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The Virgin Islands Climate Change Adaptation 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

Conservation and Fisheries Department
Ministry of Natural Resources and Labour
Government of The Virgin Islands
February, 2012

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I. BACKGROUND and JUSTIFICATION

OVERVIEW

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

Climate Change, in basic terms, 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 combination of this increase in temperature, changes in rainfall patterns and severe weather events and sea level rise is termed "Climate Change."

The global scientific community has confirmed that Climate Change is a real, measureable phenomenon that is happening now and that will affect small island developing states and other vulnerable groups soonest and worst. Climate Change should be properly conceived of 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 Islands must join with the global community 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 Adaptation Policy* includes necessary, cost effective actions to both respond (**adapt**) to the inevitable local impacts of a changing climate and reduce (**mitigate**) carbon emissions to minimize the extent of Climate Change and reduce our energy costs. The Policy calls for specific actions across the following sectors: a) **Beach and Shoreline Stability, Coastal and Marine Ecosystems, Forestry and Biodiversity, and Fisheries**; b) **Tourism**; c) **Insurance and Banking**; d) **Food security: Agriculture**; e) **Human Health**; f) **Critical Infrastructure, Human Settlements**, **and Water Resources**; and g) **Energy**.

Achieving low-carbon, climate-resilient development is not an option for The Virgin Islands – ***it is necessary for our very survival going forward.*** 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 present **important opportunities** as they 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 of the climate change issue contained in *The Virgin Islands Climate Change 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 local impacts of Climate Change and appropriate strategies to reduce these impacts, and are based on the literature, local studies and established best practices.

This was followed by sector by sector consultations with technical and policy experts in January and February, 2011. Agencies and stakeholders consulted in sector specific consultations included: the Conservation and Fisheries Department, BVI National Parks Trust, BVI Fisheries Complex, Ministry of Natural Resources and Labour, 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 and Social Development, BVI Health Services Authority, BVI Red Cross, 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 in 2008. The timelines for actions have been revised for the resubmission of the Policy to Cabinet for approval in February 2012 to account for the time lost between endorsement and submission of the Policy.

II. CLIMATE CHANGE CONTEXT

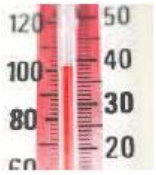
ANTICIPATED CHANGES IN CLIMATE

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, such as burning of fossil fuels for power generation, since the onset of the Industrial Revolution.

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 global scientific observations 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 Scenario[2]

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 likely*[2]

[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., Borrajero, 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.

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]

[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.

[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 Rutty, 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.

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 will be among the earliest and worst affected by Climate Change, with impacts already being observed across the region.

Small island developing states (SIDS) have many inherent vulnerabilities that are exasperated by Climate Change. These include, for example, 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 their limited financial, technical and institutional capacity. Exposure to current weather-related hazards and other climate variability compound these vulnerabilities which are often linked to inappropriate development paradigms.

The ***Virgin Islands Climate Change Green Paper*** (see http://www.bvidef.org/main/content/view/90/149/) and ***Vulnerability and Capacity Assessment of the Tourism Sector to Climate Change*** confirm that Climate Change stands to have a significant impact on the Territory across almost every sector as described in Table 1 below.

The United Nations Development Programme's *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 5°C which will most surely spell disaster for many small islands.

IMPACT AREAS	POTENTIAL AND EXISTING CLIMATE CHANGE IMPACTS
BEACH & SHORELINE STABILITY	✓ Increase in beach erosion and shrinkage ✓ Shorelines retreating and more vulnerable to flooding
COASTAL & MARINE ECOSYSTEMS	✓ 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	✓ Road network, critical facilities, utilities, developable lands and the sewerage system (especially coastal) at greater risk of damage from disaster events and sea level rise
HUMAN SETTLEMENTS	✓ Homes and developable lands (especially those in the coastal zone) at greater risk of damage from disaster events and sea level rise
ENERGY SECURITY	✓ Energy generation and distribution system at greater risk of damage from disaster events ✓ Increase in energy costs ✓ Increase in energy use for cooling
FOOD SECURITY: AGRICULTURE	✓ Decrease in agricultural yield (or increased costs of production) due to decreases in rainwater and soil degradation ✓ Increase in agricultural pests, weeds, diseases and invasive species ✓ 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	✓ Loss of critical fish habitat and changes in plankton food resources ✓ Migration of some fish key species to cooler waters, e.g. Mahi Mahi ✓ 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	✓ 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	✓ 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	✓ Increased risk to insured properties ✓ Increased insurance rates, potentially leading to uninsured/under-insured properties ✓
TOURISM	✓ 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	✓ 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 as energy costs rise

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. Stern estimated that Climate Change 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.

A 2008 regional cost study (see http://ase.tufts.edu/gdae/Pubs/rp/Caribbean-full-Eng.pdf) found that the cost of Climate Change to the GDP of the small islands of the Caribbean is similar, ranging from 5% per year by 2025 up to 21.7% per year by 2100 (based on 2004 GDP).

The 2011 Review of the Economics of Climate Change (RECC) Project assessed the potential economic impact of Climate Change to the coastal and marine sector of The Virgin Islands up to 2050. The results conservatively estimate a *cumulative* (up to 2050) impact ranging from 68% to 286% of 2008 GDP, under a relatively high carbon emissions scenario and a *cumulative* 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, respectively under the high and low emissions scenarios. Cost impacts to the other sectors affected are yet to be determined for The Virgin Islands, but regional studies show high costs as well.

