MINISTRY OF WATER AND ENVIRONMENT

UGANDA'S INTENDED NATIONALLY DETERMINED CONTRIBUTION (INDC)

OCTOBER 2015

FOREWORD

Uganda, is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and is one of the Least Developed Countries. Through regular participation in the meetings of the Conference of Parties to the UNFCCC, Uganda is keenly following the events leading to the new Climate Change Agreement to be negotiated in Paris, France during the UN Climate Conference in December 2015.

Uganda has contributed least to the potentially catastrophic build up of the human-derived greenhouse gases (GHGs) in the atmosphere and yet the country is most vulnerable to global warming and climate change impacts. (Uganda has one of the lowest green-house gas emissions per capita in the world, estimated at 1.39 tons carbon dioxide, far below the global average of approximately 7.99 tons of carbon dioxide. Furthermore, Uganda's contribution to world's total green-house emission is estimated at 0.099%).

Consequently Uganda recognizes the importance of fulfilling the commitments under the respective article of the Convention on Climate Change, particularly the Principle of "common but differentiated responsibilities and respective capacities".

The actions reflected in this Intended Nationally Determined Contribution (INDC) have been derived through a consultative process and reflect a national resolve to respond to the call by the global community to initiate domestic preparations for nationally determined contributions towards curbing temperature rise to below 2°C by the end of the century.

I am pleased to convey to the International Community this fulfilment from the Government and the People of Uganda.

Prof. Ephraim Kamuntu
MINISTER OF WATER AND ENVIRONMENT
October 14, 2015

SUMMARY

a) Uganda is submitting its Intended Nationally Determined Contribution in compliance with Decision 1/CP.19 (Further advancing the Durban Platform: and in particular Paragraph 1 (b & c)) and as elaborated in Decision 1/CP.20 (Lima Call for Climate Action and in particular paragraph 11) premised on the Convention and guided by its principles.

b) The livelihood of the people of Uganda is highly dependent on the exploitation of her natural resources, including climate. In submitting this INDC, Uganda's priority is adaptation. The country will continue to work on reducing vulnerability and addressing adaptation in agriculture and livestock, forestry, infrastructure (with an emphasis on human settlements, social infrastructure and transport), water, energy, health and disaster risk management. Sustainable Land Management (SLM) and Climate Smart Agriculture (CSA) will be scaled up to increase resilience at the grassroots level.

c) For mitigation, Uganda is to focus on implementation of a series of policies and measures in the energy supply, forestry and wetland sectors. In the business-as-usual (BAU) scenario the estimated emissions in 2030 will be 77.3 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr).The estimated potential cumulative impact of the policies and measures could result in approximately 22% reduction of national green house gas emissions in 2030 compared to business-as-usual. Uganda proposes to implement the identified policies and measures, and their impact may be higher or lower than these estimations illustrate.

d) Contributions under this Intended Nationally Determined Contribution include crosscutting respect for human rights and gender-responsive climate change actions. The protection of vulnerable groups, including women, is a crosscutting priority.

e) The Government of Uganda will continue to commit resources to climate change-relevant strategies. However, the full implementation of these actions is conditional on the support of international community coming from both climate finance instruments and international market mechanisms. As set out in the Uganda National Climate Change Policy and its Costed Implementation Strategy, national sources are assumed to cover approximately 30% of incremental costs of the activities in the next 15 years, with 70% assumed to originate from international sources.

1. National Circumstances

Uganda, one of the Least Developed Countries (LDCs) in East Africa, occupies an area of 241,038 square kilometres, with water bodies and wetlands covering about a third of it, and standing astride the equator. Its tropical climate has an average temperature ranging from 18 to 28 degrees centigrade, and this provides the country with a rich natural resource base. With an average total fertility rate of 6 children per woman, Uganda has an annual growth rate of 3.2 per cent; and the population is

expected to grow from 34.8 million people in 2014 to 93.4 million people in the 2040s. In terms of capacity, as a Least Developed Country, Uganda has a low *per capita* income of United States dollars 584, coming from economic development that depends largely on natural resource.

Uganda has diverse socio-economic concerns embedded in a multi-cultural society with a multi-party political system and a diversity of religious practices. Outlined in Uganda's Vision 2040, Uganda's aspirations hinge on uplifting the quality of life through transformation of Ugandan society from "a peasant to a modern and prosperous nation". Along that path Uganda not only fulfils national obligations enshrined in its Constitution, but also responds to the agendas of a global instrument, the United Nations Framework Convention on Climate Change, to which the country, like other signatories, is a Party.

