

2011

The Virgin Islands'

Climate Change Policy

Achieving Low-Carbon, Climate-Resilient Development

Truly consensus-based "no regrets" policy interventions to reduce the adverse impacts of Climate Change and ensure long-term energy security through low carbon development



The Virgin Islands' Climate Change Policy

Achieving Low-Carbon, Climate-Resilient Development

Truly consensus-based “no regrets” policy interventions to reduce the adverse impacts of climate change and ensure long-term energy security through low carbon development

Prepared by the Conservation and Fisheries Department,
Ministry of Natural Resources and Labour

Author: Angela Burnett Penn

October 2011

Technical Report 5C/ECACC-11-10-1

Caribbean Community Climate Change Centre

Digital edition (2011)

ISBN-13 978-976-8236-34-0 (pdf)

<http://www.caribbeanclimate.bz>



Table of Contents

- I. BACKGROUND and JUSTIFICATION 4
 - OVERVIEW 4
 - POLICY DEVELOPMENT PROCESS 5
- II. CLIMATE CHANGE CONTEXT 5
 - ANTICIPATED CHANGES IN CLIMATE 5
 - IMPACTS OF A CHANGING CLIMATE 7
 - Sector Impacts 7
 - Economic Impact..... 10
- III. POLICY STATEMENT 10
- IV. POLICY GOALS AND OBJECTIVES..... 11
- V. GUIDING POLICY PRINCIPLES 11
- VI. APPLICATION..... 12
- VII. POLICY DIRECTIVES 13
 - SUMMARY OF DIRECTIVES 13
 - a) Beach & Shoreline Stability, Coastal & Marine Ecosystems, Forestry & Biodiversity, and Fisheries . 13
 - b) Tourism 13
 - c) Insurance and Banking 14
 - d) Food security: Agriculture 14
 - e) Human Health 14
 - f) Critical Infrastructure, Human Settlements, Water Resources and Hydrological Characteristics 15
 - g) Energy 15
 - SPECIFIC DIRECTIVES 16
 - a) Beach & Shoreline Stability, Coastal & Marine Ecosystems, Forestry & Biodiversity and Fisheries .. 16
 - b) Tourism Sector..... 17
 - c) Insurance and Banking 19
 - d) Food Security: Agriculture 20
 - e) Human Health 22
 - f) Critical Infrastructure, Human Settlement, Water Resources and Hydrological Characteristics 24
 - g) Energy Security 28

VIII. LEGAL IMPLICATIONS.....	32
IX. ACCOUNTABILITY	32
X. FINANCING (Climate Change Trust Fund)	34
XI. MONITORING	35

I. BACKGROUND and JUSTIFICATION

OVERVIEW

This consensus-based *Climate Change Policy* is the product of three years of consultation convened under the *Enhancing Capacity for Adaptation to Climate Change* (ECACC) project, funded by the United Kingdom Department for International Development (DFID) with technical support provided by the Caribbean Community Climate Change Centre (CCCCC).

In basic terms, Climate Change describes a change in the Earth's climate – the long term average weather conditions for various regions. Over its extensive history, the Earth's climate has gone through many transformations. However, for the first time since modern civilization, the Earth's climate is changing in a profound way – the average global temperature is warming at an unprecedented rate triggering changes in other fundamental aspects of our climate.

The global scientific community has confirmed that Climate Change is a real, measureable phenomenon that will affect small island developing states and other vulnerable groups soonest and worst. Climate Change should be properly conceived as an important development challenge that poses a real threat to The Virgin Islands' continued economic growth and sustainable development. As such the Government of The Virgin Island must join with the global community in agreeing to act on Climate Change now when actions would be most effective and least costly.

In order to achieve **low-carbon climate resilient development**, The *Virgin Islands' Climate Change Policy* includes necessary, cost effective actions to both respond to the inevitable impacts of a changing climate (adaptation) and reduce carbon emissions to minimize the extent of Climate Change (mitigation) across the following sectors: a) **Beach and Shoreline Stability, Coastal and Marine Ecosystems, Forestry and Biodiversity, Fisheries**; b) **Tourism**; c) **Insurance and Banking**; d) **Food security: Agriculture**; e) **Human Health**; f) **Critical Infrastructure, Human Settlements, Water Resources and Hydrological Characteristics**; and g) **Energy**.

Achieving low-carbon climate-resilient development is not an option for The Virgin Islands – ***it is necessary for our very survival***. The severity of the impacts of Climate Change dictates **early action** on this issue. In addition to responding to Climate Change, the “no regrets” measures in this Policy presents **opportunities** as it will reduce our inherent vulnerability to natural disasters and external shocks, improve environmental management and the physical planning process and encourage the diversification of our tourism sector and energy portfolio, ultimately increasing our security and long-term viability.

POLICY DEVELOPMENT PROCESS

The Policy is based on three formal rounds of consultation with 40 - 60 government, private and community stakeholders across all sectors concerned. Consultations were rooted in the extensive technical review contained in *The Virgin Islands Green Paper* and *The Virgin Islands Climate Change Vulnerability and Capacity Assessment of the Tourism Sector*. These are the most comprehensive reference documents on the potential implications of Climate Change for The Virgin Islands' as well as on appropriate strategies to reduce these impacts based on the literature, local studies and established best practices.

This was followed by sector by sector consultations with technical and policy experts in early 2011. Agencies and stakeholders consulted in sector specific consultations included: the Conservation and Fisheries Department, BVI National Parks Trust, BVI Fisheries Complex, BVI Tourist Board, Premier's Office, Financial Services Commission, National Bank of The Virgin Islands, Ministry of Finance, Development Planning Unit, Agriculture Department, Ministry of Health, BVI Health Services Authority, BVI Red Cross, Ministry of Natural Resources and Labour, Ministry of Communication and Works, Wickham's Cay Development Authority, Lands Registry, Sister Island Coordinator, Town and Country Planning Department, Water and Sewerage Department, Public Works Department, Department of Disaster Management and Alternative Energy Systems.

This Policy was endorsed, on 14th July, 2011, by the National Climate Change Committee (NCCC) appointed by Cabinet.

II. CLIMATE CHANGE CONTEXT

ANTICIPATED CHANGES IN CLIMATE

The Earth has warmed on average by 0.74°C over the last hundred years, with 0.4°C of this warming occurring since 1970. Globally the rate of warming averaged over the last 50 years is nearly twice that for the last 100 years. The past decade is the warmest on record since the beginning of instrumental climate records in 1850, according to data sources compiled by the World Meteorological Organization (WMO).

The Intergovernmental Panel on Climate Change (IPCC)¹ has determined that 90% of the warming effect can be attributed to human activities since the onset of the Industrial Revolution, such as burning of fossil fuels for power generation.

There is global consensus among the scientific community (as expressed in the IPCC reports) that this warming effect will continue and, as already started, will trigger changes in other fundamental aspects of climate. These projections are based on observation and sophisticated global and regional climate models.

