



BELIZE

(INDC)

Submitted to the UNFCCC on 1 October, 2015

## **1. National Context**

Belize is a small country with relatively minor contributions to global greenhouse gas emissions and has limited capacity to contribute to mitigation of global climate change. However, Belize is committed to achieving the ultimate objective of the Convention and supports the even more ambitious target to limit the increase in global average temperature to 1.5 ° C, compared to pre-industrial levels. In light of these realities, the country has made significant strides towards fulfilling the objectives of the Convention through the development and implementation of new policies, projects and programmes and the implementation/strengthening of existing policies, regulations and projects geared towards GHG emissions abatement and overall low carbon development.

Belize is pleased to submit the first draft of its INDCs and is made on behalf of the government of Belize by the Climate Change Focal Point, without prejudice to the pending Cabinet consideration of the INDCs for which the outcome of Cabinet consideration may be different to the one submitted. Belize intends to utilize existing frameworks, policies, projects and activities that provide mitigation and sustainable development co-benefits to conceptualize the elaboration of its INDCs.

## **2. Belize's Mitigation Potential**

Belize's mitigation potential will largely depend upon national circumstances, capacity and support. Belize's emissions profile is symptomatic of several factors including:

1. Vast extent of natural resources – a network of waterways and water bodies including 16 watersheds and numerous smaller ones), approximately 69 % remains under natural vegetation while 39.1% of the terrestrial area is made up of protected forests, and a great variety of terrestrial, marine and freshwater ecosystems<sup>1</sup>
2. Socio-economic dependence on those resources for livelihood and for sustaining economic growth particularly through agriculture and tourism sectors;
3. A rapidly growing population (with over a third in poverty and a largely unskilled labor force).

#### 4. Concomitantly increasing energy demands

Belize has developed several important policy frameworks over the last decade to respond to these issues with: (1) Horizon 2010-2030, (2) National Energy Policy Framework (2012-2017) (3) Sustainable Energy Action Plan 2014-2033 (4) National Climate Resilience Investment Plan (5) Growth and Sustainable Development Strategy 2014- 2017 and (6) the National Climate Change Policy, Strategy and Action Plan (2015-2020).

Horizon 2010-2030 is the national development framework that was developed after extensive stakeholder consultation inclusive of all political parties. One of its four main pillars is responsible environmental stewardship. The strategies to achieve this pillar namely integrating environmental sustainability into development planning and promoting sustainable energy for all, address the areas of concern earlier pointed out.

The National Energy Policy Framework aims to provide options that Belize can pursue for energy efficiency, sustainability and resilience over the next 30 years.

The Sustainable Energy Action Plan is a tool to achieve Belize's renewable energy and energy efficiency potential while meeting the Government's economic social and environmental goals. It provides a framework of actions and tasks to overcome barriers to sustainable energy for the period 2014-2033.

The National Climate Resilience Investment Plan provides the framework for an efficient, productive and strategic approach to building economic and social resilience and development. Special importance is given to building climate resilience and improving disaster risk management capacities across all sectors.

Growth and Sustainable Development Strategy is the guiding development plan for the period 2014 – 2017. It adopts an integrated, systemic approach and encompasses medium-term economic development, poverty reduction and longer-term sustainable development issues.

National Climate Change Policy, Strategy and Action Plan (NCCPSAP), 2015-2020, provides policy guidance for the development of an appropriate administrative and legislative framework, in harmony with other sectoral policies, for the pursuance of a low-carbon development path for Belize. In addition, the NCCPSAP also seeks to encourage the development of the country's Intended National Determined Contribution (INDC) and communicate it to the UNFCCC.

### 3. Mitigation

The first draft of Belize's INDCs focuses on its mitigation contribution and is framed on an action-based approach that is dependent on cost effective technology, capacity building and adequate financial support. Belize intends to provide information on adaptation at a later stage.

#### **Information to facilitate clarity, transparency and understanding**

Decision 1 CP/20 para 11 states that "small island developing states may communicate information on strategies, plans and actions for low greenhouse gas emission development..."

Belize considers that the upfront information provided addresses sectors with significant contribution to Belize's greenhouse gas emissions and satisfies the

requirement of clarity, transparency, and understanding of the aggregate effect of contributions to the achievement of the 1.5 degree C goal.

