Draft Climate Change Policy of the Turks and Caicos Islands

Climate Change in Your Hands

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Climate Change Committee

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INTRODUCTION

Climate change describes the steady increase in the temperature of the Earth's atmosphere and ocean due to human activity and the consequent changes in sea level, rainfall patterns, severe weather events, and other aspects of climate. This phenomenon is now squarely on the global stage as one of the defining challenges of our time.

As a result the Turks and Caicos Islands must seek to adapt to a changing climate. The first step in this adaptation is the development of a Climate Change Policy for the Islands. As part of the Turks and Caicos Islands ongoing efforts to strengthen private and public sector institutional capacities to respond to climate change, the then Ministry of Natural Resources in collaboration with the Caribbean Community Climate Change Centre (CCCCC) and the United Kingdom Department for International Development (DFID) embarked on the development of a ***National Climate Change Adaptation Strategy and Action Plan*** and a ***Public Education and Outreach Strategy***. The end result of this collaboration is the development of a useable Climate Change Policy for the Turks and Caicos Islands.

This draft climate change policy is part of an ongoing consultative process designed to identify gaps, and priorities and options for further action as it relates to climate change impacts in the Turks and Caicos Islands. It is part of a process designed to:

- Provide a high-level strategic risk and vulnerability assessment of climate change impacts for the Turks and Caicos Islands;
- To identify and prioritize risk management approaches for the Government, and regional communities.

This draft policy aims to engage further detailed thinking on the implications of climate change in an effort to map out areas of greatest climate risk and opportunity, and identify those issues and activities most in need of analysis and stewardship at a government level and the initiation of an effective and appropriate adaptation response.

BACKGROUND

The Intergovernmental Panel on Climate Change (IPCC) has confirmed that small, low-lying coastal developing states like the Turks & Caicos Islands are the most vulnerable to global climate change, and accompanying sea level rise. Responding to climate change risks

(adaptation) is therefore important and demands the attention of all key stakeholders. While Caribbean countries contributes less than 0.1% to global greenhouse gas (GHG) emissions they will be amongst the earliest and worst adversely affected by climate change. The small size compounded with a degree of isolation, concentration of communities and infrastructure in coastal areas, narrow economic base, dependence on natural resources, susceptibility to external shocks and limited financial, technical and institutional capacity are inherent vulnerabilities of small island developing states (SIDS).

The seriousness of the challenge posed by global climate change to the development prospects of island and low-lying states is reflected in the treatment of the subject in the Barbados Plan of Action (BPOA), as the first of 14 priority areas for the achievement of sustainable development. Sea-level rise with associated coastal erosion and salt water intrusion, an escalation in the frequency and intensity of hurricanes and disruptions in precipitation and to fresh-water supply are some of the features of climate change that threaten the very existence of island nations and low lying coastal states of the Caribbean.

Climate change impacts to the region are summarized below:

1. Temperature: Temperature trends in the Caribbean over the past fifty (50) years have mirrored observed global warming trends, with rises in temperatures in the range of between 1.1 and 6.4 °C (2.0 and 11.5 °F) being projected during the 21st century by 2100. Most developed countries and developing nations share the common view that global average temperatures should not rise more than 2ºC above pre-industrial levels before 2100. Limiting warming to 2ºC by 2100 will mean capping the current concentration of greenhouse gases of 430 ppm at 550 ppm, or reducing global emissions by 50% on 1990 levels by 2050.

2. Extreme Events: Climate change is projected to increase the incidents of extreme events (floods, droughts) and the intensity of hurricanes (a greater likelihood of category 4 and 5 hurricanes). Intense hurricane activity in the region was significantly higher during the 1950s and 1960s, in comparison with the 1970s and 1980s and the first half of the 1990s except, during 1988, 1989 and during 1995. Between 1995 and 2000 the region experienced the highest level of North Atlantic hurricane activity.

