Uganda's Plan for Low Carbon Development

NAMA Profile # 9 | *Seeking support for preparation* | *Jan 2015*

Tackling climate change is a top priority for the Government of Uganda, as the country is already witnessing increased flooding and other types of extreme weather events. Experts predict that as climate change increases, Uganda is likely to experience even more serious impacts, including: increased food insecurity, soil erosion, flood damage to infrastructure and settlements, and changes in land resource productivity. To help address climate change, the country's National Development Plan (2010-2014) promotes a low carbon development path, which includes improving Uganda's ability to reduce greenhouse gas (GHG) emissions. In 2012, Uganda began working with UNDP's Low Emission Capacity Building Programme (LECBP) to identify ways to do this, while still delivering development benefits to citizens in line with national priorities.

Started in February 2013, the NAMA development process in Uganda recorded the participation of 87 stakeholders from several institutions, government ministries, the business sector and civil society. The in-depth consultation process highlighted the most promising and higher priority projects out of 40 possible NAMAs. Six of these NAMAs have been already submitted to the UNFCCC NAMA Registry and are now seeking support for their preparation.

Below is an overview of the six actions submitted to the UNFCCC NAMA Registry.

NS-150 - Reduction, Recycling and Reuse of Solid Waste in Kampala City

This NAMA seeks to introduce a policy NAMA that exploits the joint responsibility of local authorities and residents or persons working in these urban areas to contribute to waste management using the 3Rs (reduce, recycle, reuse). The focus is to reduce waste generation and improve waste collection, recycling and reuse. The NAMA will encourage proper solid waste management through sharing knowledge on composting processes, and providing extension support to households and other institutions. Support will include: training on waste reduction, reuse and recycling; selling commodities made out of waste; maintaining an information database on activities for different stakeholders; and creating a platform for recycling investors, as well as solid waste management companies. The NAMA will target the 60% of solid waste in Kampala that is not collected by the Kampala Capital City Authority.

Links to National Development Plan and Climate Change Policies

In the context of Vision 2040, Uganda's long-term strategic growth framework, environment and waste management will be emphasized in line with the integrated physical planning models, which will entail strict control of pollution, wetland management, waste management, and the promotion and protection of green areas, open spaces and corridors. The medium-term growth framework, the National Development Plan 2014/15 – 2019/20, considers climate change and waste management, within the context of environment management, as enabling sectors. The NAMA also addresses the mitigation goals of the National Climate Change Policy 2013 to promote: sustainable use of solid and liquid wastes for energy generation and other uses, such as fertilizers (after sorting); and proper disposal and sustainable use of waste.

Salient Features of the Proposed NAMA

Sector: Waste management
Type of action: National/Sectorial policy or programme
GHGs covered by the action: CH4
Expected timeframe for the preparation of the NAMA: 1 year
Financial support required: US$100,000
Type of required financial support: Grant
Technical support required: US$50,000

NS-151 - The Promotion of the Use of Efficient Institutional Stoves in Institutions

This NAMA aims to reduce emissions through promoting the use of improved energy efficient cook stoves in educational institutions at all levels in the different regions of Uganda. GHG emissions will be reduced because efficient cook stoves require less wood fuel (up to 50% less) to generate the same amount of energy required for cooking as three ordinary stone cook stoves.

The promotion of energy efficient cook stoves will be achieved through developing a policy instrument that ensures all educational institutions (EIs) in the country use such stoves. This policy instrument could include incentives in the form of grants and loans for compliance.

A database of schools and their energy status will be developed and subsequently updated on a regular basis. From this database, beneficiary EIs will be selected based on particular criteria that will include the number of pupils, energy status, financial status and willingness to pay. The EIs will be divided into five groups corresponding to the intended year of installation. The first group will then be assisted in applying for subsidies and loans from microfinance institutions depending on their need. The intent is to provide a subsidy for half the cost, and a loan for the remainder. The loans will be provided through a revolving fund, which will introduce an element of sustainability to the initiative.

