline projections and the templates can assist with the tracking of indicators for the NDC actions.

Following the enhancement of the inventory management process, the capacity of the sector working groups to develop baseline projections and mitigation impacts will be strengthened. This will be done through a webinar series, running over several days, which introduces the concept of projections and the relationship to inventories. The various tools for developing baselines and assessing mitigation impacts (GACMO, TRACE, PROSPECTS+, LEAP, ClimateSI transport model) will be introduced. The webinar will also include a session on tools to assess Sustainable Development impacts. During this session participants will receive hands on experience by assessing Sustainable Development impacts of a national policy. The Office of the Prime Minister, who is the lead agency on the SDG process, will also be invited to join

this webinar series. A peer-to-peer exchange session with other ICAT countries that have implemented the various tools will be organised after the webinar series to discuss the pros and cons of the various models and approaches. A model that best suits Uganda's needs for baseline and mitigation projections will then be selected for use and additional training on the preferred model will be provided.

As an initial step, sectoral **baseline projections will be developed** to allow for hands-on experience with the tools. This will also provide the opportunity to assess the data collection and management processes for incorporating projections in the Inventory Management System. Baseline scenarios will be defined and data to create baseline projections will be collected to develop sectoral (Transport and Waste) baseline projections. During this process, data, institutional and resource gaps will be identified, and **recommendations will be made for an improved data collection, processing and archiving systems for projections in the Transport and Waste sectors**. A policy from each sector will then be selected to pilot the mitigation impact projections. Mitigation scenarios will be developed, data collected, and mitigation impacts assessed through the use of the selected model.

2) **Enhancement and operationalisation of the NDC tracking framework**

This work stream will focus on the NDC mitigation policies and measures and tracking their implementation. Stakeholder engagements will be held to identify indicators for tracking the NDC policies and measures in the Transport and Waste sectors. The project will engage with the relevant ministries and sectoral working groups to assess relevant data needs and institutional arrangements. **The project will produce a NDC tracking framework to track the actions, policies and measures that are included in Uganda's NDC for the Transport and Waste sectors**. The framework will include data reporting protocols that outline the required data for tracking indicators as well as roles and responsibilities for reporting data and conduction quality controls.

Data collection templates for tracking NDC indicators will be developed, including monitoring parameters, to assist in measuring progress against NDC indicators. This will take into consideration the data collection templates developed for the inventory in the first work stream. The data collection process and stakeholder engagement will enable the identification of data and institutional needs for the tracking and monitoring of NDC indicators. The output will be a **roadmap to implement the NDC tracking system for the Transport and Waste sectors**. Training will be provided to national government MRV focal points, CCD, sectoral working groups and other stakeholders identified by and through CCD to operate the NDC tracking framework to enable improved tracking towards meeting NDC targets for the Transport and Waste sectors.

3 Purpose of this report

This document serves as a detailed work plan for the ICAT Uganda project. It adds details,

based on the local consultant's inception reports, into the original work and creates a framework from which to track the progress of the project.

4 Detailed work plan activities

4.1 Work stream 1: Strengthen the sector working group's capacity to manage sector GHG inventories, conduct baseline and mitigation scenario projections

Tasks	Activities	Description	Deliverables
TASK 1: Strengthen data management capacity for Transport and Waste Sector	**A-1:** Review current inventory activity data for Transport and Waste sectors	Stakeholder identification, consultations and documents review: • Reviewing of the current GHG/ inventory activity data for transport and waste sectors. The first step is to identify all stakeholders (e.g. LGs, Municipalities/ Cities, UBOS (Uganda Bureau of Standards), etc.) in the Transport and Waste sectors who are sources of activity data and reports (e.g. NCs, NDC, plans, strategies, etc.). These sources will provide information on the current GHG inventory methods and activity data for Transport and Waste sectors for review. Some of the stakeholders include, *inter alia,* Ministry of Energy and Mineral Development statistics, UBOS, Ministry of Works and Transport, Uganda Railway Corporation, cities, municipalities, local governments, Ministry of Housing Land and Urban Development (MoHLUD), industries, housing estate developers, National Water and Sewerage Corporation (NWSC), NEC/Luwero Industries (oil drilling wastes and incinerators). National Gender Policy , 2007 and SDG 5 will guide stakeholder identification. • Consistency with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories will be assessed. The IPCC Guidelines that will be used are Volume 1 -General Guidance and Reporting; Volume 5 – Guidelines on Waste and relevant guidance on Transport. • Desk review of data in the national communications, biannual update	