Hurricane activity in the region in 2004 was particularly devastating in terms of GDP in many countries with the only major exception being the Dominican Republic, where damage and losses represented less than two per cent of that country's current GDP.

These weather extremes are likely to be accompanied by stronger hurricanes bringing the potential for increased damage and larger financial losses, greater pressure on national budgets and lengthier recovery times. Direct and indirect losses from weather-related events over the

last three decades have cost the Caribbean between US$700 million and US$3.3 billion. In 2007 alone the region suffered US$10 billion in economic losses representing over 13% of GDP.

3. Sea Surface Temperature (SST): SST trends at some locations in the Caribbean nearly double those being observed over global tropical oceans. SST in the Caribbean Basin over the past two decades indicates that warming is taking place at between 0.2^{o}C to 0.5^{o}C per decade. The greatest increases in SST have been seen in the Windward Islands of the Lesser Antilles such as Grenada, St. Vincent and the Grenadines, Dominica and St. Lucia. If the average temperature of the Earth increases by 1.5°C or 2°C as projected, the accumulation of thermal stress on Caribbean coral reefs will far exceed the known mass coral bleaching thresholds across the Caribbean. About 65 percent (65%) of all marine species in the Caribbean depend to some extent on coral reefs, so the collapse of these reefs may have widespread impact on fisheries as well as the on ecology of the area. Reefs are also attractions for diving and snorkeling. Most importantly, coral reefs afford significant protection to vulnerable coastal resources and infrastructure.

4. **Sea Level Rise (SLR):** Depending upon tectonic influences, Caribbean countries are projected to experience SLR at rates between 18 to 59 centimetres by 2100. The impacts of SLR will not be uniform in the Caribbean and it is anticipated that Suriname, Guyana, Belize and the Bahamas will be most severely impacted.

5. Precipitation: Decreasing total rainfall accompanied by a change in rainfall patterns such that more heavy rain events are projected. These declines in precipitation will lead to an increase in the risk of periods of drought, which are likely to occur more frequently and be more severe.

As a consequence it is anticipated that sea-levels and global sea water temperature will increase; weather patterns will change resulting in an increase in the frequency and intensity of extreme events (droughts, floods) and possibly hurricanes. All these features combine to pose a serious threat to the Caribbean's sustainable development agenda.

The *Stern Report* commissioned by the British Government, calls for immediate action to deal with these issues and emphasizes that any delay will only result in significant increases in the costs of responding. The Report estimated that delayed action to mitigate climate change would lead to overall damage costs equivalent to losing at least 5% of global gross domestic product each year, with higher losses in most developing countries.

The *Kyoto Protocol* to the UNFCC which was ratified in 2005, as the first global agreement to stipulate mandatory cuts of GHG emissions for developed countries calls on developed countries which have ratified it to cut their GHG emissions by 5.8 % of their 1990 emissions and this between the years of 2008 and 2012. The global community is preparing to enter into negotiations for a successor treaty to Kyoto. For these negotiations a GHG emissions reduction

regime, which will result in about a 2 degree centigrade rise in global temperatures, appears to be an acceptable target for developed countries. The global emissions budget now stands at 397ppm and stabilization, at a level that would produce the projected two degree centigrade rise, would require global emissions to be stabilized at 550ppm. However for the Caribbean region struggling to cope with the vagaries of present day climate variability the $2^{o}C$ increment is unacceptable and the region should campaign vigourously to attain agreement for a much more aggressive mitigation regime that would see global temperatures stabilize below this $2^{o}C$ increment.

Against this global context CARICOM countries have considerable cause to be concerned that while the region's contribution to the GHG emissions that are causing global climate change is negligible, the threats posed to the region's development prospects are severe and that adaptation will require a sizeable and sustained investment of resources that the region is unable to provide on its own.