For The Virgin Islands, the projected climate changes of most concern include:



Rising temperatures

1°C - 5°C (1.8°F – 9°F) warmer by the 2080s under the Medium-High Carbon Emissions Scenario²



Changing rainfall patterns

Up to 25% drier by the 2080s under the Medium-High Carbon Emissions scenario, accompanied by a change in rainfall patterns such that more, heavier rain events and thus floods are likely²



Stronger, more persistent and devastating hurricanes

A greater likelihood of category 4 and 5 hurricanes as is already being observed (Mimura et.al, 2007)³



Rising sea level

Potentially by 1-2m by the end of the Century (2100)⁴

¹ The IPCC is an intergovernmental body open to all member countries of the United Nations (UN) and the World Meteorological Organization (WMO) with a mandate to provide the world with a clear scientific view on the current state of knowledge in Climate Change and its potential environmental and socio-economic impacts. The IPCC is a scientific body. It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of Climate Change. It does not conduct any research nor does it monitor climate related data or parameters. Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. IPCC aims to reflect a range of views and expertise.

² Taylor, M. A., Centella, A., Charley, J., Borrajerro, I., Bezanilla, A., Campbell, J., et al. (2007). Glimpses of the future: A briefing from the PRECIS Caribbean Climate Change Project. Belmopan, Belize: Caribbean Communication Climate Change Centre.

³ Mimura, N., Nurse, L., McLean, R., Agard, J., Briguglio, L., Lefale, P. et al. (2007). Small islands. In Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden P.J., & Hanson, C.E.

IMPACTS OF A CHANGING CLIMATE

Sector Impacts

While Caribbean countries contribute less than 0.1% to global greenhouse gas (GHG) emissions which are responsible for Climate Change, they are amongst the earliest and worst affected by Climate Change.

Their small size, relative 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). Exposure to current weather-related hazards and other climate variability compound these vulnerabilities which are often linked to inappropriate development paradigms. Changing weather patterns associated with Climate Change exacerbate the vulnerabilities and impacts currently experienced in the Region.

The *Virgin Islands Climate Change Green Paper* (see <http://dms.caribbeanclimate.bz/M-Files/openfile.aspx?objtype=0&docid=4155>) and *Vulnerability and Capacity Assessment* confirm that Climate Change stands to have a significant impact on the Territory across almost every sector as described in Table 1 below.

The UNDP *Human Development Report 2007/2008* (see <http://hdr.undp.org/en/reports/global/hdr2007-2008/chapters/>) considers warming of 2°C as the threshold above which dangerous Climate Change will occur such that irremediable effects on human development and irreversible ecological damage will become unavoidable. This threshold is expected to be particularly detrimental to small islands, coastal communities and the poor and vulnerable worldwide. The business-as-usual (BAU) scenario or current course of action could see global temperatures rise to 3°C to 4°C which will most surely spell disaster for many small islands.

⁴ Simpson, M.C.,^{1,2} Scott, D.,^{2,3} Harrison, M.,⁴ Sim, R.,³ Silver, N.,⁵ O’Keeffe, E.,⁶ Harrison, S.,⁴ Taylor, M.,⁷ Lizcano, G.,¹ Ruddy, M.,³ Stager, H.,^{2,3} Oldham, J.,³ Wilson, M.,⁷ New, M.,¹ Clarke, J.,² Day, O.J.,² Fields, N.,² Georges, J.,² Waithe, R.,² McSharry, P.1 (2010) Quantification and Magnitude of Losses and Damages Resulting from the Impacts of Climate Change: Modelling the Transformational Impacts and Costs of Sea Level Rise in the Caribbean (Key Points and Summary for Policy Makers Document), United Nations Development Programme (UNDP), Barbados, West Indies.

IMPACT AREAS	POTENTIAL AND EXISTING CLIMATE CHANGE IMPACTS
BEACH & SHORELINE STABILITY	<ul style="list-style-type: none"> ✓ Increase in beach erosion and shrinkage ✓ Shorelines retreating and more vulnerable to flooding
COASTAL & MARINE ECOSYSTEMS	<ul style="list-style-type: none"> ✓ Coral reefs experiencing increased bleaching, structural damage, disease and death ✓ Landward migration or inundation of mangroves and increased mortality ✓ Decreased growth of seagrass beds and increased stress and mortality
CRITICAL INFRASTRUCTURE	<ul style="list-style-type: none"> ✓ Road network, critical facilities, utilities, developable lands and the sewerage system (especially coastal) at greater risk of damage
HUMAN SETTLEMENTS	<ul style="list-style-type: none"> ✓ Homes and developable lands (especially those in the coastal zone) at greater risk of damage
ENERGY SECURITY	<ul style="list-style-type: none"> ✓ Energy generation and distribution system at greater risk of damage ✓ Increase in energy costs. Increase in energy use for cooling
FOOD SECURITY: AGRICULTURE	<ul style="list-style-type: none"> ✓ Decrease in agricultural yield (or increased costs of production) due to decrease in rainwater. ✓ Increase in agricultural pests, weeds, diseases and invasive species ✓ Decrease in agricultural produce (or increase in cost). Less rainwater for agriculture ✓ Soil degradation, resulting in reduced yield ✓ Increase in crop damage and disruption of production cycles ✓ Increased stress to livestock, resulting in decreased productivity ✓ Changes in imported food availability, cost, and quality

FOOD SECURITY: FISHERIES	<ul style="list-style-type: none"> ✓ Loss of critical fish habitat and changes in plankton food resources ✓ Migration of some fish species to cooler waters ✓ Potential changes in spawning opportunities and rates of mortality and disease ✓ Increase in opportunities for establishment of marine invasive species ✓ Increased damage to landing sites, on-shore facilities, boats and equipment
FORESTRY & BIODIVERSITY	<ul style="list-style-type: none"> ✓ Decline in health and abundance of marine resources ✓ Decline in turtle nesting activity and creation of long-term reproduction issues ✓ Shrinking upland forests and reduction of associated biodiversity ✓ Disruption of bird migration and reproduction patterns. Increased mortality ✓ Increase in opportunities for establishment of invasive species
HUMAN HEALTH	<ul style="list-style-type: none"> ✓ Increase in dengue fever outbreaks (frequency and severity) ✓ Increase in prevalence of ciguatera (fish poisoning) ✓ Increase in respiratory diseases, such as asthma ✓ Increase in risk of diarrhea and other environmentally transmitted illnesses ✓ Increased potential for heat stress ✓ Increase in risk of damage to health care facilities ✓ Greater threat of epidemics and pandemics
INSURANCE & BANKING	<ul style="list-style-type: none"> ✓ Increased insurance rates, potentially leading to uninsured/under-insured properties ✓ Increase in interest rates and difficulty in obtaining construction loans
TOURISM	<ul style="list-style-type: none"> ✓ Loss of, or more costly damage to, tourism infrastructure and properties ✓ Diminished natural attractions, e.g. coral reefs, beaches, and wildlife, resulting in reduced demand by tourists ✓ Rising overheads in energy, water, and insurance ✓ Deterrents to travelers, e.g. warmer winters, less comfortable and stable VI climate, higher airfares, and increased dengue fever outbreaks ✓ More tourists seeking carbon neutral or energy efficient destinations
WATER RESOURCES & HYDROLOGICAL CHARACTERISTICS	<ul style="list-style-type: none"> ✓ Increase in likelihood of flood events ✓ Decreased availability of rainwater leading to greater dependency on the public water supply system and an increased threat of water shortages in emergencies ✓ Increase in cost of desalinated water

Table 1. Potential and existing Climate Change impacts.