Uganda's priority is to reduce the vulnerability of its population, environment and economy by implementing adaptation actions. Uganda also intends to "implement strategies, plans and actions for low greenhouse gas emission development" in the context of its development goals. These mitigation and adaptation intentions are based on the country's National Climate Change Policy (NCCP) (2015), which is derived from the Constitution of the Republic of Uganda (1995, as amended in 2005 and 2015) and reflects Uganda Vision 2040 (2012). The priorities in the National Climate Change Policy have been integrated in the Second National Development Plan (NDP II) 2015/16 - 2019/2020 (2015). In the long term, Uganda intends to follow a climate-resilient and low-carbon development path linked to green growth and broader sustainable development goals.

The economy of Uganda is highly depended on her natural resources, making the country vulnerable to the impacts of climate change. Uganda is experiencing significant impacts of climate change, which include which include changing weather patterns, drop in water levels, and increased frequency of extreme weather events. The emissions of greenhouse gases resulting from human activities drives climate change. Even though Uganda's emissions are low the country is fulfilling her obligations to contribute to the emission reductions, as reflected in goal 13 of the United Nations Sustainable Development Goals.

Uganda's contribution to emission reduction is multidimensional, through tree planting, afforestation and reforestation programmes, and all these contribute to emission reduction through carbon sequestration, and other benefits, such as biodiversity conservation, as reflected in goal 15 of the United Nations Sustainable Development Goals.

Uganda's response to submit her Intended Nationally Determined Contribution has various benefits across sectors. In the Energy sector, for example, the deficit experienced in the past decade drove the country into using unsustainable, expensive and polluting thermal generators (diesel and heavy-fuel oil). Uganda's Intended Nationally Determined Contribution opens the door to affordable and modern energy as inscribed in goal seven of the United Nations Sustainable Development Goals (UNSDGs). Since 1960 mean annual temperatures have risen

by 1.3ºC and annual and seasonal rainfall has decreased significantly across Uganda. Rainfall has also become more unpredictable and evenly distributed over the year. Extreme events such as droughts, floods and landslides are increasing in frequency and intensity.

Climate change is affecting a wide variety of sectors. Agriculture, water, health and human settlements have been particularly affected. In the 2007-08 fiscal year, climate change damages were equivalent to 4.4% of the national budget, exceeding the budget allocation for the Environment and Natural Resource Sector.

Climate projections developed for the country using the models used in the IPCC Fifth Assessment Report (IPCC AR5) indicate an increase in near-surface temperature for the country in the order of +2°C in the next 50 years, and in the order of +2.5°C in the next 80 years under Representative Concentration Pathway (RCP) 4.5; and in the order of +2.5°C in the next 50 years, and in the order of +4.5°C in the next 80 years under RCP 8.5. They also predict a slight decrease in total annual rainfall in most of the country, with slightly wetter conditions over the west and north-west under both RCP 4.5 and RCP 8.5. Rainfall totals might drop significantly over Lake Victoria (-20% from present).

Recent studies, which require further refinement, have estimated that, in the absence of adaptation actions, the cost of the impacts of climate variability and change in Uganda would range between United States dollars 270 and 332 billion over the 40 year period 2010-2050, for the agriculture, water, infrastructure, and energy sectors. Annual costs could be in the range of United States dollars 3.2 billion to United States dollars $5.6 billion within a decade in these four sectors alone.

The rural poor and those living in slums are especially vulnerable as they have lower capacity to cope with and adapt to the impacts of climate change. Women are especially vulnerable in terms of food insecurity, water shortage and fuel wood scarcity. Children, the elderly, and persons with disabilities or sick are also particularly vulnerable.

Current and future impacts of climate change make adaptation urgent. As illustrated above, Uganda will continue to undertake adaptation initiatives. Uganda also intends to reduce greenhouse gas emissions, improving climate change resilience and moving to a low-carbon future, and will rely on the cooperation between the Government of Uganda and other stakeholders. As explained above, the full implementation of the priority adaptation and mitigation strategies is conditional on accessing significant external support (70% of the additional financial resources required for the full implementation of this INDC are dependent on external support).