The region's tourism, agriculture, forestry, and fisheries sectors and its water resources are deemed to be most vulnerable to damage from climate change. Poor preparedness or the adoption of a reactive adaptation strategy will cause Caribbean countries to divert scarce resources away from development projects to relief and reconstruction arising from GCC-related events. Against this background, investing in a proactive and comprehensive strategy and plan to mitigate GCC and adapt to its impacts must be embraced by Caribbean Governments as an indispensable element of the region's economic, social and environmental resilience building effort.

Impacts of Climate Change to the Turks and Caicos Islands

The following table summarizes the potential impacts of climate change in the Turks and Caicos Islands context.

Potential Climate Change Impact	Effect
Temperature Increase	☹ Loss of terrestrial and marine species ☹ Reduced fish stocks ☹ Human health impacts including heat stress and increased vector borne disease
Increased Extreme Events	☹ Damage to physical infrastructure and natural assets such as coral reefs and vegetation
Increased Sea Surface Temperature	☹ Coral bleaching ☹ Ocean acidification ☹ Movement of marine species away from traditional habitats

Sea Level Rise	☹ Erosion of coastal areas including beaches, wetlands and coastal settlements ☹ Saline intrusion
Changes in Precipitation	☹ Depletion of limited water supplies ☹ Changes in water quality ☹ Human health impacts from increased vector borne diseases

OBJECTIVES

The Climate Change Policy of the Turks and Caicos Islands will be guided by the following objectives:

A. To educate the wider public on the potential impacts of climate change and the recommended adaptation strategies

B. To ensure the preservation of protected areas which will act as carbon sinks

C. To enhance and protect human health

D. To conserve and guarantee a sustainable supply of fresh water

E. To increase resilience to anthropogenic and natural systems to adapt to the adverse impacts of climate change, including through capacity building and the application of cleaner technologies

F. To achieve the objectives set out in the Turks and Caicos Islands Energy Conservation Policy and Implementation Strategy 2011

G. To reduce greenhouse gas emissions wherever possible as long as energy costs may be reduced

H. To achieve greater food security through sustainable agricultural production

GUIDING PRINCIPLES

The climate change policy, strategy and action plan for the Turks and Caicos Islands shall adhere to the following guiding principles:

i. The response to climate change must be applicable to the Turks and Caicos Islands in that the government will adopt strategies and actions that are easily implemented and environmentally sustainable and compatible with economic growth and social development.

ii. The response to climate change will endeavor to engage all the relevant stakeholders (public and private sectors, NGOs, research institutions, academia) and will thus require a consultative and multi-partite approach.

iii. The response to climate change must follow the precautionary approach in that the government will not await scientific certainty in order to act. The Turks and Caicos Islands will adopt a "no regrets" approach to dealing with climate change which will seek to implement strategies that will enhance the resilience of the Turks and Caicos Islands to climate change..

iv. The response to climate change must be dynamic and incorporate new evidence associated with climate change projections. As such, the policy shall be considered a working document and will be revised in the light of new scientific findings.

APPLICATION

The policy will guide the work of all government bodies, statutory, private sector, NGOs, civic entities including academia and research institutions within the Turks and Caicos Islands.

DIRECTIVES OF THE TURKS AND CAICOS ISLANDS CLIMATE CHANGE POLICY

The following section details the adaptation/mitigation strategies for climate change for key sectors in the Turks and Caicos Islands.

A. TOURISM SECTOR

- Encourage the tourism industry (including persons in accommodation, transport, attractions) to reduce energy use and conserve water resources, and not build tourism facilities in vulnerable areas.
- Enforce and improve existing laws concerning set-backs for coastal development.
- Adopt greener technologies at tourism facilities including energy efficient lighting and appliances etc.
- Revise and upgrade building codes and guidelines for developments.
- Develop a local "Green Key" certification for hotels.
- Diversify the tourism product of the Turks and Caicos Islands away from 'sun, sea and sand' to eco-tourism activities and sports tourism.