Economic Impact

Without action, Climate Change will have a significant toll on economies. The Stern Review, 2006 (see http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm) remains the most authoritative study on the global economic impact of Climate Change, estimating that it would cost the global economy at least 5% of GDP per year and potentially up to 20% of GDP per year. On the other hand, Stern estimated that an investment equivalent to 2% of global GDP is needed to avoid the worst effects of Climate Change.

Under the Review of the Economics of Climate Change (RECC) Project (see <http://ase.tufts.edu/gdae/Pubs/rp/Caribbean-full-Eng.pdf>) we see that the cost of Climate Change to the GDP of the small islands of the Caribbean is significantly higher than the global average.

The RECC assessment of the economic impact of Climate Change to the coastal and marine sector of The Virgin Islands up to 2050 alone conservatively estimates an impact ranging from 68% to 286% of 2008 GDP under a relatively high carbon emissions scenario and an impact ranging from 30% to 189% of 2008 GDP under a relatively low carbon emissions scenario. This equates to cumulative losses to 2050 ranging from \$671 million to \$2.8 billion and from \$301 million to \$1.8 billion by 2050 respectively. Cost impacts to the other sectors affected are yet to be determined for The Virgin Islands, but regional studies show high costs as well.

In addition, there is the cost incurred from disaster events which are expected to intensify with Climate Change. The Virgin Islands has experienced 11 major flood events since 2003; damage from the November 2003 flood alone cost the Territory over \$19 million. Damages from historical category 3 and 4 hurricanes affecting the Territory have ranged from \$10 to \$40 million.

III. POLICY STATEMENT

Climate Change is threatening the security, sustainable development and economy of The Virgin Islands and this threat can only be addressed through public, private sector and civil society partnerships. The aim of this **National Climate Change Policy** is to foster, direct and enable an integrated, holistic, and participatory national process that will achieve low-carbon climate-resilient development while protecting and enhancing our economic prosperity, livelihoods, human health, culture and environment for present and future generations.

IV. POLICY GOALS AND OBJECTIVES

This policy will facilitate the transition to climate resilient, low carbon development by implementing measures that will:

1. *Natural Resources and Fisheries* - Enhance the resilience and natural adaptive capacity of our natural resources, including terrestrial, coastal and marine ecosystems as well as the fisheries sector;
2. *Tourism* - Create and maintain a better managed, more resilient, diverse and environmentally responsible tourism industry;
3. *Insurance and Banking* - Minimise the vulnerability of insured and mortgaged properties to Climate Change impacts;
4. *Agriculture* - Strengthen food security by expanding local agricultural production and increasing its resilience to climate hazards/changes;
5. *Health* - Enhance the capacity of the health care sector and the public to deal with climate related health impacts such as increased incidence of dengue, ciguatera and childhood asthma;
6. *Critical Infrastructure, Human Settlements, Water Resources and Hydrological Characteristics* - Enhance the resilience of existing critical infrastructure and settlements to Climate Change impacts, while avoiding the construction of new ones in areas or with materials prone to climate hazards; Promote water conservation and efficiency while increasing resilience to flood events and drought; and
7. *Energy* - Promote energy conservation and efficiency and encourage greater use of renewable energy to reduce our national energy bill and increase our energy security.

V. GUIDING POLICY PRINCIPLES

The transition to climate resilient, low carbon development, which is essential to sustain economic growth in The Virgin Islands, shall be guided by the following principles:

1. It is more cost effective to adapt to the impacts of Climate Change than to do nothing and suffer the impacts;

2. Early adaptation to Climate Change is necessary to avoid the worst impacts of Climate Change and minimise the costs of impacts and adaptation;
3. Adaptation to Climate Change, by and large, represents a collection of “no regrets” measures, that is, actions that are necessary and or beneficial and increase the Territory’s resilience whether or not Climate Change impacts occur. Adhering to the “no regrets” principle means that lack of 100% scientific certainty and precision on Climate Change impacts is no excuse for inaction;
4. Addressing Climate Change in a sustainable manner requires the creation of an institutional, administrative and legislative environment supported by sustainable Climate Change financing through the establishment of a local **Climate Change Trust Fund**;
5. Society, at all levels and in all sectors, must be adequately informed on the risks, but also the **opportunities** afforded by Climate Change through adaptation, including for enhanced environmental, land, disaster and tourism management and increased energy security;
6. Government shall endeavour to obtain the participation of all key stakeholders through a well coordinated and harmonized process that maximizes resources and efficiencies;
7. The maintenance of food security, sound land and risk management, together with ensuring the resilience of people, infrastructure, the natural environment and economy is key to coping with Climate Change risks and sustaining climate-resilient low-carbon development;
8. Climate Change adaptation must take an ecosystem-centred approach, that is, recognise the value of healthy natural ecosystems in buffering Climate Change impacts and favour natural engineering solutions wherever practical; and
9. The adoption of appropriate technologies and best practices will be required to address the causes and effects of Climate Change;
10. Climate Change adaptation must be integrated and mainstreamed into existing and newly formulated sectoral and national management plans/development strategies so that Climate Change impacts are considered and managed in all relevant decision making processes.

VI. APPLICATION

This policy shall guide the work of all governmental, statutory, private sector, non-governmental and civic entities, supporting the transition to climate-resilient, low-carbon

development in The Virgin Islands. This means that at Government's level, this policy should be integrated into the agenda and work programmes of all Ministries and relevant Departments and guide policies and decisions made by relevant national committees and bodies, such as the Planning Authority.

VII. POLICY DIRECTIVES

SUMMARY OF DIRECTIVES

a) Beach & Shoreline Stability, Coastal & Marine Ecosystems, Forestry & Biodiversity, and Fisheries

Policy directives are aimed at enhancing the resilience of beaches, ecosystems and fisheries to Climate Change impacts by reducing the stress on these systems from controllable local impacts such as poor development practices, sedimentation, overfishing and anchor damage.

This is achieved through enhanced environmental legislation, enforcement systems and management; expanded protected areas; and adequate resourcing and capacity building.

b) Tourism

Policy directives are aimed at protecting the existing tourism product, diversifying the base of the tourism sector to reduce its dependence on climate sensitive coastal and marine resources, enhancing the structural integrity of tourism facilities, reducing the energy and water consumption of the tourism sector and making the sector more environmentally responsible.

This is achieved through a National Tourism Policy and Development Master Plan; developing and promoting less vulnerable land-based, historical and cultural attractions and activities; marketing towards more resilient high-end and adventure driven tourists; enhanced building and disaster management criteria for the tourism sector; carbon levying and offsetting; energy and water conservation and efficiency standards; and environmental certification programmes.

c) Insurance and Banking

Policy directives are aimed at enhancing the structural integrity of the building stock to minimise insured losses, finding more regional and local solutions to risk pooling and disaster recovery and encouraging low carbon building.