Name of Activity	Belize's mitigation actions, based on technology, financial and capacity building support are:
National REDD+ Strategy	Belize's contribution will address issues of deforestation and afforestation, maintaining healthy forest ecosystems by sustainable forest management, and increasing the resilience of human communities, especially those whose livelihoods depend on the use of forestry resources. Therefore, Belize will reduce greenhouse gas emissions from deforestation, and from forest degradation, conservation of forest carbon stocks, sustainable management of forests, enhancement of forest stocks through the development of a REDD+ strategy.
Key Biodiversity Protected Areas	Belize's contribution will also address the management and protection of key biodiversity areas that will support forest protection and sustainable forest management plans and practices in targeted Protected Areas (PAs), rehabilitation of critical areas of high conservation value by local communities, and community-based sustainable use of ecosystem goods and services; (ii) improving management and monitoring of PAs, including development and implementation of management plans in the targeted PAs, and improving legal framework for the protection of biodiversity and forests;
Transport Sector	<p>Belize's contribution is to achieve at least a 20% reduction in conventional transportation fuel use by 2033 and promote energy efficiency in the transport sector through appropriate policies and investments:</p> <p>These improvements include:</p> <ul style="list-style-type: none"> <li>• Undertaking a traffic management study aimed at reducing traffic congestion in urban areas and along the Philip Goldson Highway into Belize City;</li> <li>• Improving public transportation;</li> <li>• Upgrading maintenance of bus fleet;</li> <li>• Improving scheduling;</li> <li>• Upgrading the industrial fleet;</li> <li>• Promoting the use of bio-fuels;</li> </ul>
Sustainable Energy Plan	<p>Belize's contribution will be conducted through its Sustainable Energy Action Plan to improve energy efficiency and conservation in order to transform to a low carbon economy by 2033. The Sustainable Energy Action Plan has as its objective the reduction of Belize's GHG emissions by 24 million metric tonnes of CO<sub>2</sub>e over the period 2014-2033.</p> <p>In addition, Belize expects to increase its share of its renewable energy (RE) in Belize's electricity mix by 85% by 2027 with a 62% carbon dioxide emissions reduction compared to a business as usual scenario (BAU).</p> <p>The strategic elements in the Plan are as follows:</p> <ol style="list-style-type: none"> <li>1. Improve Energy Efficiency to dramatically lower energy intensities</li> </ol>

	<p>across key economic sectors Transport, Industry, Buildings (Commercial &amp; Residential), Public lighting and Agriculture</p> <ul style="list-style-type: none"> <li>• Improve energy efficiency in buildings and appliances.</li> <li>• Promote transition to sustainable transportation.</li> <li>• Develop appropriate financial and market-based mechanisms that support energy efficiency and renewable energy.</li> </ul> <p>2. Develop Renewable Energy to shift the energy matrix away from fossil fuels (especially oil) to alternative renewable energy technologies.</p> <ul style="list-style-type: none"> <li>• Develop Belize’s human, technological and institutional capacity to accelerate the uptake of appropriate clean energy and clean production technologies.</li> </ul> <p>3. Promote and facilitate Clean Production systems in the processing of Agriculture and Forestry outputs to co-produce bio-fuels and/or electricity.</p> <ul style="list-style-type: none"> <li>• Promote the adoption of appropriate processing technologies to convert biomass from waste, forestry, agriculture and microbial production into food, feed, fibre, chemicals and energy (electricity, heat and bio-fuels).</li> </ul> <p>4. Enhancing national capacity in clean energy and clean production by developing human, technological, and institutional resources.</p> <ul style="list-style-type: none"> <li>• Build the capacity of the Ministry of Energy, Science &amp; Technology and Public Utilities (MESTPU) and supporting institutions with regard to effectively fulfilling their mandates.</li> <li>• Strengthen the ongoing development of an appropriate legal and regulatory framework, and other policy mechanisms to support the mainstreaming of the clean energy and clean production technologies.</li> <li>• Strengthen the Planning and Coordination functions of the MESTPU.</li> </ul> <p>5. Promote and support universal access to affordable modern energy services including energy infrastructure.</p> <ul style="list-style-type: none"> <li>• Expand access to electricity, clean fuels, water and sanitation for under-served communities and households.</li> <li>• Upgrading the electric grid and supply infrastructure to make it a smarter, more unified and integrated energy system</li> </ul>
<p>Nation-wide improvements in the management of solid waste and reduction in the generation of GHG emissions.</p>	<p>Develop and implement a country-wide Integrated Solid Waste Management Programme for Belize. Such a programme will seek to address and enhance current initiatives including:</p> <ul style="list-style-type: none"> <li>• Institutional strengthening</li> <li>• Waste segregation, storage, collection and transport,</li> <li>• Waste minimization, re-use and recovery</li> <li>• Education awareness ad stakeholder communications</li> </ul> <p>Develop a solid waste mitigation strategy, and a detailed nationally appropriate mitigation action (NAMA) plan, including measuring, reporting and verification (MRV) and financing and support options for Clean Development Mechanism (CDM) projects, capping and closing open dumps, capturing and utilizing landfill gas, and ensuring proper waste handling and organics management.</p>
<p>Scope and coverage</p>	<p>Sectors covered: Energy and Land Use, Land Use Change and Forestry Gases covered: carbon dioxide</p>