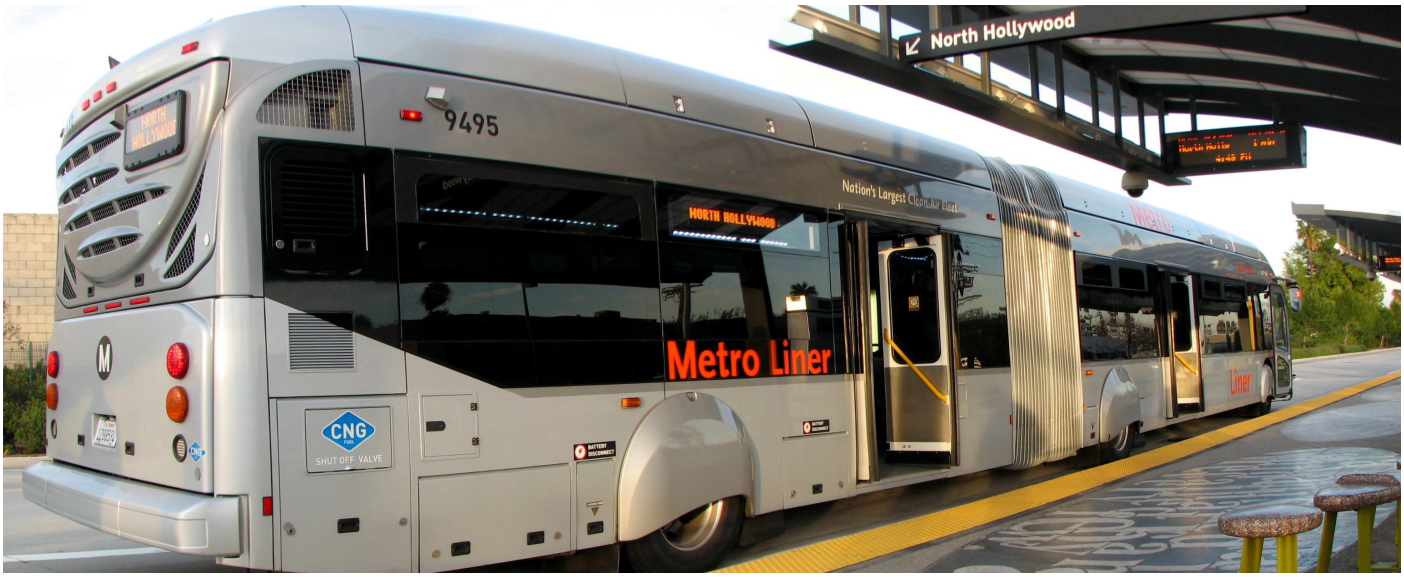
As a main co-benefit, the NAMA will also support the development of a sustainable stove industry by providing entrepreneurs, including technicians and artisans, with loans through microfinance institutions to improve their businesses or start up new businesses.

Links to National Development Plan and Climate Change Policies

This intervention responds to two objectives in the energy sector, which is considered one of the complementary sectors in the National Development Plan. This NAMA is consistent with the overall Renewable Energy Policy's (2007) goal, which is to increase the use of modern renewable energy from 4% to 61%. It also addresses the sustainable use of biomass as an objective in the Renewable Energy Policy. In addition, this NAMA supports Policy Priority No. 9 in the National Climate Change Policy 2013, which seeks to promote sustainable energy access and utilization as a means of sustainable development in the face of uncertainties related to climate change. The NAMA also promotes the use of energy efficient cook stoves, which is also one of the strategies of the National Climate Change Policy.

Salient Features of the Proposed NAMA

Sector: Energy demand
Technology: Energy efficiency
Type of action: National/Sectorial goal
GHGs covered by the action: CO2
Expected timeframe for the preparation of the NAMA: 6 months
Financial support required: US$100,000
Type of required financial support: Grant



NS-153 - Bus Rapid Transit (BRT) for Kampala

The purpose of this NAMA is to improve the efficiency of public transport, by moving commuters from private vehicles to public transportation to address both traffic and pollution problems. The NAMA will reduce transport emissions in the Kampala metropolitan region from a business-as-usual baseline.

Kampala is expected to experience rapid population growth over the next 15 years, which will be accompanied by high urbanization and motorization levels. Kampala lacks an integrated and affordable public transport system, with most public transport trips taken by 14-seat minibuses (matatus). This NAMA will assist Uganda in planning, developing and financing a coordinated urban transportation system around: the design of routes; linkages between BRT routes and other modes of transport; facilities and resources to increase ridership; and operational mechanisms of efficiency, such as scheduling, on time repairs, maintenance, buses, pricing, and park and ride facilities. The NAMA aims to build nine BRT routes and schedule buses along them so that they are linked.