This is achieved through strengthening the Building Regulations, requiring Climate Change risk management protocols, increasing the Disaster Relief Fund, investigating the feasibility of micro insurance schemes and mutual/cooperative insurance schemes, and creating financing options for renewable energy installations.

d) Food security: Agriculture

Policy directives are aimed at growing the local agricultural sector and making it more resilient to climate variability and shocks.

This is achieved through research; capacity building; training in and implementation of best practices for drought, flood, hurricane, pest and disease resilience; changes in preferred crop and livestock varieties as required; investment in agricultural technologies to control climate, diseases, provide protection and enhance production; strengthening of agricultural legislation and policy; expansion and protection of agricultural lands; financing and insurance programmes for agricultural investments; and enhanced water capture and conservation.

e) Human Health

Policy directives are aimed at controlling climate induced or regulated diseases; increasing the resilience of the population to natural disasters and associated health impacts; reducing the physical vulnerability of the health care infrastructure; and enhancing the health care sector's capacity to effectively address Climate Change health impacts.

This is achieved through improved, expanded and more resilient primary health care infrastructure and services; updating and enhancing health laws and policies related to disease control and air quality; adopting an integrated approach to management of vector borne diseases; increasing health education; improving health surveillance and observation systems, strengthening emergency response and epidemic/pandemic response systems; more stringent management of potable water and sewage disposal; and enhanced public sanitation.

f) Critical Infrastructure, Human Settlements, Water Resources and Hydrological Characteristics

Policy directives are aimed at reducing the vulnerability of existing and future human settlements and critical infrastructure to the impacts of droughts, floods, stronger hurricanes and associated storm surges, and sea level rise.

This is achieved through enhancing legislation and regulations governing development and building practices and increasing the enforcement powers related to these. This is further achieved through development and implementation of a National Physical Development Plan, Local Area Plans; enhancing the capacity of regulators, engineers, architects and builders; enhancing disaster management systems at the community and business level; and incentives to encourage “climate proof” and “green” building.

Reduced vulnerability to floods and drought is achieved through implementation of National and Local Area Drainage Plans based on flood risk mapping and modeling; enhanced road drainage design; development of early flood warning systems; protecting natural drainage features; various technologies and measures to reduce and manage stormwater runoff; enhancing water capture, storage, delivery, conservation and efficiency; and enhancing protection of groundwater and coastal water sources.

g) Energy

Policy directives are aimed at reducing energy use and increasing efficiencies (including in the transport sector); encouraging greater energy independence through the integration of renewable energy technologies; enhancing electricity generation and distribution efficiencies and enhancing the resilience of the system to Climate Change impacts.

This is achieved through an ongoing public education programme and establishing a fully resourced and authorised **National Energy Committee** and supporting **Energy Desk** to conduct research and develop a **National Energy Policy**; stage 1 of which to be implemented by the end of 2012.

The **National Energy Policy** will cover feasibility studies for renewable energies; capacity building; revisions to the relevant legislation and or creation of new legislation to encourage renewable energies and energy conservation/efficiency; upgrades to the energy grid to increase efficiencies and to better accommodate distributed production from independent renewable sources; enhancing the disaster preparedness and resilience of the energy infrastructure; financial incentive programmes; and **investment opportunities** for Virgin Islanders in the renewable energy sector. The policy will also cover a public transport system and conversion of the bus stock to biodiesel.

SPECIFIC DIRECTIVES

The following specific interventions (adaptation actions) will be implemented in order to facilitate the transition to climate-resilient, low-carbon development in The Virgin Islands.

a) Beach & Shoreline Stability, Coastal & Marine Ecosystems, Forestry & Biodiversity and Fisheries

In order to minimize the impacts of Climate Change described and maintain the natural resources and economic base, the Government of The Virgin Islands commits, within the next 5 years (unless otherwise stated) to taking the following adaptation actions:

ENHANCING ENVIRONMENTAL LEGISLATION

1. Pass the draft ***Environmental Management and Conservation of Biodiversity Bill*** within the next 6 months;
2. Pass regulations to support the ***Environmental Management and Conservation of Biodiversity Bill*** within two (2) years of the Bill being passed;
3. Allocate the necessary financial and technical resources to implement the ***Environmental Management and Conservation of Biodiversity Bill***;
4. Update the ***Fisheries Act 1997*** to address and better manage Climate Change induced impacts to fisheries;

ENHANCING ENVIRONMENTAL MANAGEMENT

5. Declare and transfer all of the areas in the approved ***British Virgin Islands Protected Areas System Plan 2007-2017*** within the next 6 months;
6. Expand and enhance the mooring buoy system;
7. Approve and enforce specific beach management plans for priority beaches; and
8. Allocate the necessary financial resources to enhance the physical structures of the fisheries sector to withstand Climate Change impacts.

b) Tourism Sector

In order to achieve a sustainable and prosperous tourism sector with the realities of Climate Change and changing market demands, the Government of The Virgin Islands commits to taking the following adaptation actions:

ENHANCING TOURISM MANAGEMENT

1. Develop, approve and implement a **National Tourism Policy and Development Master Plan** within the next 5 years that includes among other considerations:
 - Base standards for design, construction, environmental management, water and energy conservation and efficiency in the tourism sector that moves the Territory towards “green” tourism;
 - Carrying capacities and management plans for individual tourism attractions;
 - Desired/allowed types, style and density of tourism developments.
2. Impose a Carbon Levy (Carbon Offset) on tourists that would go towards a Climate Change Trust Fund (described in detail under Financing) dedicated to Climate Change adaptation and mitigation, including reducing the carbon footprint of the tourism industry, implementing measures that would reduce the vulnerability of the tourism sector to Climate Change impacts and protecting the natural resource base of tourism. (This Levy may be imbedded in accommodation/travel fees or captured at ports of entry/departure);
3. Enhance the protection, management and amenity base of natural tourist attractions and supporting ecosystems;

DIVERSIFYING THE TOURISM PRODUCT

4. Diversify the base and increase the resilience of the tourism industry by developing and promoting less vulnerable land-based attractions and activities (e.g. national parks, historical sites, museums, cultural events and hiking). Specifically:
 - a) Approve the draft Historical Site Registrar;
 - b) Restore priority historical sites as visitor attractions within the next 5 years, including installing informational kiosks/signage;
 - c) Approve a Museum Development and Promotion Policy;
 - d) Create a National Museum and Historical Site Management Board with an allocated budget;

- e) Create a series of hiking trails to explore the ghuts, especially those in communities with tourism development or suitable for tourism activity. For example Garden Ghut in Carrot Bay and several ghuts in Cane Garden Bay and Brewer’s Bay; and
 - f) Develop cultural villages in various communities across the Territory, such as Carrot Bay, East End and Road Town with exhibits about various aspects of history and culture. (The Festival Grounds in Carrot Bay, Greenland and Road Town can be developed to accommodate the Festival activities as well as function as cultural villages/living museums year round).
- 6. Offer incentive packages and develop events to reduce the seasonality of tourism;
 - 7. Reorient the industry towards more resilient high-end and adventure driven tourists;

