

# **Intended Nationally Determined Contribution of Jamaica**

## **Communicated to the UNFCCC**

### **1. The National Context**

Jamaica is a member of the group of Small Island Developing States (SIDS). An island nation in the Caribbean Sea, it is part of the group of islands known as the Greater Antilles that also includes Cuba, Puerto Rico, and Hispaniola, and of the Caribbean sub-region more generally. Jamaica acceded to the United Nations Framework Convention on Climate Change (UNFCCC) in 1995.

As a small island developing state, Jamaica is particularly vulnerable to the impacts of climate change not only in terms of our natural resources, but also its economic development, as sectors such as tourism, agriculture, fisheries, forestry and water are climate sensitive, as is social wellbeing. Jamaica's susceptibility to natural disasters has proven to be a major threat to the stability of human settlements and infrastructure.

At the international level, as a Party to the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, Jamaica has been active in negotiations pressing the case of small island developing states (SIDS) for there to be substantial reductions in the emission of greenhouse gases (GHG) and for adequate funding to be made available to assist SIDS which are not responsible for the high levels of GHG emissions. Despite not being a major emitter, Jamaica is nonetheless playing its part in reducing its GHG emissions through 'no regrets' mitigation actions, which can lead to reduced emissions as well as cost savings and social and environmental benefits for the country. Jamaica will also focus in the UNFCCC negotiations on approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events, as where there are constraints and limitations to adaptation, then other means of addressing economic loss and damage from climate change impacts will have to be found.

*Vision Statement: Jamaica achieves its goals of growth and prosperity for its people while meeting the challenges of climate change as a country with enhanced resilience and capacity to adapt to the impacts and to mitigate the causes in a coordinated, effective and sustainable manner.*

## **2. Mitigation Contribution**

### **2.1 Scope**

Jamaica's intended nationally determined contribution covers actions in the energy sector (IPCC source category 1). It includes emissions of carbon dioxide, methane, nitrous oxide, nitrogen oxides, carbon monoxide, non-methane volatile organic compounds, and sulphur dioxide. The entire national territory of Jamaica is covered by the scope.

### **2.2 Policy Actions**

As Jamaica develops economically, it is expected that there will be some continued growth in emissions. However, Jamaica has undertaken a programme of modernization of energy infrastructure, diversification of energy sources towards cleaner and renewable fuels, and incentivising efficiency that is expected to significantly reduce emissions growth over time.

Jamaica will contribute to the global GHG emissions reduction by fully implementing energy policies that will ensure, *inter alia*, that:

- Jamaicans use energy wisely and aggressively pursue opportunities for conservation and efficiency
- Jamaica has a modernized and expanded energy infrastructure that enhances energy generation capacity and ensures that energy supplies are safely, reliably, and affordably transported to homes, communities and the productive sectors on a sustainable basis
- Jamaica realizes its energy resource potential through the development of renewable energy sources by increasing the share of renewable sources of energy in its primary energy mix to 20% by 2030
- Jamaica's energy supply is secure and sufficient to support long-term economic and social development and environmental sustainability
- Jamaica has a well-defined and established governance, institutional, legal and regulatory framework for the energy sector that facilitates stakeholder involvement and engagement
- Government ministries and agencies are a model/leader in energy conservation and environmental stewardship
- Jamaica's private industry embraces efficiency and ecological stewardship to advance international competitiveness and to move towards a green economy

These policies are expressed in the National Energy Policy 2009-2030.

### **2.3 Modelled Impact of Policy Actions on Emissions Growth Trajectory**

The effect of the energy policies was modelled and compared to a 'business-as-usual' (BAU) scenario of emissions growth without policy intervention, using 2005 as a base year. Under the BAU scenario, GHG emissions would increase by 37% by 2030 (see Table 1).