So far international climate funds have played a very small role in climate change adaptation and mitigation in Uganda. Although a number of them have been active in the country over the last few years, levels of committed funding are not significant and they appear not to have been disbursed in many cases. Only around US$ 160,000 was disbursed over the period 2008/9 – 2011/12. Most of it has been directed at mitigation actions.

In contrast, traditional development partners have committed substantial funds towards climate change-related activities in Uganda. The seventeen major adaptation projects that have been implemented since 2001 in partnership with the Government of Uganda add up to approximately US$ 59 million.

Climate change-related initiatives will continue to be monitored. The effectiveness and efficiency of the implementation of the NCCP is to be monitored against its approved outcomes and outputs on an annual basis. Information from ministries, departments and agencies will be reported to the Ministry of Finance, Planning an Economic Development and copied to the National Planning Authority and the Climate Change Department, which will prepare a consolidated annual progress report. An independent evaluation is planned after the first five years of implementation of the NCCP. The recommendations will feed into the revision of the climate change policy, which should be informed by a thorough public consultation process.

2. Adaptation to climate change

2.1 Long-term goals

Uganda has the overarching objective of ensuring that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development and green growth. The country will continue to work on reducing vulnerability in the following priority sectors: agriculture and livestock, forestry, infrastructure (with an emphasis on human settlements, social infrastructure and transport), water, energy and health. Disaster risk management is crosscutting for adaptation.

Table 1: Uganda's priority sectors and actions for adaptation

Priority Sectors	Priority Adaptation Actions
Agriculture	Expanding extension services
	Expanding climate information and early warning systems
	Expanding Climate Smart Agriculture (CSA)
	Expanding diversification of crops and livestock
	Expanding value addition, post-harvest handling and storage and access to markets, including micro-finances
	Expanding rangeland management
	Expanding small scale water infrastructure
	Expanding research on climate resilient crops and animal breeds

	Extend electricity to the rural areas or expanding the use of off-grid solar system to support value addition and irrigation.
Forestry	Promoting intensified and sustained forest restoration efforts (afforestation and reforestation programmes, including in urban areas)
	Promoting biodiversity & watershed conservation (including re-establishment of wildlife corridors)
	Encouraging agro-forestry
	Encouraging efficient biomass energy production and utilization technologies
Water	Improving water efficiency
	Ensuring water supply to key economic sectors, especially agriculture, and domestic use, including water harvesting and storage
	Managing water resource systems, including wetlands, particularly in cities, in such a way that floods are prevented and existing resources conserved (through the establishment of an Integrated Water Resources Management system)
	Extending electricity or expanding use of off-grid solar system to support water supply
Infrastructure (including human settlements, social infrastructure and transport)	Ensuring that land use plans and building codes reflect the need to make public and private buildings more climate-resilient
	Investing in making existing and new buildings more resilient
	Updating transport codes and regulations and implementing measures to ensure compliance with them
	Updating of risk assessment guidelines
	Improving water catchment protection
Energy	Increasing the efficiency in the use of biomass in the traditional energy sector
	Promoting renewable energy and other energy sources
	Increasing the efficiency in the modern energy sector, mainly of electricity
	Ensuring the best use of hydropower by careful management of the water resources
	Climate proofing investments in electricity power sector
Health	Conducting vulnerability assessments of the health sector to climate change impacts
	Assessing the impacts of climate change on human health and well-being
	Improving early warning systems for disease outbreaks

	Putting in place contingency plans to develop climate change-resilient health systems
	Strengthening public health systems by building hospitals (including regional referral hospitals) and supplying them with medicine, equipment and well-trained personnel
	Making provision for a safe water chain and sanitation facilities to limit outbreaks of water-borne diseases and implement strong public awareness programmes to promote better hygiene
Risk management (particularly in urban areas)	Mainstreaming climate resilience in all sectors
	Developing vulnerability risk mapping based on better data on climate change impacts at sectoral and regional level
	Identifying better drainage plans
	Building more effective early warning systems
	Improving emergency related institutions and establishing a contingency fund to take care of emergency needs following an extreme climate event

2.2 Current and near-term action

Uganda has made notable progress in adaptation in recent years:

- Uganda's National Adaptation Programme of Action (NAPA) was submitted to the Secretariat of the United Nations Framework Convention on Climate Change in 2007;
- Approved a National Policy for Disaster Preparedness and Management in 2010;
- Developed her National Climate Change Policy and its Costed Implementation Strategy in 2012/13;
- Has taken steps to integrate climate change into the National Development Plans, as well as in sectoral policies, plans and programmes;
- Has produced climate change mainstreaming guidelines.
- Some efforts have also been made in research, systematic observation, education, training, public awareness and institutional strengthening.
- Specific activities have been developed on the ground to increase resilience, regarding, among others, agriculture, water and urban planning.
- Developed a 10-year Climate Smart Agriculture Program (2015-2025)
- A road map for the development of the National Adaptation Plan (NAP) was submitted to the Secretariat of the United Nations Framework Convention on Climate Change at the beginning of 2015. The agricultural sector Natioanl Adaptation Plans process was launched in June 2015.
- The country will lay the ground for the National Adaptation Plans preparation during 2015, and will finalize it ready for implementation by mid 2016.The

process will also include the analysis of current and future climate variables, the assessment of vulnerabilities and the appraisal of adaptation options, refining the priority sectors and actions mentioned above. The National Adaptation Plan process will compile and communicate priority national adaptation plans by December 2016.

3. Mitigation of climate change

3.1 Mitigation contribution

- Uganda aims to build on existing Clean Development Mechanism (CDM) projects and Programmes of Activities pipeline, such as Bujagali Hydropower Project and Improved Cook Stove for East Africa.
- Uganda commits to undertaking a number of policies and measures to support low-carbon development in key priority sectors (Table 2).
- The implementation of these policies and measures assumes the continuation of ongoing and planned international financial, technology transfer and capacity building support to complement domestic efforts as set out in the 2015 National Climate Change Policy.
- The estimated impact on greenhouse gas emissions for these policies and measures are presented in Table 4 in section 3.3 below, under: *Potential mitigation impact*.

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Table 2: Policies and measures of Uganda's mitigation contribution

Sector	Measure
Energy (power supply)	Construction of enabling infrastructure for electricity sector development, including power lines, substations and transmission facilities. (Development of the electricity sector holds great mitigation potential for Uganda due to the potential offsetting of wood and charcoal burning, and the consequential deforestation)
	Achieve a total of at least 3,200 Mega Watts renewable electricity generation capacity by 2030, up from 729 Mega Watts in 2013.
Forestry	Development of enabling environment for forestry management, including: – Community forest management groups – Forest law enforcement and governance – Strengthening forest institutions responsible for forest management and development
	Reverse deforestation trend to increase forest cover to 21% in 2030, from approximately 14% in 2013, through forest protection, afforestation and sustainable biomass production measures.
Wetland	Development of enabling environment for wetland management,

s	including: – Creation of national information database through re-inventory and assessment of all wetlands. – Design and implementation of 11 RAMSAR site wetland research, eco-tourism and education centres. The RAMSAR convention is an intergovernmental treaty adopted in the Iranean city of Ramsar, and which provides the framework for wise use of wetland and other resources. – Design and implementation of 111 District wetland action plans, with carbon sink potential. – Design and implementation of 15 RAMSAR sites and Framework wetland management plans – Demarcation and gazettement of 20 critical and vital wetland systems and their maintenance country wide as carbon sink. – Wetlands law enforcement and governance. – Strengthening wetland management institutions responsible for wetlands management and conservation.
	Increase wetland coverage to 12% by 2030, from approximately 10.9% in 2014, through demarcation, gazettement and restoration of degraded wetlands.

3.2 Additional mitigation ambition

- In addition to the prioritised mitigation efforts outlined above, Uganda is prepared to undertake additional mitigation activities (Table 3).

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The implementation of these additional activities is contingent upon receipt of sufficient international support, provided in the form of finance, technology and capacity building. Possible support could be accessed through various climate finance instruments and international market mechanisms.

Table 3: Policies and measures for Uganda's additional mitigation ambition

Sector	Measure	Emissions reduction potential in 2030
Energy (demand)	Sustainable energy solutions in public buildings: – Energy efficiency in hospitals – National Appropriate Mitigation Action for Integrated Sustainable Energy Solutions for Schools in off-grid areas	 – Unknown – 82 $ktCO_2e$/a from 1,000 schools in pilot
	Promotion and wider uptake of energy efficient cooking stoves or induction cookers. (Residential biomass burning: ~30 $MtCO_2e$ in	Approx. 40% efficiency saving over traditional cooking