“GREENING” THE TOURISM SECTOR

- 8. Enact energy and water conservation and efficiency measures, create incentives for the use of renewable energies in tourism properties and engage in regional projects to move The Virgin Islands tourism sector towards being carbon neutral within in the next 15 years (2026);
- 9. Create incentives for the use of energy and water conservation and efficiency devices throughout the tourism sector. These may include revising the ***Hotel Aid Ordinance, Cap 290*** to extend duty free importation concessions only to fixtures/devices that are energy or water efficient and tying the income tax holiday period for hotels to meeting energy and water efficiency standards. Similar duty free importation concessions for such devices, wind generators, solar paneling and the like should be extended to the yachting sector;
- 10. Encourage industry certification in environmental good practice by internationally recognized bodies such as Green Globe and Blue Flag;

REDUCING DISASTER RISK

- 11. Require tourism facilities to develop and implement disaster and Climate Change risk management and business continuity plans attached to licensing of tourism businesses and the income tax holiday period for hotels. This would include hurricane evacuation and recovery plans;
- 12. Encourage adequate insurance coverage of critical tourism infrastructure and properties;

13. Require all tourism developments to have drainage plans in keeping with local area drainage plans (proposed under other areas of this Policy);
14. Increase coastal setback and elevation of tourism infrastructure/facilities to protect them from sea level rise, storm surges and flooding;
15. Undertake a national risk mapping exercise to identify critical tourism infrastructure at risk to sea level rise, storm surge, flooding and high wind; and
16. In highly vulnerable areas, establish “no build areas” for critical tourism infrastructure and properties, including proposals for accommodations in or over the ocean.

c) Insurance and Banking

In order to reduce shocks to the insurance/banking industry from Climate Change impacts, the Government of The Virgin Islands commits to take the following adaptation actions:

1. Reduce the exposure of The Virgin Islands insurance and banking sector by updating and improving the ***Building Regulations 1999*** by adopting relevant “climate proofed” international building codes and producing a local supplement to address climate specific hazards by 2014;
2. Require the establishment of Climate Change risk management protocols for the finance sector;
3. Impose a **Climate Change Financial Risk Management Levy** on offshore registered companies that would go towards a Trust Fund dedicated to reducing the Climate Change risks of the financial sector by implementing measures that would reduce the vulnerability of The Virgin Islands to Climate Change impacts and protect the economic base of the Territory.
4. Periodically reconsider membership in the Caribbean Catastrophic Risk Insurance Facility (CCRIF);
5. Conduct a feasibility study on the establishment of alternative insurance models including, micro insurance schemes and mutual/cooperative insurance schemes;
6. Collaborate with the banking sector to establish readily accessible financing options to install solar water heaters and other forms of renewable energy.

d) Food Security: Agriculture

In order to strengthen food security and minimize Climate Change impacts, the Government of The Virgin Islands commits to take the following adaptation actions:

STRENGTHENING OF AGRICULTURAL LEGISLATION AND POLICY

1. Approve the **2006 Draft National Agricultural Policy** within 6 months;
2. Develop and enact a stringent **Food Safety Policy** and supporting regulations;
3. Revise and update the **Agricultural Small Holding Act** to require best management practices for soil erosion control and conservation, forestry restoration, irrigation, water conservation and hurricane resilience and preparedness (e.g. natural windbreaks);
4. Allocate the necessary human, technical and financial resources to implement the revised **Agricultural Small Holding Act**;

EXPANSION AND PROTECTION OF AGRICULTURAL LANDS

5. Enhance legal protections of agricultural lands, including passing specific regulations on authorized uses of agricultural lands;
6. Actively pursue further designation of lands for agricultural purposes through outright purchase, lease agreements, conservation easement type agreements or incentives for maintaining lands in agricultural production;

AGRICULTURAL FINANCING AND INSURANCE SCHEMES

7. Deliver a low interest, small loans scheme/programme to help persons invest in agricultural production;
8. Conduct a feasibility study to determine the most feasible insurance/crop recovery approach for producers;

CAPACITY BUILDING

9. Develop an outdoor agricultural research, training and development facility to support mainstreaming of best practices and educational programmes;
10. Integrate agricultural studies into the school curriculum at all levels;
11. Revitalize the school gardens programme and start a community garden programme;

INVESTING IN TECHNOLOGIES

12. Promote the integration of intensive/semi-intensive production systems (e.g. greenhouses with organic hydroponic recirculation systems, shade houses, poultry units, pig units, small stock units, feedlots and dairy units);

INCREASING DROUGHT, FLOOD, HURRICANE, PEST AND DISEASE RESILIENCE

13. Enhance infrastructure for water capture and storage for agricultural purposes. This will include commissioning a watershed assessment of Paraquita Bay, within the next 6 months, to develop a detailed engineering plan to capture, store and distribute rainwater and sustainably harvest and store groundwater. Assessments of other agricultural watersheds will follow;
14. Implement a agricultural water conservation and efficiency programme to mainstream best management practices and less water intensive agricultural methods, such as mulching, drip irrigation, shade houses, greenhouse organic recirculation hydroponic systems and automatic watering systems for animals;
15. Hire a full time Soil and Water Engineer to provide the relevant technical support and training of agricultural producers necessary for mainstreaming water conservation and efficiency techniques and related best management practices;
16. Implement policies to encourage use of traditional cultivars that are adapted to local climate and new species of drought resistant, pest resistant and salt tolerant crops, grasses and legumes as well as drought resistant livestock and poultry;
17. Develop and approve standard protocol for responding to pests, diseases and invasive species, including a good reporting and alert system;
18. Enhance programmes to mainstream Integrated Pest Management;
19. Encourage producers to plant a variety of crops to increase resilience instead of a mono cropping approach;
20. Make provisions for hurricane resistant storage facilities for produce and equipment;
and
21. Enhance local weather monitoring and modeling to provide early flood warning systems and ensure that information is shared between relevant agencies.

e) Human Health

In order to reduce the described health impacts of Climate Change, the Government of The Virgin Islands commits to taking the following adaptation actions:

ENHANCING RELEVANT HEALTH RELATED LAWS AND POLICIES

1. Integrate Climate Change considerations in health sector policies and planning and strengthen inter-agency collaboration on health issues;
2. Fully implement the **Port Health Programme** by the end of 2012, including by providing the necessary technical, human and financial resources needed;
3. Pass the revisions to **the Quarantine Act** within the next 6 months;
4. Amend the **Nuisance Regulations** to allow for a ticketing system to enhance enforcement of the Regulations by the end of 2011;
5. Reconstitute a dedicated and properly trained Health Education Unit within the Ministry of Health and Social Development;
7. Update and improve the **Building Regulations 1999** by adopting relevant “climate proofed” international building codes and producing a local supplement to reflect and better manage health issues resulting from poor building design and indoor air quality by 2014;
6. Establish legislation, regulations, institutions and programmes to address indoor and outdoor air quality;

STRENGTHENING EMERGENCY RESPONSE AND EPIDEMIC/PANDEMIC RESPONSE SYSTEMS

7. Enhance the emergency response of the health care system in natural disasters and epidemics;
8. Strengthen system to transport sick/injured persons in natural disasters;
9. Mandate annual national testing (and revising where necessary) of plans and strategies to deal with epidemics and pandemics;
10. Allocate the necessary resources to fully implement plans and strategies to deal with epidemics and pandemics;
11. Enhance monitoring of invasive species and capacity of health sector to respond to dangerous invasive species;