Links to National Development Plan and Climate Change Policies

This NAMA will support national goals to improve the stock and quality of economic infrastructure, and encourage the sustainable use of the environment and natural resources. The NAMA also relates directly to the National Transport Policy and the Non-Motorized Transport Policy, both of which have strategies for nationwide improvement of sustainable transportation. In addition, the NAMA addresses the main goal of the National Climate Change Policy 2013 and specifically the objectives of: integrating climate change into planning, decision making and investments; and developing and implementing appropriate climate change mitigation strategies. This NAMA also links with climate change policy transport sector strategies, particularly the promotion of modes of transport that take GHG emission reductions into account, integration of risk assessment on transport infrastructure, and building climate-resilient transportation infrastructure at the national level.

Salient Features of the Proposed NAMA

Sector: Transport and its infrastructure
Technology: BRT system
Type of action: Investment in infrastructure
GHGs covered by the action: CO_2
Expected timeframe for the preparation of the NAMA: 1 year
Financial support required: US$250,000
Type of required financial support: Grant

NS-154 - Developing Appropriate Strategies and Techniques to Reduce Methane Emissions from Livestock Production in Uganda

The major goal of this livestock NAMA is to develop appropriate strategies and techniques for reducing methane emissions associated with livestock production, which, according to the FAO Statistics Yearbook 2013, is the major source of GHG emissions in Uganda's agriculture sector.

Silvo-pastoral techniques (converting degraded extensive, i.e., open, treeless pastures, into a richer and more productive environment, where trees and shrubs are planted interspersed among fodder crops, such as grasses and leguminous herbs) are used to transform degraded lands with monocultures of one grass species into more complex agroforestry systems that may include forest fragments, live fences, riparian forests and trees dispersed in pastures. These techniques have been shown to enhance biodiversity and sequester appreciable amounts of carbon, while reducing methane production of livestock under increased tree cover.

In Costa Rica, the implementation of these techniques resulted in a win-win situation: an annual sequestration of 1.5 Mt of CO2–equivalent was accompanied with increases of 22% in milk production, 38% in stocking rate and 60% in farm income. Methane emissions per product kilogram decreased, while biodiversity (measured by the number of bird species and water quality) increased.

Major activities

- Exploring appropriate feeding strategies that increase productivity, while reducing methane emissions from enteric fermentations. Efforts will be centered around strategies that have shown promise elsewhere, including feeding livestock on improved forages and feed supplements. This will involve: screening tanniferous herbaceous forages and agroforestry tree species for methane reducing potentials; supplementation using agro-industrial byproducts, including oilcakes; and integrating these options strategically into ruminant feeding systems or incorporating grain with pastures.
- Exploring with various feed additives, including plant extracts (condensed tannins, saponins and essential oils) and rumen modifiers (yeast, bacterial direct fed microbials and enzymes).
- Exploring ways to improve feed efficiency through breeding and diet manipulation. Improving feed conversion efficiency (the amount of feed consumed per unit of production) helps decrease the amount of methane produced since more efficient animals have been shown to produce less methane. This can achieved by feeding animals more highly digestible diets.
- Exploring manure and pasture management on both small and larger farms.
- Increasing public information and awareness about appropriate strategies and technologies for reducing methane emissions from livestock and potential mitigation levels.

Links to National Development Plan and Climate Change Policies

The Agricultural Sector Development and Investment Plan seeks to: increase incomes of farming households from livestock; improve quality and increase quantity of agricultural produce and products; and promote and encourage highly adaptive and productive livestock breeds.

The National Climate Change Policy 2013 specify agriculture as one of the major sectors for climate change mitigation in Uganda, with reduced GHG emissions through sustainable land management of rangelands and pastures, and minimal GHG emissions by using agricultural products for livestock feed.