	2000)	stoves.
	Promotion and wider solar uptake of solar energy systems.	Emission reduction potential of about 1.5 million tons carbon dioxide equivalent by 2030
	Development and enforcement of building codes for energy efficient construction and renovation.	Unknown
Energy (transport)	Development and implementation of a long-term transport policy accounting for climate change mitigation concerns.	Unknown
	Fuel Efficiency Initiative National Appropriate Mitigation Action: Policies and regulations to promote cleaner fuels, and more fuel efficient vehicle technology. (Approximate investment cost USD 5.8m over 6 years)	~2 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr). in 2030 (Reductions of between 24% and 34% of Business As Usual projections for road transport)
Agriculture	Climate Smart Agriculture techniques for cropping (Agricultural soils: 36% of national GHG emissions (13.5 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr).) in 2000)	~2.7 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr). in 2030 (0.33-0.35 tons carbon dioxide equivalent per hectare) (Smith et al 2008)
	Livestock breeding research and manure management practices (Enteric fermentation: 19% of national GHG emissions (7 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr).) in 2000.Projected to increase by 4 times by 2030)	4% economic potential for emission reduction in East Africa, rising to 20% in other regions. (Smith et al 2008).

3.3 Information provided to improve clarity, transparency and understanding

Table 4: Information to improve clarity, transparency and understanding of Uganda's INDC

Issue	Explanation

Reference Point	• The major targets from the policies and measures of energy supply, forestry and wetlands in the mitigation contribution are not based on a comparison to a reference point but rather presented in absolute terms. • National emissions in 2000, including Land Use Land Use Change and Forestry, were estimated at 36.5 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr). Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr). , and emissions are projected to rise to approximately 77.3 MtCO2e/a in 2030.
Timeframes or Periods of Implementation	• The proposed priority measures for 2030 build upon ongoing policies and plans, whose implementation will be accelerated in the period between 2016 and 2030. • The period of implementation for the additional measures will be 2021 to 2030, or earlier if feasible and if the provision of sufficient support is expedited.
Potential Mitigation Impact	Estimations of potential mitigation impact are approximate, and are presented for indicative purposes only. Uganda proposes to implement the aforementioned policies and measures, and their impact may be higher or lower than these estimations illustrate. Further details are given in Annex I. • The cumulative impact of the policies and measures from the mitigation contribution (section 3.1) could result in approximately 22% reduction of overall national GHG emissions in 2030, including Land Use Land Use Change and Forestry, compared to the business-as-usual (BAU) projection (see Figure 1). • The Business As Usual emissions projection for Uganda, including Land Use Land Use Change and Forestry, is 77.3 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr in 2030. Total emissions in 2000 were 36.5 Million tons of carbon dioxide equivalent per year ($MtCO_{2eq}$/yr.
Scope and Coverage of Contribution	• The mitigation contribution (section 3.1) covers the energy (excluding transport) and Land Use Land Use Change and Forestry sectors, in particular forestry and wetlands. • Combined, the energy (excluding transport) and Land Use Land Use Change and Forestry sectors account for approximately 36% of national emissions in 2000, and 26% of emissions in 2030 under Businee As Usual. Under the Business As Usual case, the Land Use Land Use Change and

	Forestry sector continues to be a net emitter. • The additional mitigation ambition (section 3.2) also covers agriculture and transport. • Combined, the transport and agriculture sectors represent a further 62% of national emissions in 2000, and 70% of emissions in 2030 under Business As Usual. • All Greenhouse Gases s are considered within Greenhouse Gas emission estimates, and expressed in terms of their tons carbon dioxide equivalents (tCO2e) throughout this document.
Planning Processes	• Uganda's contribution is based upon the priority actions of the Second National Development Plan, the 2015 National Climate Change Policy and its Costed Implementation Strategy, all of which were approved by Government. The renewable energy targets are based on energy sector investment plans of the Ugandan Ministry of Energy and Mineral Development. • The prioritisation of policies and actions has undergone extensive consultation with stakeholders at the national and sub-national level and represents the priorities of the Ugandan government. • The implementation of the specific policies and measures is institutionalised through the National Climate Change Policy led by the authorities of the relevant sectors.
Assumptions and Methodology	• Uganda's national greenhouse gas inventory for 2000, as outlined in the 2014 Second National Communication, uses the 2006 Inter-governmental Panel on Climate Chang (IPCC) Guidelines for National Greenhouse Gas inventories, and global warming potential values from the Inter-governmental Panel on Climate Change's Second Assessment Report (SAR). • Projections for Business As Usual emissions in 2025 and 2030 are estimated through the use of the learning, evaluation and planning (LEAP) model according to projected growth rates and demographic trends, as highlighted in the 2014 Second National Communication. Due to the relative uncertainties of these factors for Uganda, references to these projections in this Intended Nationally Determined Contribution document are indicative, and included for illustration purposes only. • Net emissions of Land Use Land Use Change and Forestry are included in all emission statistics in the Intended Nationally Determined Contribution and the 2014 Second National Communication unless stated otherwise. • Net emissions from Land Use, Land Use Change and Forestry