STRENGTHENING PRIMARY HEALTH CARE INFRASTRUCTURE AND SERVICES

12. Enhance and broaden the range of services provided by community health care clinics;
13. Conduct vulnerability assessments of the design and location of existing clinics and proposed polyclinics to natural hazards and relocate and retrofit clinics where necessary;
14. Strengthen existing health surveillance systems and establish observatories and information centres on Climate Change and health;
15. Adopt an integrated approach to management of vector borne diseases, and only use fumigation when there is an epidemic or high level of infestation;
16. Conduct an assessment to identify high-risk fishing grounds and conditions for ciguatera (fish poisoning);
17. Enhance detection (testing), monitoring and reporting system for ciguatera;
18. Increase early detection of asthma and develop standard guidelines for treating patients;

ENHANCING ENVIRONMENTAL HEALTH AND SANITATION

19. Improve safety of potable water by enhancing protection and management of water sources (including coastal waters and cisterns) and processing systems;
20. Enhance management of sewage, including improved regulation and maintenance of septic systems and implementation of a national sewage collection and treatment system;
21. Improve garbage collection and disposal system to reduce and control rodent populations. Institute a waste reduction and recycling programme; and
22. Incorporate “green” design into buildings to maximise natural light and ventilation.

f) Critical Infrastructure, Human Settlement, Water Resources and Hydrological Characteristics

In order to minimize these described impacts of Climate Change, the Government of The Virgin Islands commits to take or support the following adaptation actions:

ENHANCING LEGISLATION AND ENFORCEMENT

1. Updating and improving the **Building Regulations 1999** by adopting relevant “climate proofed” international building codes and producing a local supplement to address climate specific hazards, energy efficiency, water efficiency, indoor air quality and “green” building standards by 2014;
2. Revising the **Buildings Ordinance 1955** to explicitly require review and approval for all Government projects by the Building Authority;
3. Ensuring that Certificates of Occupancy are issued by the Building Authority and that such Certificates are required by banks and the electricity and water utility before provision of amenities;
4. Revising the **Building Ordinance 1955** to increase fines for violations;
5. Implementing measures to significantly increase the efficiency with which violations of the **Physical Planning Act 2004** are addressed. This should include implementation of a ticketing system for violations, assignment of a dedicated legal person/team to the Town and Country Planning Department to handle violations and other measures to speed up the legal process;
6. Including in the new **Physical Planning Act Regulations** increased setback requirements for coastal developments based on localized storm surge and sea level rise mapping and beach management best practices;
7. Including in the new **Physical Planning Act Regulations** setback requirements for developments in relation to natural drainage areas (ghuts and ponds) based on hydrological studies and flood records (increasing the 30 feet minimum setback noted in the Draft Subdivision Guidelines 2010 where necessary);
8. Include in the new **Physical Planning Act Regulations** requirements for minimum elevation of buildings above sea level to minimize impact from flooding, sewage backup and sea level rise;
9. Including in the new **Physical Planning Act Regulations** controls on the minimum lot size for development and building footprint according to the slope of the land, underlying

geology, natural hazard threats and Local Area Plans (referred to below) instead of a blanket minimum. Regulations should allow for considerations of inherited properties;

10. Including in the new ***Physical Planning Act Regulations*** limitations on the clearing of vegetation and removal of soil and measures to minimise foundation cuts during development;
11. Including in the new ***Physical Planning Act Regulations*** a stipulation that requires all developments to implement soil erosion control measures during the construction phase and post construction as necessary;
12. Revising the ***Road Ordinance, Cap 217*** to meet modern standards for road design and construction that take into consideration the hydrologic and hydraulic characteristics of an area and drainage requirements for a 100 year flood event;

ENHANCING LAND USE PLANNING

13. Developing and approving a **National Physical Development Plan** within 5 years (2016) to regulate the use of land and allowed types and density of development in different areas, taking into consideration planning objectives, natural hazard threats and environmental features;
14. Developing and approving **Local Area Plans** for major settlements and towns urgently, with identified priority areas completed within 5 years (2016);
15. Enhancing the human capacity of the Town and Country Planning Department;
16. Allocating the necessary human and financial resources to support the development of a National Physical Development Plan and Local Area Plans;

PROMOTING STRONGER BUILDING PRACTICES

17. Creating financial incentives that extend to consumers to encourage “climate proof” buildings. For example, lower custom duties on the importation of impact resistant windows and hurricane straps;
18. Improving the design and integrity of buildings by requiring registration of architects and engineers and by better regulating and educating contractors and heavy equipment operators. Develop minimum requirements for individuals/companies responsible for carrying out Environmental Impact Assessments (EIAs), and ensuring all such assessments consider and address anticipated impacts from Climate Change;

19. Requiring developments of a certain size to be designed by a registered architect/engineer;
20. Building local capacity in various engineering and other disciplines by encouraging pursuit of degrees, continuing education and experience abroad in geotechnical, mechanical, electrical, plumbing, civil, structural, fire protection, traffic, coastal and environmental engineering, project/construction management, physical planning, disaster management and environmental management;
21. Developing and approving specific “climate proof” standards for the construction and maintenance of Government buildings, both owned and rented;
22. Developing a mid to long-term plan (within the context of a *National Physical Development Plan*) for the relocation of critical infrastructure located in areas highly vulnerable to Climate Change impacts;

ENHANCING FLOOD WARNING AND MODELING

23. Enhancing local weather monitoring to provide early flood warning notifications by installing additional weather stations to complement the existing network;
24. Completing flood risk mapping and modeling exercise of Road Town Watershed and provide recommendations for future development by 2015;
25. Conducting basic flood risk mapping and modeling exercise for significant watersheds and communities in the Territory by 2015;

IMPROVING DRAINAGE, STORMWATER MANAGEMENT AND FLOOD PLANNING

26. Require the development of **Flood Action Plans** for all major flood prone communities by 2015;
27. Developing and approving a **National Drainage Plan** within the next 5 years (2016) to accommodate a 100 year flood event;
28. Developing and approving **Local Area Drainage Plans**, based on the National Drainage Plan, for the greater Road Town area and all other major towns and settlements urgently to accommodate a 100 year flood event, with identified priority areas developed and approved within the next 5 years (2016);
29. Revising the *Physical Planning Act 2004* to require **Site Specific Drainage Plans** for all developments based on the Local Area Drainage Plans (once Plans have been developed);

30. Developing a strong, **comprehensive policy on stormwater management and sedimentation control** within the next year;
31. Implement a programme to reforest cleared/degraded lands with trees/grasses of high water and soil conservation value;
32. Developing and approving policies to minimise impervious surfaces to reduce stormwater runoff, such as requiring use of permeable pavement systems for sidewalks and parking lots and encouraging green roofs where suitable;
33. Commissioning a study to explore options for the capture, treatment and reuse of stormwater for applications such as cooling, irrigation, flushing toilets etc.;
34. Implementing a policy against paving the bottom of natural waterways (locally referred to as ghuts). Policy could allow for gabion baskets to be installed along the sides of ghuts to control erosion of ghut banks. Implementing a programme and necessary resources to maintain and clean identified ghuts on a regular basis;
35. Encouraging the declaration of ghuts as **Protected Areas** under the Protection of *Trees and Conservation of Soil and Water Ordinance, Cap 86* and as **Environmental Protection Areas** under the *Physical Planning Act, 2004*;
36. Extending stringent legal protections to salt ponds as important drainage and catchment areas.
37. Using existing legislation to acquire lands as necessary to improve drainage along existing roads and new roads to meet approved standards for road design and construction referred to above;