		report, Low emission project, CBIT project, updated NDC report, Ministry of Energy and Mineral Development statistics, UBOS, Ministry of Works and Transport, Uganda Railway Corporation. Ministry of Agriculture, Animal Industry and Fisheries. Visits will be made to the key stakeholder. • For the Waste sector review of inventory activity data on the following waste categories will be done: ▪ *Solid Waste Disposal* – Managed Waste Disposal Sites, Unmanaged Waste Disposal Sites, Uncategorized Waste Disposal Sites. *Biological Treatment of solid waste*- e.g., Composting, anaerobic digestion. *Incineration and open burning of wastes*- waste incineration, Open burning. *Wastewater Treatment and Discharge*- Domestic wastewater treatment and discharge, Industrial wastewater treatment and discharge. *Others* – to be identified during consultative discussions.	
	A-2: A 2-day capacity building workshop to review current inventory and identify data requirements for moving to Tier 2 for both sectors	Two-day capacity building workshop on IPCC methodologies for Tier 1 & 2: • The information obtained from the reviews will be used by the consultants during a 2-day capacity building workshop to review the current inventory (national and the different stakeholders) and to identify data requirements for moving to Tier 2 for the Transport and Waste sectors. This is essentially to assess the inventory quality and, therefore, the following would be the focus are during the workshop: The National GHG Inventory Arrangements, institutional arrangements with a view of looking the inventory process and data adequacy, collection and archiving of data. The workshop discussion will identify requirements for moving to Tier 2. • Prepare and facilitate a 2-day capacity building workshop on the IPCC methodologies (and software) for Transport and Waste sectors. Carry out capacity needs assessment to move from Tier 1 to Tier 2. Provide overview of Tier 1 and Tier 2 in respect to the emission factors,	

		methodologies and describe the steps to be taken to move to Tier 2 for both sectors. The selection of participants for the capacity building workshop will be guided by national Gender Policy of 2007 and SDG 5 and will also be done in close collaboration with CCD.	
	A-3: Develop data collection templates for the Transport and Waste sector, including Tier 2 requirements	Developing data collection templates for transport and Waste sectors including Tier 2 requirement: • The assessment of data collection done in the preceding sections included looking at the currently used data collection templates by teams such as the national, city, academic institutions. The consultants will identify gaps or inadequacies in the current inventory templates and prepare templates for common use to collect GHG emission activity data. The developed inventory data collection templates will ensure data uniformity between agencies/stakeholders at national, sub-national, Agencies, universities, partners; adequacy and Tier 2 requirements. • Identify, select and develop the most suitable data collection options/templates for the transport and waste sectors.	**Deliverable C:** Data collection templates for Transport and Waste sector inventories
	A-4: Pilot the data collection templates	Piloting the data collection templates and collect available data: • The developed GHG emission inventory data collection templates will be tested and piloted with selected key stakeholders. The consultants will discuss and agree with MWE-CCD including ICAT project consultants and any other relevant agencies on which stakeholders should be involved in the piloting of the template. The selected participants will use the data collection template to generate data on the different categories of waste as well as the different transport activity data. The consultants will supervise the data collection process and assess the template for local and circumstances suitability and robustness. A main output of the template piloting will be a database of GHG emission inventory for Transport and Waste sectors. • This will be based on the current transport modes namely, land (road &	**Deliverable D:** Database of inventory activity data for Transport and Waste sector inventories

		rail), air (domestic and international), marine (domestic and international) as well as the waste generation and management value chains.	
TASK 2: strengthen capacity to conduct baseline and Mitigation projections for Transport and Waste Sector	**A-5:** Organize an introductory webinar, together with CCD, on the various projection models (GACMO, Prospects+, TRACE, LEAP, ClimateSI) and sustainable development assessment tools.	Participating in an introductory webinar on the ICAT tools • Assist in developing an agenda for a workshop to introduce the various ICAT tools for mitigation projections and policy impact assessments. This will also include a session on the sustainable development assessment guide. • Participate in the workshop with experts to assess the suitability of the various projection models including the MRV tools with CCD-MWE. The workshop will expose the consultants and relevant stakeholders to some models previously not familiar with so that they can effectively participate in an evaluation of the models in preparation to selecting appropriate tools for Uganda	**Deliverable E:** Introductory modelling tools webinar report.
	A-6: Organise a 1-day peer-to-peer workshop (virtual) between various ICAT country projects who have utilized these tools to provide their experiences with the tools and what the pros and cons are.	Participating in a 1-day peer-to-peer modelling workshop and assist MWE-CCD and working group to select appropriate modelling tools. • The consultants will work with the GHGMI Technical Support Team to organise a virtual workshop/webinar with other ICAT countries that have used the various tools in the Transport and Waste sectors. This will provide peer-to-peer learning and will further assist the consultants, together with CCD, to select appropriate tools for future use. • At the end, the most appropriate tool(s) will be selected for common applications. The ease of data sharing will be key in selecting the appropriate tool.	
	A-7: Model selection		