Jamaica's intended nationally determined contribution will mitigate the equivalent of 1.1 million metric tons of carbon dioxide per year by 2030 versus the BAU scenario. This is a reduction of

7.8% of emissions versus BAU. This target is predicated on the current level of implementation of the National Energy Policy and the existing pipeline of renewable energy projects.<sup>1</sup>

Jamaica will conditionally increase its ambition to a reduction of GHG emissions of 10% below the BAU scenario, subject to the provision of international support. This reduction target is based on enhanced implementation of the NEP. In particular, Jamaica seeks support for the expansion of energy efficiency initiatives in the electricity and transportation sectors, in line with sector action plans and policies currently under development.

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<sup>1</sup> These include interventions currently in place such as Wigton Wind Farm, as well as some projects that are projected under scenarios outlined by the Ministry of Science, Technology Energy and Mining in previous studies.

### 3. Information to Facilitate Clarity, Transparency and Understanding

**Table 3.1: Technical information on Jamaica's INDC**

Parameter	Information
Timeframe and/or period for implementation	2005 - 2030 (with an interim target in 2025)
Scope of gases included	Carbon dioxide, methane, nitrous oxide, nitrogen oxides, carbon monoxide, non-methane volatile organic compounds, sulphur dioxide
Sectors covered	Energy <sup>2</sup>
% of national emissions covered	CO <sub>2</sub> : 94% N <sub>2</sub> O: 12% CH <sub>4</sub> : 12% NO <sub>x</sub> : 100% CO:100% NMVOCs:84% SO <sub>2</sub> :99%
Geographies covered	All national territory
Methodology for emissions accounting	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Contribution from market mechanisms	None
Type of contribution	Emissions reductions versus business-as-usual baseline growth scenario (fixed)
Base year	2005
Estimated emissions in base year	10,572 thousand metric tons of carbon dioxide equivalent (kT CO <sub>2</sub> eq)
BAU methodology	All categories of fuel used in the energy sector were assumed to grow at rates consistent with GDP growth rate, GDP per-capita growth rate or a compound annual growth rate calculated by best-fit regression on energy sector data from 2000-2005. Validation was done with data from 2005-2014. Details on the methodology used can be found at <a href="http://www.mwlecc.gov.jm">http://www.mwlecc.gov.jm</a>
BAU emission in target year	2025:13,443 kT CO <sub>2</sub> eq 2030:14,492 kT CO <sub>2</sub> eq
Mitigation scenario emissions in target year	Unconditional contribution 7.8% below BAU by 2030 2025:12,370 kT CO <sub>2</sub> eq 2030: 13,368 kT CO <sub>2</sub> eq  Conditional contribution contingent on international support: 10% below BAU by 2030 2025:12,099 kT CO <sub>2</sub> eq 2030:13,043 kT CO <sub>2</sub> eq

<sup>2</sup> The energy sector is defined in accordance with IPCC guidelines, and includes the transportation sector.

### **3.1 Choice of base year**

The year 2005 was the last year for which a complete inventory of Jamaica's GHG emissions exists.

### **3.2 Fairness and Ambition**

As modelled, Jamaica's INDC will result in emissions of the equivalent of 4.7 metric tons of carbon dioxide per person by 2030 (versus the equivalent of 5.1 metric tons of carbon dioxide per person under the BAU scenario). Global emissions of 4.8 equivalent metric tons of carbon dioxide per person by 2030 are consistent with 1.5 °C of warming. This target is more ambitious than the global goal of 2 °C, and consistent with Jamaica's long-standing negotiating position.

## **4. Planning Processes for Implementation**

Jamaica will implement this INDC through the Climate Change Policy Framework and the National Energy Policy 2009-2030. Additionally, Jamaica has developed a nationally appropriate mitigation action for the scale-up of renewable electricity that will be central to the full implementation of this INDC.

Institutionally, the Climate Change Division of the Ministry of Water, Land, Environment and Climate Change will be responsible for coordinating actions among government ministries, departments and agencies to implement the INDC, as well as creating an enabling environment for necessary private sector action.

## **5. Additional Information**

### **5.1 ADAPTATION**

#### **Background**

Jamaica is experiencing changes in variability in rainfall patterns and other climate parameters. While some of these changes are due to natural variability, some are attributable to climate change. The IPCC considers inhabitants of small islands, like Jamaica, to be some of the most vulnerable to climate change. This is because climate change will impact their societies, economies and ecosystems in ways that will increase vulnerabilities; for example with regard to food security, water supply, natural disasters, and human health. The impact of climate variability has already been experienced in some of these areas.