B. FISHERIES SECTOR

- Enforce the law: To improve compliance, a multi-faceted approach is needed: increase enforcement, raise local and national awareness by educating fishermen and encouraging sustainable fishing practices

- Create alternative livelihoods: Invest in creating alternative livelihoods for local fishers and create opportunities in non- extractive industries such as sustainable tourism.
- Diversify the fisheries sector to include sustainable aquaculture/encourage fish farming

- Create effective Marine Protected Areas (MPAs) to enhance resilience: Create MPAs that are effective and improve the management of existing MPAs. This includes patrolling the area for illegal fishing practices and creating "no-take" MPA zones.

C. BIODIVERSITY (TERRESTRIAL AND MARINE)

- Enhance resilience of coral reefs: Reefs with fewer stresses will be more likely to recover from coral bleaching and adapt to increased temperatures. Government should work with coastal and inland communities to enforce laws against coral reef destruction, control pollutants, and avoid damage from boats.

- Controlling coastal development through an Integrated Coastal Zone Management (ICZM) strategy can help protect reefs from long-term stresses.

- Enforce the existing laws to enhance resilience of coral ecosystems.

- Educate fishermen about best practices and the need to enhance resilience of coral reefs for ensuring their livelihood

- Develop an early warning system for marine and terrestrial invasive species

- Improve management of marine and terrestrial invasive species

- Transplant coral reefs from resilient ecological zones

- Develop artificial reefs as nurseries especially for species that are tolerant to changes in temperature

- Maintain protected areas within the Turks and Caicos Islands

- Propagate endangered and endemic plant species in order to ensure species survival in the future.

D. WATER RESOURCES

- Educate the public on water conservation measures

- Rainwater harvesting (i.e. from rooftops) and tanks: to store rain water as an alternative source of drinking water so that communities aren't solely reliant on groundwater.
- Increase resilience to heavy rain events by improving infrastructure design
- Local watershed management. Support institutions that have the authority to manage the local catchment in the interest of all stakeholders, including domestic water users; ensure there is proper accountability in these institutions.
- Build local understanding on the links between predicted climate change and the impacts that this will have on water resources at a local level.
- Educate the public on water conservation measures
- Educate the public about improving water capture in households
- Repair and expand public infrastructure for water capture and storage
- Establish a leak detection programme
- Conduct a hydrological study in the Turks and Caicos Islands to assess water availability and location
- Enhance the local weather monitoring and modeling to provide early flood warning systems
- Explore the option of using groundwater resources for specific purposes e.g.; agriculture in North Caicos
- Plan for expansion of desalination production based on the projected water demand

E. ENERGY SECURITY

- Adhere to the Turks and Caicos Islands Energy Policy and Implementation Strategy 2011
- Change the regulation of the power sector to promote economically viable renewable energy at utility scale
- Change the regulation of the power sector to promote economically viable renewable energy at distributed scale
- PPC and TCU to establish a Grid Code
- Change the regulation of the power sector to allow PPC and TCU to recover investments in energy efficiency

- Identify the best waste management solution for the TCI, and establish a clear procurement process for implementing it
- Favour the assessment and development of wind energy
- Solar Water Heaters in new buildings, and promote them in existing ones
- Promote efficient and renewable air conditioning in hotels
- Promote widespread adoption of Compact Fluorescent Lights (CFLs)
- Leave customs incentives largely as they are, but eliminate discriminations and loops for sub-standard equipment
- Mandate Energy Efficiency in the Building Code and Development Manual
- Procure an ESCO for retrofitting public buildings and marketing to large consumers
- Negotiate an arrangement for retrofitting street lights
- Outsource water operations in Grand Turk, South Caicos, and Salt Cay.