	A-8: Hold a 2-day training workshop on the selected model. The training session will be aimed at the CCD, national experts and sectoral working groups,	Participating in a 2-day training workshop on the selected tools. • The consultants, along with CCD and other selected stakeholders will attend a 2-day training workshop on the selected models/tools and assist MEW-CCD in preparing a training workshop report. • The workshop will also include other relevant stakeholders to build capacity within the region.	**Deliverable F:** Mitigation modelling training workshop Report
	A-9: Develop a baseline and policy impact projection for Transport and Waste	Develop baseline and policy impact projections for the Transport and Waste Sectors. • The consultants will review current data and collect additional data, to develop sectoral baseline projections using selected tools, identify policy or measures for each sector. Collect data and develop mitigation impact trajectories. During the aforementioned process the consultants will develop assumptions for Transport and Waste sectors. Drafting baseline and policy impact trajectory report will be done. • The tasks are aimed to result in improving the quality (transparency, accuracy, completeness, comparability and consistency (TACCC) of Uganda GHG inventories. • The tasks are explained further. **i) Develop baseline scenario assumptions for the Transport and Waste sectors in consultation with relevant stakeholders** For a robust baseline, one needs to develop careful assumptions that are made for the economic (GDP), demographic and other drivers that affect the growth of emissions. This is not always a straightforward exercise to select the right parameters, because they are usually controlled by many other factors that may be conflicting. The consultants will work closely with CCD, data generating agencies, the national statistical agent UBOS and other relevant key agents. The	**Deliverable G:** Baseline and policy projection for Transport and Waste Sector.

		engagements will involve discussions and analysis including policy consultations to develop agreeable and acceptable assumptions. **ii) Review current data and collect additional data for baseline emission projections** Current data will be obtained from institutions or agencies who are involved in waste management. Such agencies include, among others, cities/towns, industries with effluents, NWSC, universities. The consultants will review the current data in comparison with collected date for consistency and quality assessment. The appropriate parameters will be selected. Those of interest will be the vehicle-kilometres and ton-kilometres and fuel economy. Updated data from current document from the MoWT. **iii) Identify policies and measures to be used to pilot development of mitigation impact projections for Transport and Waste sector** Uganda has policies and enabling systems relevant for management in the Transport and Waste sectors. The consultants will obtain and review policy document in the areas of climate change, waste management and transport. The consultant will work closely with MWE-CCD during policy documents identification and review. **iv) With relevant stakeholders assemble and review data and develop policy impact trajectories for each sector** The consultants will together with CCD and relevant stakeholders involved so far, put together all the relevant data and review the data for consistency and quality. The data approved by the team will then be used to develop policy impact trajectories for the Transport and Waste sectors **v) Draft a report on the baseline projection and policy impact trajectories for the Transport and Waste sectors**	

		The consultants will finally use all information obtained so far to produce a draft report. Based on the already produced reports and available data the consultant will produce a report that will explicitly describe the model used and display baseline projections and policy impact trajectories.	
	A-10: Compile a report on gaps in data collection, management and institutional arrangements and make recommendations for improvement	Produce a report recommendation on improvements of data collection and data management for Transport and Waste sector • During data acquisition in the previous section the consultants will interview and hold discussions with institutions such as cities/towns, industries with effluents, NWSC, MoWT, CAA, URC, MEMD, NEMA, MWE-CCD databases, universities to ascertain data continuity, quality, methods of collection, data storage and management, QC/QA and transparency. This will enable the consultants to study the current practices and discuss with CCD to determine the way forward • The consultants will assemble and further analyse the information collected this far. Any area that needs clarification will be checked and adjusted, if necessary, before embarking on writing the report. The report will describe the current data collection method for the different categories of waste: Solid Waste Disposal, Biological Treatment of solid waste, Incineration and open burning of wastes, Wastewater Treatment and Discharge. The appropriate parameters will be selected. • The consultancy will assess plans, strategies (if any), personnel, equipment, data storage systems among others. The consultants will identify any gaps that currently exists during waste collection and provide recommendations for improvements accordingly. The current data management system will be described and analysed for efficiency and effectiveness. The consultants will provide recommendations for improvements for any detected weaknesses. • Compile a report on the gaps and make recommendations on how to fill	**Deliverable H:** Report on recommendation for improved data collection and management for baseline and Mitigation projection.