	including REDD+ in 2000 were 10.6 Million tons Carbon dioxide equivalent, including removals of approximately 80 Million tons carbon dioxide . • The calculations of the estimated mitigation potential for the renewable energy and forestry sectors are based on Clean Development Mechanism (CDM) methodologies of registered CDM projects in the sectors in Uganda. • The estimation of the Greenhouse Gas reduction in the wetlands sector is based on international benchmarks. • The mitigation measures outlined in this intended contribution share significant interactions with the national development priorities of Uganda, including the improvement in access to energy and in access to natural ecosystem services. The measures are relevant to future revisions of the Energy Policy, the Renewable Energy Policy, the National Land Use Policy, and the National Climate Change Policy.

3.4 Interaction with international market mechanisms

- Uganda intends to meet its commitments and/or increase the level of its contribution through the use of international market mechanisms where appropriate, building upon the experience of the Clean Development Mechanism and other existing market mechanisms.

4. Fairness, ambition and contribution towards achieving the objective of the Convention

To develop a fair and ambitious contribution that helps achieve the objective of the Convention but recognises Uganda's national circumstances as a Least Developed Country, Uganda has considered how it can prioritise those actions and measures that achieve emissions reductions while ensuring increased resilience and development outcomes for Uganda.

As a Least Developed Country with low emissions and high vulnerability to climate impacts, Uganda's ability to undertake climate action without external support is extremely low when compared to other countries.

- Uganda has one of the lowest greenhouse gas emissions per capita in the world, at approximately 1.39 Tons Carbon dioxide equivalent in 2011 (well below the global average of approximately 7.99 Tons Carbon dioxide

equivalent and even below the average of Least Developed Countries of 3 tons Carbon dioxide equivalent);

- Uganda has contributed only 0.099% of the world's total Greenhouse Gas emissions in 2011 (based on Climate Analysis Indicators Tool (CAIT) data); and
- Uganda's capacity to undertake action is constrained by its national circumstances and development priorities. It has a human development index (HDI) Value of 0.477(compared to the global average of 0.698) and gross domestic product (GDP) per capita of only 1,607 (2011 PPP $) (compared to the global average of 12,600 (2011 PPP $)).

In light of these factors, Uganda's contribution is both fair and ambitious. It prioritises specific measures in energy supply, forestry and wetlands to provide both Greenhouse Gas emission reductions as well as development benefits. As of 2011, only 15% of Uganda's population had access to electricity. By committing to increase Uganda's renewable energy generation capacity by 2030 and prioritising the construction of enabling infrastructure for the electricity sector, Uganda is not only reducing its emissions by approximately 3.2 Million tons Carbon dioxide equivalent per year , but also enabling greater access to reliable and sustainable energy for the 85% of Uganda's population that live in rural areas, in turn, improving the livelihoods and health of rural populations.

Uganda's greatest mitigation potential is in the land use, land-use change and forestry sectors. Reversing the current deforestation trend (of approximately 14% in 2013) to increase forest cover to 21% in 2030 is highly ambitious considering that 89.5% of the country's energy needs are currently met by charcoal and firewood. This commitment further highlights the holistic nature of Uganda's contribution – recognising that the development of the electricity sector is key to achieving the reduction in wood and charcoal burning necessary to reduce deforestation.

In addition, by focusing on these policies and measures, Uganda will also ensure alignment with its long-term adaptation goals in terms of forest protection, reduction of the energy deficit and resilient energy infrastructure. By structuring its contribution in this way, Uganda is able to contribute to the global efforts to reduce Greenhouse Gas emissions and contribute to the achievement of the objective of the Convention, while at the same time addressing domestic development needs and priorities.