ENHANCING WATER RESOURCES MANAGEMENT

38. Including in the new *Physical Planning Act Regulations* a requirement for commercial buildings to have cisterns for rainwater capture. Retaining the requirement for residential buildings to have cisterns for rainwater capture;
39. Developing a **Sustainable Freshwater, Watershed and Coastal Waters Management and Pollution Prevention Plan** based on a water carrying capacity and other studies;
40. Repair and expand public infrastructure for water capture, storage and delivery within the next 10 years. Storage capacity should meet international standard of a 3 day minimum supply;

41. Enhance the capacity of the Water and Sewerage Department (with periodic independent assessments) to continue and expand the leak and theft detection programme for the water distribution system with the goal of reducing unaccounted for water to 20 percent within the next 15 years (2026);
42. Install bulk meters at different zones of the water distribution system to better account for water and detect leaks/theft;
43. Improve methods of household capture, storage and use of rainwater through education about best practices and low-tech methods to divert the first flush of rainfall from roofs to improve cistern water quality;
44. Restore wells and manage groundwater resources for agricultural applications;
45. Require desalination plants to use sea water intake (whether direct or from near shore seawater wells) and not source from groundwater supplies (in order to protect groundwater table);
46. Implement strict water conservation and efficiency programmes, including through education and use of incentives, such as duty concessions on import of water saving devices and revisions to the water tariff to charge costumers the true cost of water received;
47. Conduct an economic study to determine how many desalination companies the market can bear;
48. Encourage use of alternative energy sources (e.g. solar) to power desalination plants.

g) Energy Security

In order to minimize the described impacts of Climate Change and transition The Virgin Islands to a sustainable low-carbon growth path and a secure energy future, the Government of The Virgin Islands commits to taking the following actions:

DEVELOPING A NATIONAL ENERGY POLICY

1. Formally establish a **National Energy Committee** before the end of 2011 with the necessary resources and authority to conduct research and create policies on energy to achieve enhanced energy efficiency and conservation, the meaningful integration of

renewable energies, enhanced electricity sector performance and generating power efficiency and the reduction of energy use in the transport sector;

2. Create a **National Energy Desk** with at least two dedicated energy officers to support the work of the National Energy Committee by the first quarter of 2012;
3. Require the National Energy Committee to develop an initial **Stage 1 National Energy Policy** (see below) for immediate implementation by the end of 2012;
4. Require the National Energy Committee to develop a comprehensive **Stage 2 National Energy Policy** (see below) by early 2014 to direct all aspects of energy consumption and production in The Virgin Islands;

CAPACITY BUILDING AND PUBLIC EDUCATION

5. Implement an ongoing public education programme and encourage training in energy conservation and efficiency and renewable energy technologies;

ENHANCING THE DISASTER PREPAREDNESS AND RESILIENCE OF THE ENERGY INFRASTRUCTURE

6. Test and update safety measures and hurricane contingency plans for energy facilities;
7. Avoid building new energy infrastructure in vulnerable areas, or with vulnerable designs or materials;
8. Climate-proof existing/planned fuel terminals and electricity generation/distribution systems to reduce vulnerability to climate threats;
9. Improve drainage around the main electricity generation plant at Pockwood Pond;
10. Bury electrical lines where it is determined to be strategic; and
11. Plan for the future relocation or retrofitting of electricity generation stations, sub-stations and other facilities that will be inundated by sea level rise or flooded by stronger storm surges.

STAGE 1 NATIONAL ENERGY POLICY

Energy Conservation, Efficiency and Education

- a) Adopt energy efficiency standards and create financial incentives to encourage energy efficient appliances (e.g. Energy Star), equipment (e.g. air conditioning systems), building products and materials;
- b) Revise the relevant legislation to promote the importation and use of smaller, more fuel efficient and alternatively powered vehicles; and facilitate the retiring of old energy inefficient vehicles from the active vehicle fleet.

Renewable Energy Integration and Promotion

- c) Identify available renewable energy sources and technologies that are practical, commercially viable and suited to the culture and economy of The Virgin Islands;
- d) Establish the feasibility of small scale grid-tie renewable energy integration as implemented in the United States Virgin Islands by the Water and Power Authority (WAPA) at the residential and private sector scale;
- e) Require utility accommodation of renewable energy powered grid-interactive inverters so that the electric grid can safely handle distributed power production;
- f) Develop a standard application process to enable the BVI Electricity Corporation to evaluate requests for renewable energy production into the electrical grid by private producers;
- g) Commission a waste to energy feasibility study;
- h) Update the *British Virgin Islands Electricity Corporation Ordinance, Cap 277* to enable regulatory and legislative enactments to create an environment that encourages the utilization of grid-tie renewable energies (especially solar, small wind and ocean current);
- i) Start a solar water heater programme that encourages installation of solar water heaters on all new buildings and retrofitting of existing building, using a locally appropriate version of the Barbados model;
- j) Make revisions to the *Customs Duties Ordinance, Cap 105* that promote energy efficient and renewable energy technologies through duty importation concessions on favoured technologies;
- k) Impose a Carbon Levy (Carbon Offset) on tourists that would go towards a Climate Change Trust Fund, in part dedicated to reducing the carbon footprint of The Virgin Islands. (This Levy may be imbedded in accommodation/travel fees or captured at Ports of Entry/Departure etc.); and
- l) Promote energy conservation/efficiency and renewable energy curriculum development throughout all levels of the educational system.

STAGE 2 NATIONAL ENERGY POLICY

Energy Conservation, Efficiency and Education

- a) Update and improve the *Building Regulations 1999* by adapting relevant “climate proofed” international building codes and producing a local supplement with energy efficiency and “green” building requirements by 2014;
- b) Require existing buildings to be retrofitted to meet (to the extent feasible) new energy efficiency standards within a specified time period;
- c) Work with utilities to create suitable incentive programmes or revise tariff schemes to encourage greater water and energy conservation and efficiency practices in Government and the residential and commercial sectors;
- d) Increase supply-side energy efficiencies by upgrading the energy infrastructure where necessary; and
- e) Create a wide reaching, efficient and dependable national public transport system.

Renewable Energy Integration and Promotion

- f) Commission a National Renewable Energy Feasibility study that considers feasibility at the utility scale (i.e. BVI Electricity Corporation);
- g) Evaluate financial incentive best practices and create a Virgin Island’s approach to encourage the public’s and private sector’s investment in renewable energy technologies. The policy should provide *opportunities and mechanisms to allow Virgin Islanders to be the principal investors and owners in the renewable energy sector*;
- h) Evaluate the existing revenue model for the BVI Electricity Corporation and revise it accordingly to ensure that it is suitable/sustainable for going forward in a renewable energy mix future;
- i) Promote renewable energy installations on school buildings/campuses to increase exposure to and learning about renewable energy;
- j) Encourage short and long-term programmes for active research, development and training in renewable energy technologies and designs, including training employees of the BVI Electricity Corporation (for example through the United States Virgin Islands Water and Power Authority –WAPA);
- k) Work with the taxi industry to convert their bus stock to biodiesel.