As a small island developing state, Jamaica is particularly vulnerable to the impacts of climate change not only in terms of our natural resources, but also our social wellbeing and our economic development, as sectors such as tourism, agriculture, fisheries, forestry and water are very climate sensitive. Jamaica's vulnerability to climate change impacts is further compounded by social issues such as poverty, the location of human settlements in high risk areas, environmental degradation, and instances of poorly constructed infrastructure and housing.

The severe weather events which have impacted the country over the years have severely/significantly affected the country's economic growth and development. Between 2001 and 2012, Jamaica experienced 11 storm events (including 5 major hurricanes) and several flood and drought events. These events resulted in combined loss and damage amounting to approximately J\$128.54 billion. In 2004, Hurricane Ivan caused losses equivalent to 8.0% of GDP. Hurricane Sandy (2012) accounted for J\$9.7 billion or 0.8% of 2011 GDP in direct and indirect damage, as well as increased expenditure by private and Government entities. The health, housing and education sectors experienced the greatest impact accounting for 48% of the total costs in damages. One death and 291 injuries resulted from Hurricane Sandy. These are but a few examples of the impacts of increased frequency of natural disasters.

### **Adaptation Planning Process**

At the national level, a number of projects on adaptation to climate change have been implemented. These include community-based adaptation and initiatives to raise the awareness of the public in general, and vulnerable groups in particular, regarding the impacts of climate change and how it can be addressed.

Jamaica's Vision 2030 Jamaica - National Development Plan provides the framework to ensure that climate change issues are integrated into national policies and development activities. The issue of adaptation to climate change is specifically addressed under National Outcome #14 'Hazard Risk Reduction and Adaptation to Climate Change'. The key related national strategies are: (i) develop measures to adapt to climate change, and (ii) develop mechanisms to influence the global rate of climate change.

Jamaica's Climate Change Policy Framework was prepared under a GoJ/EU/UNEP Climate Change Adaptation and Disaster Risk Reduction (CCADRR) Project. The policy development process involved a number of consultations, using as a basis, Vision 2030 Jamaica - National Development Plan and Jamaica's Second National Communication on Climate Change to the United Nations Framework Convention on Climate Change. The Climate Change Policy Framework is intended to support the goals of Vision 2030 by reducing the risks posed by climate change to all of Jamaica's sectors and development goals.

The Climate Change Policy Framework outlines the objectives, principles and strategies that the country will employ in order to effectively respond to the impacts and challenges of climate change, through measures which are appropriate for varying scales and magnitudes of climate change impacts. It is expected that, on the basis of this Policy Framework, the relevant sectors will develop or update, as appropriate, plans addressing climate change adaptation and mitigation.

The objectives of the Policy Framework are:

- I. To mainstream climate change considerations into national policies and all types and levels of development planning and to build the country's capacity to develop and implement climate change adaptation and mitigation activities.
- II. To support the institutions responsible for research, data collection, analysis and projections at the national level on climate change, its impacts, and appropriate

adaptation and mitigation measures, to facilitate informed decision-making and strategic actions at all levels.

- III. To facilitate and coordinate the national response to the impacts of climate change and promote low carbon development.
- IV. To improve communication at all levels on climate change impacts and also adaptation and mitigation related opportunities so that decision makers and the general public will be better informed; and
- V. To mobilize climate financing for adaptation and mitigation initiatives

The main sectors for the development of climate change strategies and action plans are tourism, agriculture, fisheries, forestry, water, energy, industry, human settlements and coastal resources, marine resources, human health, transportation, waste management, education, finance and disaster risk reduction and response management.

Jamaica intends to implement early actions to address our adaptation efforts through a number of Special Initiatives.

### **Institutional Framework and Actions Taken**

Since 2012, Jamaica has raised the profile of climate change issues by assigning the portfolio to a Ministry. Additionally, Jamaica has established a Climate Change Division (CCD), with a specific mandate to address climate change issues including adaptation.