Despite the ambition of Uganda's proposed contribution, additional assistance would enable Uganda to increase its resilience and realise greater Greenhouse Gas emissions reductions. Uganda's contribution therefore includes a range of additional measures in key priority sectors based on the potential to reduce GHG emissions, provide development benefits and adaptation co-benefits. An example of one of these key sectors is agriculture. Approximately 80% of the population is directly reliant on the agricultural sector for their livelihood. It is also one of the most vulnerable to climate impacts, and represents significant additional mitigation potential.

Accessing additional support to achieve the measures outlined in this Intended Nationally Determined Contribution would significantly increase the ability of Uganda to achieve more ambitious action in this and other key sectors.

5. Means of implementation

In order to fully implement the aforementioned adaptation and mitigation priority actions, some cross-cutting initiatives must be undertaken. Capacity building, technology transfer and finance are the most important needs in Uganda. Specific national needs are:

- Access to and diffusion of appropriate clean technologies;
- Promotion of renewable energies and energy efficiency, including the involvement of the private sector;
- Research into climate smart and sustainable agricultural practices, including dissemination of good practices;
- Scaling up Climate Smart Agriculture
- Improving national policies and legislation; enhancing climate change education, training and public awareness;
- Building of climate information systems;
- Setting up of public-private partnerships; and
- Mainstreaming gender into development policies, plans and strategies as well as observance of human rights in all climate change adaptation and mitigation actions

In this context, in addition to the specific adaptation and mitigation strategies included above, the Government of Uganda plans to:

- Promote and enhance climate change education, public awareness and capacity development through communication, training, information and knowledge management;
- Provide adequate support for policies and programmes that take into account the interactions between population dynamics, climate change and development, including the link between the national and sub-national governments;
- Promote climate change research and development and information exchange in all sectors impacted on by climate change;
- Promote and encourage the development, transfer and diffusion of climate technology; and
- Promote and encourage the mainstreaming of gender considerations in climate change issues.

The Government of Uganda will continue to commit significant resources to climate change-relevant strategies. Ugandan communities, private sector and NGOs can also contribute significantly to these climate change-related activities, for instance through public-private partnerships and payment for ecosystem services schemes.

However, the full implementation of the priority adaptation and mitigation actions is conditional on the support of international stakeholders. The implementation of the prioritised policies and actions assume the continued use of existing and planned national and international financial sources. As set out in the National Climate Change Policy and Costed Implementation Strategy, national sources are assumed to cover approximately 30% of incremental costs of the activities in the next 15 years, with 70% assumed to originate from international sources.

The National Climate Change Policy and Costed Implementation Strategy estimated that Uganda will require United States dollars 2.9 billion over the next 15 years to address the impacts of climate change in addition to the existing interventions. This represents approximately 1.2% of the country's Gross Domestic Product (GDP) per annum over the next 15 years (GDP at market prices as of 2011).

For adaptation:

- The total adaptation cost in the adaptation priority sectors is estimated at around United States dollars 2.4 billion over the next 15 years.
- During the next five years (short term) the cost of adaptation in these eight sectors is estimated at around United States dollar 537.1 million.
- On an annual basis this amounts to $107.4 million, which is around 6.6% of net Overseas Development Assistance received by the country in 2013 and 4.2% of total government revenues (excluding grants) in 2012.
- In the future, the adaptation budgets in these sectors rise significantly: to United States dollars 936.8 million for 2021-2025 and United States dollars 932.1 million for 2026-2030.
- Climate Smart Agriculture Programme (2015-2025) is estimated at United States 476.0 million

For mitigation:

- The total costs of the activities in the priority mitigation sectors are uncertain.
- The upfront capital investment for the renewable energy installations has been estimated at United States dollars 5.4 billion over the next 10 years.
- The initial costed plan for the National Climate Change Policy indicates costs of around United States dollars 36 million over the next ten years for the implementation of measures in the forestry sector.
- These costs will be adjusted as more evidence-based information is obtained (mainly from the costed national Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+) Strategy).
- The achievement of the target in the forestry sector assumes continuation of existing supported measures in the sector and in particular financial flows through the implementation of REDD+.
- The costs of the additional policies and measures are included in the above information where available, but will largely need to be assessed at a later stage.

- Uganda intends to meet its commitments and/or increase the level of its contribution through the use of international market mechanisms where appropriate, building upon the experience of the Clean Development Mechanism and other existing market mechanisms.