Salient Features of the Proposed NAMA

Sector: Agriculture
Technology: Silvopastoral techniques
Type of action: Project: National/Sectoral policy or programme
GHGs covered by the action: CH4, N2O
Expected timeframe for the preparation of the NAMA: 6 months
Financial support required: US$87,000
Type of required financial support: Grant

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

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 GHG emission reductions. The downside of anaerobic treatment in that the CH4 produced can offset any reductions in CO2 emissions if released into the environment. Anaerobic treatment becomes favorable when treating effluents with higher concentrations of Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD). A technology to recover dissolved methane would make anaerobic treatment favorable at nearly all effluent strengths.

Addressing the problem of poorly or untreated treated wastewater discharge in urban areas is a high national priority given the extent of pollution, especially in the Lake Victoria Basin. This NAMA will help reduce pollution loads from agro-processing factories on surface water systems, especially the Lake Victoria Basin.

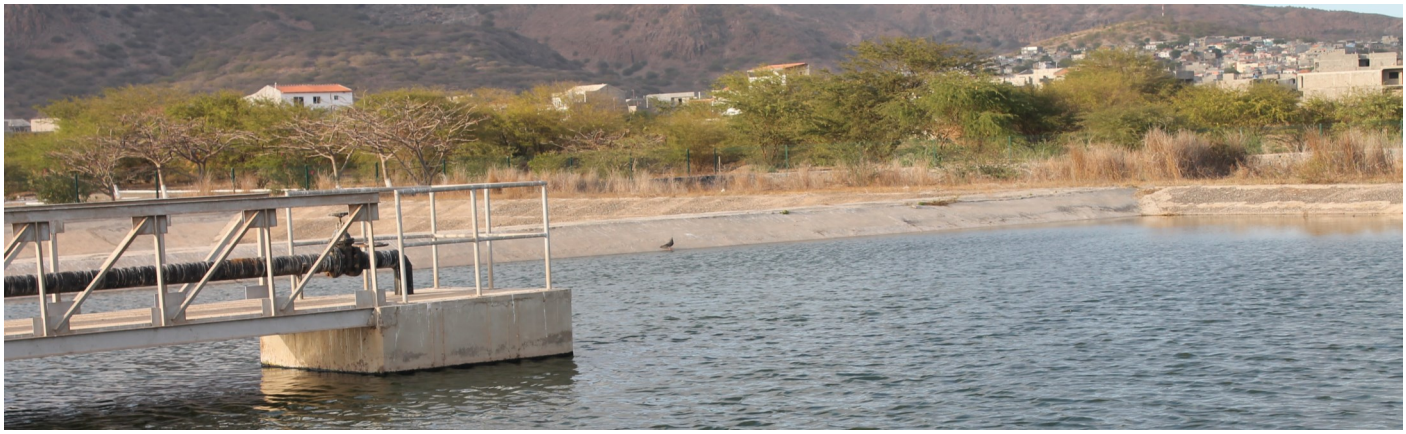
The NAMA seeks to increase efficiency and value addition prospects for wastewater treatment of agro-processing firms by establishing an integrated wastewater treatment process using both an anaerobic and aerobic digester with a sequencing batch reactor. From the two processes, GHGs, especially methane, 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 generated biogas are small. Also, the process will lead to the generation of large volumes of bio-slurry that can be used for producing bio-fertilizers, while the treated wastewater can be reused in some of the targeted facilities.

Links to National Development Plan and Climate Change policies

In the context of Vision 2040, Uganda's long-term strategic growth framework, environment and waste management will be emphasized in line with the integrated physical planning models, which will entail strict control of pollution, wetland management, waste management and the promotion and protection of green areas, open spaces and corridors. The medium-term growth framework, the National Development Plan (2014/15 – 2019/20) considers climate change and waste management, within the context of environment management, as enabling sectors. The NAMA also addresses the mitigation goals of the National Climate Change Policy of 2013 to promote: the sustainable use of solid and liquid wastes for energy generation and other uses, such as fertilizers (after sorting); waste-to-energy programmes to reduce GHG emissions and increase energy generation and access; and proper disposal and sustainable use of wastes.

Salient Features of the Proposed NAMA

Sector: Waste management
Technology: Cleaner fuels, methane avoidance and biogas production
GHGs covered by the action: CH4
Expected timeframe for the preparation of the NAMA: 1 year
Financial support required: US$250,000
Type of required financial support: Grant



NS-158 - Periodic Vehicle Inspection for Emissions and Roadworthiness

This NAMA is intended to reduce emissions from vehicles with a high potential for operations-related emissions. This is a policy NAMA, which is important due to the type, age and condition of imported vehicles in Uganda. It will also target operation and use through the lifecycle of the vehicles. This policy is needed in Uganda because of the high possibility for economic growth and prosperity, which will lead to increased vehicle importation and use.