VIII. LEGAL IMPLICATIONS

In order to take effect, the policy directives detailed above will require amendments to or passage of the following pieces of legislation and regulations:

- Environmental Management and Conservation of Biodiversity Bill, 2008 (draft)
- Fisheries Act, 1997
- Hotel Aid Ordinance, Cap 290
- Agricultural Small Holding Act, Cap 83
- Quarantine Act, Cap 196
- Nuisance Regulations
- Planning Act, 2004 (and forthcoming regulations)
- Buildings Ordinance, Cap 234
- Buildings Regulations, 1999
- Road Ordinance, Cap 217
- British Virgin Islands Electricity Corporation Ordinance, Cap 277
- Customs Duties Ordinance, Cap 105

IX. ACCOUNTABILITY

Responsibility for the timely and coordinated implementation of this *Climate Change Policy* is vested with the *National Climate Change Committee* (NCCC) to be chaired by the Permanent Secretary, Ministry of Natural Resources and Labour, who is also the National Climate Change Focal Point.

The National Climate Change Committee has already been approved by Cabinet on 23 December, 2008 and is a standing committee to monitor and advise Government on the impacts of Climate Change, to develop adaptation policies and strategies, and to support efforts to mainstream such policies and strategies into national development planning.

The Committee currently consists of the Conservation and Fisheries Department, National Parks Trust, Town and Country Planning Department, Department of Disaster Management, Development Planning Unit, Water and Sewerage Department, BVI Tourist Board, Agriculture Department and Environmental Health Unit.

It is recommended that the Committee be expanded to include the Ministry of Natural Resources and Labour (as Chair), the Premier's Office (as co-Chair), Ministry of Communication and Works, Public Works Department and BVI Electricity Corporation.

In order to ensure that the Climate Change agenda is fully integrated into the development planning process, as purposed under the ECACC Project and as required to ensure effective adaptation, it is recommended that the Climate Change Committee function under the umbrella of the previously established Technical Review Committee (under the Ministry of Natural Resources and Labour) and the Planning Authority (under the Premier's Office). This means the National Climate Change Committee would effectively function as a joint subcommittee of the Technical Review Committee and the Planning Authority. As such, regular (at least monthly) policy and implementation meetings will be held with the subgroup of agencies from the two bodies that will comprise the NCCC. The National Climate Change Committee may further establish technical subcommittees to support and assist the work of the Committee as necessary.

This approach is ideal as the Technical Review Committee (TRC) and Planning Authority together are already responsible for the review and approval of development applications for the seabed and lands respectively. The National Climate Change Committee presents an opportunity to create a much needed closer bridge between the TRC and the Planning Authority to ensure a more integrated approach to planning decisions for the land and seascape and that Climate Change impacts and adaptation measures are considered in all such decisions.

X. FINANCING (Climate Change Trust Fund)

A *Climate Change Trust Fund* shall be established to fund the effective implementation of this *Climate Change Policy*. This Fund shall be established by law, and administered by a Board of Trustees which shall be tasked to: (a) **mobilize funds** from a variety of sources including carbon levies, offsets, incentive programmes, etc; and (b) **manage the funds** to ensure that the resources of the *Climate Change Trust Fund* are efficiently utilised to support the timely and effective implementation of this *Climate Change Policy*. It is anticipated that legislation establishing the *Climate Change Trust Fund* will include provisions concerning:

- a. Establishment of a Board of Trustees with representation from key stakeholders;
- b. Protocols and guidelines for the administration of the Trust Fund to ensure fair and equitable access to and use of funds by key stakeholders within The Virgin Islands;
- c. Implementation of sound and transparent fiduciary management for Trust Fund monies;
- d. Establishment of a management structure to ensure that Trust funds are spent in a timely and open manner on priority Climate Change adaptation and low carbon development projects.

There will be an upper limit on the amount of funds that should be used for the management and administration of the Trust Fund - no more than 15% of funds in the Trust Fund being used for this purpose. The Trust Fund Board shall decide on the applications for financing, but should be advised by a technically competent Trust Fund Director and small technical staff who ensures that the Trust funds are used for technically sound measures that will address priority Climate Change issues and promote climate-resilient and low carbon development. The Trust Fund account is proposed to be managed by the National Bank of the Virgin Islands which has sound fiduciary management structures.

The sources of financing for the Trust Fund that are required to support urgent and priority measures to address Climate Change risks and to facilitate the conversion to a low-carbon economy outlined in this Policy shall:

- ✓ **be raised from external sources** so as not to increase the local tax level in The Virgin Islands;
- ✓ **be placed in an-arms-length, soundly managed and accountable Climate Change Trust Fund** to avoid criticisms that it is a “thinly disguised pretext to raise revenue” by Government;
- ✓ **must ensure national ownership** in the manner in which the funds are to be disbursed; and
- ✓ **be from a variety of “market-based mechanisms”** within the jurisdiction of the Government of The Virgin Islands.

Based on stakeholder consensus, the most viable sources of financing for The Virgin Islands *Climate Change Trust Fund* are:

- **Carbon Levy** (bed tax to offset energy use) on guests of hotels and charter yachts which can raise **US\$6.6 million per year** based on US\$20 bed tax on (a) 150,000 hotel and rental guests; (b) 180,000 charter boat guests. Initial discussions with stakeholders from this sector suggest support for this measure. The tourism sector can directly benefit from the monies raised for the Trust Fund through projects to increase the resilience of properties to natural disasters, protect visitor attractions, increase energy and water efficiency to reduce operating costs and improve marketability to “green” travelers and other measures to address Climate Change impacts and ensure low carbon growth;
- **Climate Change Financial Risk Management Levy** on foreign registered companies and ships – which can raise **US\$9 million per year** based on US\$20 increase in annual license fees for 445,000 “active” offshore registered companies and 3,300 foreign registered vessels.

Together, these two revenue sources represent US\$15.6 million per year to finance implementation of this Climate Change Policy.

XI. MONITORING

The implementation of this *Climate Change Policy* shall be monitored by the *National Climate Change Committee*. Government shall periodically review the mandate, terms of reference and composition of this entity with a view to better equipping it to fulfill its mandate.

The National Climate Change Committee shall keep this Policy under regular review, and shall monitor the implementation of the directives of this Policy.

The Committee shall submit a report to the Cabinet through the Ministry of Natural Resources and Labour on measures that have been undertaken to implement this Policy. The annual report, may after its approval by Cabinet, be tabled in the House of Assembly.

Beginning no later than the fifth anniversary of the date of this Policy, the *National Climate Change Committee* shall conduct a public review of this Policy to determine its effectiveness in achieving its goals and objectives, and update the Policy based on the findings of the review and best practices at the time. The report of this review is to be presented to the Cabinet within one year of the beginning of the review.