Annex I: Potential impact of the mitigation contribution

This Annex provides further details for the emission reduction potential of Uganda's prioritized measures in energy supply, forestry and wetlands.

The estimations are approximate, and are presented for indicative purposes only. Uganda proposes to implement the aforementioned policies and measures and their impact may be higher or lower than these estimations illustrate.

As shown in Figure 2, the cumulative impact of these measures could result in approximately 22% reduction of overall national emissions in 2030, including Land Use Land Use Change and Forestry, compared to the business-as-usual (BAU) projection. The BAU emissions baseline for Uganda, including LULUCF, is 77.3 Million tons Carbon dioxide equivalent per year in 2030, according to projections in the Background Paper for the 2012 Climate Change Policy. Total emissions in 2000 were 36.5 per annum MtCO2e.

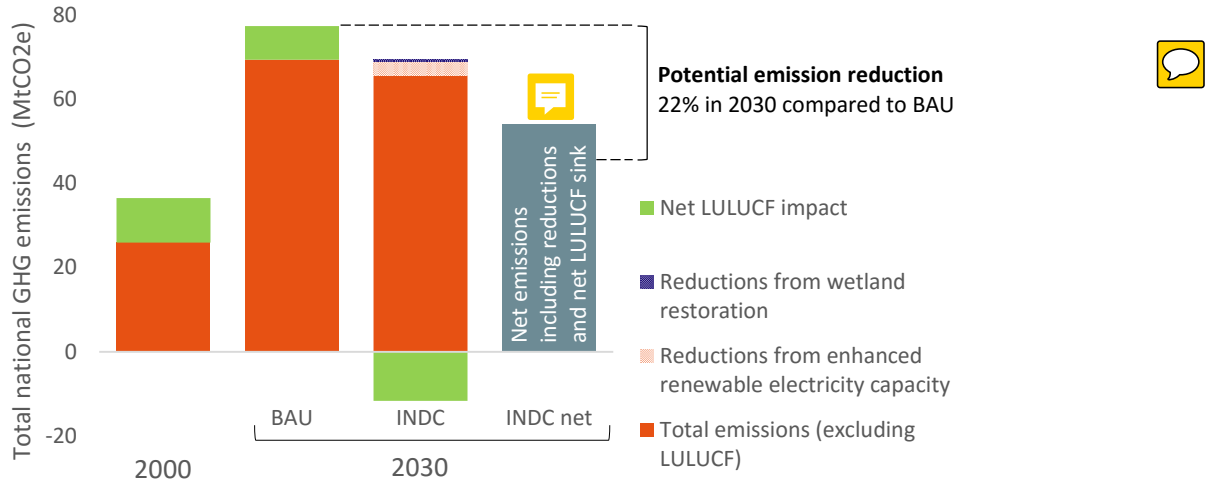

Figure 1: Illustration of mitigation potential from prioritized policies and measures

Energy sector (supply)

The Intended Nationally Determined Contribution energy sector measures will increase the amount of renewable energy capacity by at least 1,100 Mega Watts compared to business- as- usual by 2030, generating an estimated 4.6 - 5.2 Tera watts (TWh) (million watts) more than in the business-as-usual scenario case. Technologies include hydro, solar, biomass and geothermal. The mitigation impact is

forecast to be between 2.7 Million tons Carbon dioxide equivalent per year (MtCO2e/a) and 3.7 MtCO2e/a. The mid-point is taken as 3.2 MtCO2e/a.

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Forestry

The proposed afforestation measures will reverse the trend of deforestation and convert the Land Use Land Use Change and Forestry sector from a source of net emissions (approximately. 8 Million tons Carbon dioxide equivalent per in 2030 under business-as-usual to a source of net removals (approximately. -11.7 Million tons carbon dioxide equivalent per year in 2030 under the Intended Nationally Determined Contribution). The estimated range of net emission reductions compared to business-as-usual in 2030 is between 16.9 Million tons Carbon dioxide equivalent per year and 22.2 Million tons Carbon dioxide equivalent per year. .

Wetland restoration

The proposed measures for wetland restoration will result in approximately 260,000 hectares of new or restored wetlands. Due to the uncertainty about the potential methane emissions, the annual mitigation impact could be between 0.8 MtCO2e, and net zero. For the aggregated indication, a mid-point value of 0.4 MtCO2e is taken.