NS-156 - Integrated Wastewater Treatment for Agro-process Water in Uganda

Uganda

NAMA Seeking Support for Preparation

A Overview

A.1 Party	Uganda
A.2 Title of Mitigation Action	Integrated Wastewater Treatment for Agro-process Water in Uganda
A.3 Description of mitigation action	In developing countries, small-scale economically feasible technologies that combine wastewater treatment and energy production can simultaneously protect water resources and enhance energy availability. Anaerobic wastewater treatment offers improved energy conversion with potential reduction in GHG emissions. The downside of anaerobic treatment in that the CH4 produced can offset any reductions in CO2 emissions if it is released in the environment. Anaerobic treatment becomes favourable when treating effluents higher in concentrations of BOD and COD. A technology to recover dissolved methane would make anaerobic treatment favourable at nearly all effluent strengths. There is a high national priority to address the problem of poorly or untreated treated wastewater discharge in urban areas given the extent of pollution, especially in Lake Victoria basin. The NAMA will assist in reducing pollution loads from agro-processing factories on surface water systems, especially the Lake Victoria basin. The NAMA seeks to increase efficiency and value addition prospects for wastewater treatment of agro-processing firms by establishing an integrated wastewater treatment process using both an anaerobic and aerobic digester with sequencing batch reactor. From the two processes, GHGs especially methane will be captured in the form of biogas and using a generator converted to electricity, and/or used directly for cooking and lighting where the volumes of biogas generated are small. Also, the process will lead to generation of large volumes of bio-slurry that can be used for producing bio-fertilizers, while the treated wastewater can be re-used in some of the targeted facilities.
A.4 Sector	☐ Energy supply ☐ Residential and Commercial buildings ☐ Agriculture ☒ Waste management ☐ Transport and its Infrastructure ☐ Industry ☐ Forestry ☐ Other

A.5 Technology	☐ Bioenergy ☐ Energy Efficiency ☐ Hydropower ☐ Wind Energy ☐ Carbon Capture and Storage ☐ Land fill gas collection ☒ Cleaner fuels ☐ Geothermal Energy ☐ Solar Energy ☐ Ocean Energy ☐ Low till / No till ☒ Other: methane avoidance and b
A.6 Type of action	☐ National/ Sectoral goal ☐ Strategy ☐ National/Sectoral policy or program ☐ Project: Investment in machinery ☐ Project: Investment in infrastructure ☐ Project : other ☐ Other:
A.7 Greenhouse gases covered by the action	☐ CO2 ☐ N2O ☐ PFCs ☒ CH4 ☐ HFCs ☐ SF6 ☐ Other:

B National Implementing Entity

B.1.0 Name	
B.1.1 Contact Person 1	Ag. Commissioner Chebet Maikut
B.1.2 Address	
B.1.3 Phone	
B.1.4 Email	chmaikut@gmail.com
B.1.5 Contact Person 2	
B.1.6 Address	
B.1.7 Phone	
B.1.8 Email	
B.1.9 Contact Person 3	
B.1.10 Address	
B.1.11 Phone	
B.1.12 Email	
B.1.13 Comments	The NAMA will be implemented by several government agencies under the leadership of the Directorate of Water Resources Management (DWRM) of the Ministry of Water and Environment. The other agencies that will be involved are the Department of Fisheries Resources and the Directorate of Animal Resources (DAR) at the Ministry of Agriculture Animal Industry and Fisheries (MAAIF), the National Environment Management Authority (NEMA), and the urban authorities under whose jurisdiction the factories that discharge wastewater are located. The DWRM will provide leadership even where wastewater is discharged into the ground without clear consequences on surface or ground water resources. Cooperation of private sector will determine the success of the NAMA.

C Expected timeframe for the preparation of the mitigation action

C.1	Number of months for completion	12

D Currency

D.1	Used Currency	AED Conversion to USD: 1

E Cost

E.1.1	Estimated full cost of preparation	250000
E.1.2	Comments on full cost of preparation	

F Support required to prepare the mitigation action

F.1.1	Amount of Financial support	250000
F.1.2	Type of required Financial support	[X] Grant [ ] Loan (sovereign) [ ] Loan (Private) [ ] Concessional loan [ ] Guarantee [ ] Equity [ ] Carbon finance [ ] Other
F.1.3	Comments on Financial support	
F.2.1	Amount of Technical support	
F.2.2	Comments on Technical support	
F.3.1	Amount of capacity building support	
F.3.2	Type of required capacity building support	[ ] Individual level [ ] Institutional level [ ] Systemic level [ ] Other
F.3.3	Comments on Capacity Building support	
F.4	Financial support required	[ ]
F.5	Technological support required	[ ]
F.6	Capacity support required	[ ]

G Relevant National Policies strategies, plans and programmes and/or other mitigation action

G.1	Relevant National Policies	Links to National Development Plan: In the context of Vision 2040, which is Uganda's long-term strategic growth framework, environment and waste management will be emphasized in line with the integrated physical planning models. This will entail strict control of pollution, wetland management, waste management and promotion and protection of green areas, open spaces and corridors. The medium term growth framework, the National Development Plan 2009/10 – 2014/15, considers climate change and waste management, within the context of environment management, as enabling sectors. Links to Climate Change Policy: The NAMA addresses the mitigation goal of the National Climate Change Policy of 2013 to promote sustainable use of solid and liquid wastes for energy generation and other uses, such as fertilisers (after sorting); promote and encourage waste-to-energy programmes to reduce GHG emissions and increasing energy generation and access; and promote proper disposal and sustainable use of wastes.
G.2	Link to other NAMAs	

H Attachments

H	Attachments	**Title** / **Description** Agro Waste Treatement - Kampala.docx — Full concept note

H.1 Attachment description

H.2 File

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I Support received

I.1 Outside the Registry

I.2 Within the Registry

Support provided	SupportType	Amount	Comment	Date