F. AGRICULTURE AND FOOD SECURITY

- Build adaptive capacity: through training and creating the information and conditions (regulatory, institutional, and managerial) that enable and support adaptation actions such as sustainable agriculture; research on climate change impacts on agriculture to provide a better understanding; awareness-raising among farmers and providing them with genetic resources for crop propagation and breeding programs; establishing databases with relevant data and information to facilitate information sharing, research and analyses
- Taking adaptive action: Taking actions that will help reduce vulnerability to climate risks or exploit opportunities; creating water collection and storage facilities on farms for use in irrigation; introducing more climate-resilient crop varieties; crop diversification; resource management tools and infrastructure.
- Promote the use of locally-grown crops and develop a warning system for invasive species that threaten agricultural production.
- Promote traditional land management practices that conserve soil fertility and biodiversity and protect ecosystem functions and processes
- Practice aggressive management of invasive species that threaten agricultural production.
- Restore degraded areas for use as arable or pastoral areas

- Invest in new technology such as hydroponics

G. HUMAN HEALTH

- Strengthening health systems to cope with the increased health threats posed by climate change, including emergencies related to extreme weather events and storm surge
- Advocacy and awareness about diseases within the Health sector and the general public
- Partnership with other agencies and other sectors at local, national, regional and international levels to ensure that health protection and health promotion are central to climate change adaptation and mitigation policies.
- Promote preventative health care and the collection and analysis of scientific data relating to incidence of disease
- Educate the public about best practices to deal with vector and water borne diseases emphasizing that prevention is better than cure.
- Improve preventative health care facilities and services as well as build the human resource capacity at these facilities
- Develop emergency response procedures that can handle pandemics and epidemics, and increases in vector and water-borne diseases.

H. INFRASTRUCTURE

- Modify the national Building Code and Development Manual where possible to address the issues of climate change as well as encourage developers to take climate change and energy conservation into consideration
- Engage local communities to extract anecdotal and traditional knowledge, to involve local stakeholders in policy planning and implementation, and to create local support for coastal management and rural development policies.
- Mandate Environmental Impact Assessments (EIAs) that include climate change considerations) for all development projects in vulnerable areas.
- Engage local communities to extract anecdotal and traditional knowledge, to involve local stakeholders in policy planning and implementation, and to create local support for coastal management and rural development policies.
- Support Integrated Coastal Zone Management (ICZM)
- Environmental Management Bill to come into force

- Make the completion of EIA's a mandatory condition for the approval of all commercial development activities,
- Prohibit illegal sand mining and preserve sand sources for beach replenishment
- Utilize recommendations in the Energy Policy
- Make requisite changes to the building code to address development in vulnerable areas.
- Develop legislation and regulations that provide deterrents and penalties for pollution and degradation to the environment
- Beach nourishment in combination with reef protection and restoration
- Revision of the Development Manual
- Develop land-use plans that promote development away from the coast. Employ land-use planning to regulate land-use practices in order to incorporate climate change impacts into decision-making processes
- Institute a mechanism for the development and implementation of shoreline management plans' and coastal zone management plans
- Mainstream climate change into conservation management and national planning processes

ACCOUNTABILITY

The responsibility of the implementation of this Climate Change Policy lies with the National Climate Change Committee which will be championed by the Permanent Secretary, Governor's Office.

Climate change components shall be reflected in the recurrent budget of departments that are intrinsically linked to implementing adaptation strategies in order to ensure the effective implementation of the policy.

MONITORING

The implementation of the Climate Change Policy will be monitored by the Climate Change Committee. Government shall review the mandate, terms of reference and composition of the body with a vision to better equip it to fulfill its mandate.

The Committee shall report to the government every four (4) months as well as at any time deemed necessary. The Climate Change Committee will acknowledge that the policy is in fact a working document and should review and amend it as necessary to ensure that the policy is useable.

The Climate Change Committee shall present annual reports on any measures that have been undertaken to implement this policy. This report should be tabled before the Government.

This policy shall be reviewed every five (5) years and the Climate Change Committee shall perform a public review of this policy to determine its overall effectiveness in achieving its objectives and update the policy based on findings of the review while simultaneously incorporating new scientific data. This review report will be presented to the Government within one (1) year of the said review.