The rapidly growing consumption of fossil fuels due to increases in vehicle ownership is changing Uganda's carbon dioxide trajectory in the transport sector. Vehicle growth is occurring in a mainly unregulated and unplanned manner, and a lack of capacity within government and among potential partners to undertake the required analysis to support the development of a sound policy framework further limits progress in this area.

The private sector will continue to play a major role in providing public transport in addition to private modes and commercial goods vehicles. This has implications regarding the importation of vehicles and emissions, which is the rationale for periodic inspection to ensure that vehicles are within the target limits of allowable emissions. This NAMA is justified given the long-term goals of the National Development Plan and projected economic growth.

This NAMA is one component of the larger NAMA, 'Fuel Efficiency in Motor Vehicles,' which would implement a Fuel Efficiency Initiative that includes the development of policies and regulations to promote more efficient vehicle use. As such, this vehicle inspection action can be developed as part of the larger Fuel Efficiency Initiative NAMA or undertaken as a discrete NAMA.

As a policy NAMA with a suite of strategies, it will involve two types of inspection: the Pre-Shipment Inspection (PVOC) done in collaboration with agencies of the exporting countries; and the periodic inspection and certification for roadworthiness done in the country. Both inspection points will be based on indicators such as: vehicle age, engine type, fuel capacity and year of manufacture. The PVOC methodology can be utilized by both public and private agencies. An annual inspection requirement that certifies vehicles operating in the country is another strategy for this policy NAMA. The NAMA will initially require investments by government and other agencies involved in inspection, but will gradually become self-financing since vehicle users will be charged. As part of the suite of strategies, vehicle write-off at inspection is the targeted measure to take highly emitting vehicles off the road. The NAMA will also promote technologies that enable emission reductions as vehicles age. increased.

Links to National Development Plan and Climate Change Policies

This NAMA will operationalize the draft transportation policy, which recognizes the importation of old vehicles into the country as a concern for pollution and long-term reduction in value for money. The NAMA also relates directly to the National Transport Policy and the Non-Motorized Transport Policy, both of which have strategies for nationwide improvement of sustainable transportation. The NAMA addresses the main goal of the National Climate Change Policy of 2013 and, specifically, the objective of integrating climate change into planning, decision making and investments, as well as the objective on developing and implementing appropriate climate change mitigation strategies. This NAMA also links with the climate change policy transport sector strategies, particularly the promotion of modes of transport that take GHG emission reductions into account and climate-resilient transportation infrastructure at the national level.

Salient Features of the Proposed NAMA

Sector: Transport and its infrastructure
Technology: Energy efficiency
Type of action: National/ Sectoral goal, National/Sectoral policy or programme
GHGs covered by the action: CO_2
Expected timeframe for the preparation of the NAMA: 1 year
Financial support required: US$200,000
Type of required financial support: Grant

Further reading and official documents related to each single NAMA proposal can be found on the UNFCCC NAMA Registry website.

Relevant contact

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References

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The series of NAMA profile is produced by the NAMA and Registry Unit of the non-Annex I Support Sub-Programme of the Mitigation, Data and Analysis Programme (MDA) of the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat based on the information recorded by Parties in the NAMA registry. The objective of NAMA profile is to enhance visibility of NAMA which increases probability for obtaining international support and encourages similar mitigation actions in the developing countries.

The NAMA registry is a dynamic, web-based platform to record nationally appropriate mitigation actions by the developing countries and support available and/or provided by the Parties and entities for such mitigation actions. Further, the registry aims to facilitate the matching of NAMAs with available support. The participation in the registry is voluntary and the registry contains only information that has been submitted specifically for recording purpose. For any queries and assistance in relation to the NAMA registry, please contact: NAMA-registry@unfccc.int and NAMA-support@unfccc.int

To learn more about stories about how developing countries, often with international support, are lowering global emissions, creating jobs, improving living conditions, and preparing for a low-emissions world, please visit :

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