		these gaps	

4.2 Work stream 2: Enhancement and operationalisation of the NDC tracking framework

Tasks	Activities	Interim Project Deliverables	Final Deliverable
TASK 1: Development of a Nationally Determined Contribution Tracking and Monitoring Framework for Transport and Waste Sector	• Identify the adaptation and mitigation activities linked with the Transport and Waste sectors in the NDC; • Develop a draft set of indicators for tracking adaptation and mitigation actions in collaboration with stakeholders and other project consultants; and • Develop an NDC tracking framework for the Transport and Waste sectors (including data collection and reporting protocols for tracking indicators, responsibilities for reporting the data, QA/QC arrangements).	• List of adaptation and mitigation actions specified in the NDC • Set of performance monitoring indicators for transport and waste sectors	**Deliverable I**: NDC tracking framework for the Transport and Waste sectors.
	• Develop data collection templates for transport sector activity data • Develop data collection templates for waste sector activity data	Draft data collection templates	**Deliverable J**: Final data collection templates for tracking the indicators
TASK 2: Piloting the Implementation of the NDC tracking and monitoring framework at the national and local government levels	Create a database of adaptation and mitigation activities/actions associated with the Transport and Waste sectors and incorporate actions into the Integrated Monitoring Reporting and Verification (iMRV) system.	Draft database of adaptation and mitigation actions	**Deliverable K**: Final Database of key adaptation and mitigation actions

	• Assess the availability of relevant data and existing institutional arrangements for collecting them; • Identify data, institutional and resource gaps to track the NDC actions; • Evaluate how the existing iMRV platform can be used to manage data collection and processing of the indicator sets; • Testing the functionality and feasibility of the developed monitoring system in a real-world context, with a select representative subset of the target organizations for this pilot implementation. This will also involve monitoring the system's performance during the pilot phase, and identifying any technical challenges; • Develop a draft roadmap for tracking NDC actions and indicators for the Transport and Waste sectors.	Draft roadmap for tracking NDC actions and indicators	**Deliverable L**: Final roadmap for the implementation of the NDC tracking system
	Conduct a validation workshop for the roadmap and the NDC tracking and monitoring system;	Validation workshop for the roadmap	
	Finalise the roadmap. Pilot and test the applicability of the developed roadmap for both be for both the road map and the NDC tracking and monitoring system	Final roadmap for tracking NDC actions and indicators for the Transport and Waste sectors	
	Hold two training sessions with relevant stakeholders to present the tracking and monitoring framework, build awareness, and assist government in operationalizing the framework.		**Deliverable M**: NDC tracking framework -training workshop reports

5 Project validation and close-out workshop

CCD, together with GHGMI and the consultants, will organise a project validation workshop where the findings of the ICAT project will be presented to stakeholders. This will provide an opportunity for stakeholders to provide comments and for everyone to discuss the next steps and way forward. A Validation workshop will be compiled (Deliverable N) outlining the proceedings.

The final step of the project is to compile an overarching project summary report (Deliverable O) which highlights lessons learnt during the implementation of the project. These lessons learnt should cover both technical and non-technical (such as management, capacity building, stakeholder engagement) issues.

6 Updated project timelines

Deliverable	Due date
C: Data collection templates for transport and waste sectors	30 Nov 2023
D: Database of collected data for transport and waste sectors	31 March 2024
E: Introductory tools webinar report	31 October 2023
F: Mitigation modelling training workshop report	31 January 2024
G: Baseline and policy impact trajectory report	31 July 2024
H: Improved data collection recommendations report	31 August 2024
I: NDC tracking framework	30 November 2023
J: Data collection templates for tracking indicators	31 January 2024
K: Database of mitigation activities	31 October 2023
L: Roadmap for implementation of the NDC tracking system	31 July 2024
M: NDC tracking framework training workshop report	30 September 2024
N: Validation workshop report	31 October 2024
O: Final project report with lessons learnt	31 October 2024