Jamaica is in the process of appointing a Climate Change Advisory Board (CCAB) which shall comprise representatives of the public and private sectors, academia and non-governmental organizations appointed by the Minister with portfolio responsibility for climate change. This Board will provide a platform for the exchange of scientific and technical information on climate change and related issues of importance to Jamaica and advise the Minister and the CCD.

The Government has recognized that, given the cross-cutting nature of climate change, there is an urgent need to develop an integrated approach in order to effectively build resilience at all levels and to have the required enabling policies in place. To facilitate a multi-sectoral approach to climate change, the Government of Jamaica has established the Climate Change Focal Point Network (CCFPN), comprising representatives from key Ministries, departments and agencies. The focal points are responsible for coordinating the development and implementation of their respective sectoral strategies and actions with respect to climate change in collaboration with the CCD, and the integration of climate change considerations into their respective policies, plans and programmes. The focal points will ensure the preparation and provision of periodic monitoring reports on these strategies and action plans to the CCD, and have been provided with climate risk screening tools and other training to facilitate climate resilience in policy and project development. Over time, representation on the Network will be expanded to the sub-national level, to include representation from local government, civil society groups, community organizations and the private sector, to increase the reach and participation.

In addition, Jamaica is currently working on several sector strategies and action plans within the forestry, agriculture and fisheries sector. Additional sectors expected to be actioned in the near-term include human health, tourism, water, human settlement and coastal resources, transport, energy, waste and finance sectors. Jamaica is currently preparing its third National Communication and first Biennial Update Report with a focus on the health, forestry, agriculture, water and tourism sectors.

Jamaica has already taken steps to assist the public and private sectors, community based organizations and non-governmental organisations in implementing adaptation efforts by making it easier to access funding as well as avenues for capacity building activities, including training in communication of climate change information. The country has also prepared, in collaboration with other regional governments and the UNEP, a proposal to support the implementation of an Urban Ecosystem-Based Adaptation project in the capital city of Kingston. This Project will increase the resilience of Kingston using ecosystem based approaches.

In May 2009, Jamaica accepted the offer extended by the Sub-Committee of the Pilot Program for Climate Resilience (PPCR) to participate in the PPCR as one of the six countries in the Caribbean regional pilot program. The other five countries are Grenada, St. Vincent, St. Lucia, Dominica, and Haiti. The pilot programmes and projects that are being implemented under the PPCR in Jamaica are to be led by the Planning Institute of Jamaica, a statutory body under the Ministry of Finance & Planning, and the Ministry of Water, Land, Environment & Climate Change. The PPCR will build on the Hazard Risk Reduction and Climate Change Adaptation component of Vision 2030 Jamaica - National Development Plan and the Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC).

The implementation of additional actions to increase resilience by reducing vulnerability is severely constrained by limited/access to financial resources, data, knowledge and awareness, technical capacity, and human resources. Actions on which Jamaica intends to follow through, with provision of support (some of which have already started) will include:

- Development of sectoral climate change strategies and action plans and the integration of climate change considerations in national policies and sectoral and local development plans and programmes.
- A comprehensive climate change awareness and education programme, targeting politicians, policy makers, the private sector and the general population.
- A national spatial plan.
- Implementation of high priority adaptation programmes/projects with cross-cutting and national impact in the water, agriculture, tourism, health, human settlement and coastal resources sectors.
- Prioritising data-gathering in all national climate change related proposals or projects.
- Investment in the installation and maintenance of automatic weather stations at strategic locations across the island. This includes training in the skill set to keep the stations operational.
- Implementing a central and secure national database for climate data.
- Strengthening the human and technical capacities for real time monitoring of climatic variations.
- Enhancing research capacities (e.g. at Universities, National Meteorological Service) to undertake climate variability research specific to Jamaica.



- Downscaling existing global climate models to national and sub-national scales.
- The pursuit and generation of new downscaled future scenarios premised on the representative concentration pathways (RCPs) being focussed on by the IPCC.
- Wide dissemination of information.