Geographical coverage:	The INDC contribution will be national.
Intention to Use Market Mechanisms	Belize is willing to explore the potential of market mechanisms including CDM and other mechanisms under the UNFCCC process that demonstrate environmental integrity, result in real, permanent, additional, verified mitigation outcomes, prevent double counting and be easily accessible.
Assumptions and methodological approaches for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals	<p>The methodology for calculating emissions reductions for the electricity sector was based on the energy demands and consumption over the period 2014-2025.</p> <p>Greenhouse gas emission reduction from Land Use, Land Use Change and Forestry is not yet determined.</p>
Conditionality	Each activity is geared to address the sectors with significant contributions to Belize's greenhouse gas emissions. These are activities for which Belize will access international support for finance, technology and capacity and most importantly have the potential to provide co-benefits for sustainable development.
Unconditional	Enabling the existing policies, laws and projects, staff time and integration of development and climate change activities.

### 3. Fairness and Ambition

Currently Belize as a Small Island Developing States contributes less than 0.01 percent to the global emissions and accounts for a small share of past and current greenhouse gas emissions. Yet, Belize remains committed to strategically transition to a low carbon and climate resilient future and provides a fair contribution to the global efforts towards reaching a legally binding agreement in COP 21 in Paris.

## Additional information

### Belize's Climate Change Action Plan

Belize's Climate Change Action Plan focuses on building the capacity and resilience of the country to meet the challenges of climate change. In Belize, like most SIDs, GHG emissions are relatively small, but international commitments as well as opportunities to benefit from associated mitigation initiatives (reduced deforestation and energy conservation) has prompted their inclusion in the development of the National Climate Change Policy Strategy and Action Plan. Agriculture, land-use change and the forestry sector are considered prime areas for Climate Change adaptation but are also known to be contributors to GHG emissions and will require the development of policy initiatives to reduce such threats. The energy and transportation sectors, because of the benefits to be derived through the pursuit of sustainable energy and low-carbon development initiatives, will also require policy initiatives which seek to limit emissions of GHGs. Belize identified the following key sectors for which adaptation and mitigation strategy and action plans will be addressed are:

- Agriculture
- Forestry
- Fisheries and Aquaculture
- Coastal and Marine Resources
- Water Resources
- Land use and Human Settlements
- Human Health
- Energy
- Tourism
- Transportation
- Solid Waste
- Infrastructure

Enhance Food security and sustainability as per Article 2 of the Convention: Agriculture is critical to Belize's development, given its importance both in terms of food self-sufficiency, employment, and being one of the country's major exports and earnings of foreign exchange. Belize has developed a National Agriculture Sector Adaptation Strategy to Address Climate Change in Belize, in order to combat the detrimental effects of Climate Change. These recommendations include both short and long-term measures to address critical gaps in technological developments relevant to crop production, better soil management practices, diversification into drought resistant crops and livestock, and farm production adaptations which include, but is not limited to, land use, land topography and increasing use of low-water irrigation systems<sup>ii</sup>.

The estimated cost for planned activities totals approximately USD \$13,000,000.

Integrating Climate Change in Revised National Forest plan: Belize is well known for its pristine forests and is reported to have the highest forest cover in both Central America and the Caribbean (62% as a percentage of land, 37% of which are primary forests).

However, the forests of Belize (and its biodiversity), like other natural resource sectors, are anticipated to be impacted by the various manifestations of Climate Change. The proposed interventions to mainstream adaptation and mitigation to Climate Change will be achieved by providing guidance for actions that concerns the direct and indirect threats posed by global Climate Change on forests and forest dependent people in order to reduce their vulnerability, increase their resilience and adaptation to Climate Change. The estimated cost for planned activities totals approximately USD 5,158,000.

**Sustainable management of the Fisheries Sector:** The fisheries sector is important to Belize because it is an important food source, provides an income and livelihood for several persons as well as an earner of important foreign exchange. Given the importance of the fisheries sector as a source of food and earner of foreign exchange, it is imperative that management measures are introduced to ensure its sustainability including addressing the threats of Climate Change. Interventions under the fisheries sector aim to achieve the sustainable management of the fisheries resources, and the conservation and preservation of fisheries resources and marine habitats in promoting reef ecosystem resilience. Estimated cost is approximately USD 500,000-750,000.

**Adoption and Implementation of the Belize Integrated Coastal Zone Management Plan:** The importance of the coastal zone in the productive sector of Belize is increasing rapidly. Most industries in Belize are either directly or indirectly reliant on some component of the coastal environment to function. Industries such as fishing and tourism are dependent on the organisms that inhabit the coastal area to sustain them. Other industries such as agriculture, aquaculture, and petroleum use the coastal waters to transport their products, thereby allowing them to engage in overseas trade. Rapid economic development, directly attributed to tourism and recreational activities and population growth, have led to increasing pressures on coastal and marine resources, with implications to the livelihoods of those that depend upon them. These anthropogenic threats are compounded by natural hazards, global warming and rising sea levels and the vulnerability of sensitive coastal ecological systems to Climate Change. It is therefore, imperative to ensure that the coastal zone is managed and utilized in a manner that will continue to support important ecological functions, as well as social, cultural and economic prosperity for current and future generations. The overall objective is to promote the adoption and implementation of the Belize Integrated Coastal Zone Management Plan which will ensure responsible and sustainable use of Belize's coastal and marine resources in the face of Climate Change. The cost of activities to promote the adoption and implementation of the Belize Integrated Coastal Zone Management Plan is estimated at approximately USD 500,000 annually.

**Improved integrated water resource management:** Due to its geographic location, relatively high level of forest cover, and 18 different water catchment areas, Belize is recognized as having an adequate supply of freshwater. However, like other resource sectors, a number of anthropogenic factors (increases in demand due to expansion in the agricultural, industrial and tourism sectors, a growing population and accompanying water pollution and watershed destruction), together with impending threats of Climate Change, are placing a heavy strain on the sustainability of this resource. The overall goal is to enhance the protection and restoration of forest ecosystems and build the resiliency of water catchment areas. Resources including estimated cost for the following planned activities are yet to be determined.

**Integrate Climate Change in the Tourism sector:** In Belize, like most other SIDS, most of the tourist assets are located within the narrow coastal belt and the growth of the industry is perceived as having a potential detrimental effect on the environmental resources on which it is dependent. The goal is to assess the vulnerability of Belize's tourism system to Climate Change and ensuring the mainstreaming of Climate Change considerations throughout the sector to enhance ecosystem resilience, equitable distribution of tourism activities and fostering of sustainable tourism development, at a local and national scale.

**Building resilience of human settlements:** The strategy is to promote the adoption of an integrated land tenure and land classification policy and developing and implementing programmes which discourage the establishment of human settlements in areas prone to natural hazards (flooding, land slippages, high winds and storm surges), and develop housing and settlement patterns/practices that enhance Climate Change adaptation and are resilient to Climate Change.

The resources included estimated cost for the following planned activities are yet to be determined.

**Enhance resiliency of Transportation sector:** Several of Belize's roads and bridges are vulnerable to seasonal floods. Belize's waterways also become un-navigable during certain periods. In the absence of a transport policy, it is imperative that a vulnerability assessment is undertaken with greater focus being placed on assessing the vulnerability of the transport infrastructure, particularly in urban areas and other areas which are critical in sustaining the country's productive sectors (tourism, agriculture and ports). An improved and energy efficient transport sector will not only reduce the country vulnerability to storm surges and floods, but also assist in reducing GHG emission. The resources included estimated cost for the following planned activities are yet to be determined.

**Strengthened and improved human health:** It is important that the Ministry of Health undertake a Vulnerability and Capacity assessment for the health sector. This is important for the country to be well informed of the impacts of Climate Change on the health sector and the adoption of practices and technologies that will reduce exposure and health impacts from extreme heat, and improve physical infrastructure of health institutions and their functional capacity. The resources included estimated cost for the following planned activities are yet to be determined.

**Improved waste management:** Until a few years ago, the uncontrolled dumping and burning of garbage, as a form of final disposal throughout Belize, was quite common. Such practices, compounded by inadequate waste collection systems and the lack of technical and environmental controls have impact on the health of the population and pollution of the nearby ocean, thereby affecting coral reefs and affecting the livelihood of thousands of Belizeans whose livelihoods are directly and indirectly linked to fishing and eco-tourism. The overall goal is to implement a National Integrated Waste Management Programme including programmes to reduce, reuse, recover and recycle, solid waste and reduce GHG emissions into the atmosphere.

The resources included estimated cost for the following planned activities are yet to be determined.

#### National Climate Resilience Investment Plan

The Government of Belize developed its National Climate Resilience Investment Plan (NCRIP) that seeks to improve Belize's climate resilience to support the country's economic growth and safety of its citizen. It is a cross-sectoral plan that identifies both physical and non-physical interventions that take into account current and future risks posed by current and future climate variability. The NCRIP is expected to be integrated by Government of Belize into its Growth and Sustainable Development Strategy and is aligned with the Horizon 2010-2030. The cost of implementation is approximately USD 231.4 million.

---