Disaster events are expected to intensify with Climate Change and, therefore, the associated costs. 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 ***The Virgin Islands Climate Change Adaptation 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 fishery resource base;

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 fever, ciguatera and childhood asthma;

6. *Critical Infrastructure, Human Settlements and Water Resources* - Enhance the resilience of existing critical infrastructure and settlements to Climate Change impacts, while avoiding the construction of new infrastructure/settlements 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 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 accepted principles:

1. The consensus of economic research on an international, regional and local scale clearly shows that **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 to 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 framework 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;

9. The adoption of appropriate technologies and best practices will be required to address the causes and effects of Climate Change; and

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 and statutory agencies and support private sector, non-governmental and civic entities in 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 in these sectors are aimed at enhancing the resilience of beaches, coastal/ marine and terrestrial 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 Sustainable Tourism Development Policy and 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 Ordinance and Regulations, requiring Climate Change risk management protocols in the banking and insurance sector, 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 and 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 and Water Resources

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 developing and implementing a National Physical Development Plan and Local Area Plans; enhancing the capacity of regulators, engineers, architects and builders; enhancing disaster management systems at the community and business level; and implementing incentives to encourage "climate proof" and "green" building.

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

g) Energy

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

An important outcome of policy directives would be an eventual sizable reduction in our fossil fuel consumption and thus the rising costs, pollution and vulnerabilities associated with it. In the neighbouring USVI, for example, they have set an ambitious target of a 60% reduction in fossil fuel-based energy consumption by 2025.

Policy goals are achieved through an ongoing public education programme, capacity building efforts, and establishing a fully resourced and authorised **National Energy Committee** and supporting **National Energy Focal Point** to conduct research and develop a ***National Energy Policy*** within the next 4 years. Changes to the BVI Electricity Corporation Ordinance, Cap 277 and other relevant legislation to support the Energy Policy are called for within this timeframe..

The ***National Energy Policy*** would be developed based on adaptive energy conservation/efficiency standards and a comprehensive National Renewable Energy Feasibility Study that considers the technical, economic and social viability of various energy mix options, appropriate models for renewable energy production and integration, and best options for developing incentive programmes and promoting investment opportunities for Virgin Islanders.

SPECIFIC DIRECTIVES

The following specific interventions (adaptation actions) will be implemented across the various sectors affected by climate change in order to facilitate the transition to climate-resilient, low-carbon development in The Virgin Islands and achieve the goals set out in this Policy.

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 of The Virgin Islands, the Government commits to taking the following adaptation actions within the next 4 years (unless otherwise stated):

ENHANCING ENVIRONMENTAL LEGISLATION

1. Review and make final revisions as necessary to the draft ***Environmental Management and Conservation of Biodiversity Bill***;
2. Develop regulations to support the ***Environmental Management and Conservation of Biodiversity Bill*** within two (2) years of the Bill being passed;
3. Update the ***Fisheries Act 1997*** to address and better manage Climate Change induced impacts to fisheries;
4. Revise and expand the Beach Protection Ordinance 1985 to comprehensively address beach management issues, including establishment of a Beach Commission, a framework for a Territory-wide beach policy and guidelines for beach management.

ENHANCING ENVIRONMENTAL MANAGEMENT

5. Declare and transfer all of the areas in the approved ***British Virgin Islands Protected Areas System Plan 2007-2017*** at the earliest date possible;
6. Expand and enhance the mooring buoy system;
7. Approve and enforce a National Beach Management Policy and 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 within the next 4 years (unless otherwise stated):

ENHANCING TOURISM MANAGEMENT

1. Develop, approve and start implementation of a ***National Sustainable Tourism Development Policy and Master Plan*** within the next two 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 type, style and density of tourism developments

2. Implement a small Environmental Levy (such as a Carbon Levy or Offset) on tourists that would go towards a Climate Change Trust Fund (described in detail under Financing) dedicated to Climate Change adaptation and mitigation. This would include 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) Create a National Museum and Historical Site Management Board with a mandate to restore, develop and manage historical sites and attractions within the next year;

    b) Develop and approve a Museum Development and Promotion Policy within the next two years;

c) Approve the draft Historical Site Register within the next two years and restore priority historical sites as visitor attractions, including installing informational kiosks/signage within the next four years;

d) Create a series of trails to explore the forests, ponds and ghuts, especially those in communities with existing tourism development or suitable for tourism activity. For example Garden Ghut in Carrot Bay, several ghuts in Cane Garden Bay and Brewer's Bay, Josiah's Bay Pond and Belmont Pond.

e) Develop cultural villages in various communities across the Territory, such as Carrot Bay, East End/Long Look and Road Town with live exhibits and other experiences that relate 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).

5. Offer incentive packages and develop events to reduce the seasonality of tourism;

6. Reorient the industry towards more resilient, high-end and adventure driven tourists;

"GREENING" THE TOURISM SECTOR

7. Enact energy and water conservation and efficiency standards, 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 20years (2032);

8. Create incentives for the use of energy and water saving devices throughout the tourism sector. Such incentives may include revising the ***Hotel Aid Ordinance, Cap 290*** to extend duty free importation concessions only to fixtures/devices that are energy or water saving and tying the income tax holiday period for hotels to meeting energy and water efficiency standards. Similar duty free importation concessions for energy and water saving devices, wind generators, solar paneling and the like should also be extended to the yachting sector;

9. Encourage industry certification in environmental good practice by internationally recognized bodies such as the International Organization for Standardization (ISO), Green Globe and Blue Flag;

REDUCING DISASTER RISK

10. Require tourism facilities to develop and implement disaster and Climate Change risk management and business continuity plans. To aid in enforcement, these plans may be

attached to licensing of tourism businesses and the income tax holiday period for hotels. This would include hurricane evacuation and recovery plans;

11. Encourage adequate insurance coverage for critical tourism infrastructure and properties;

12. Require all tourism developments to have drainage plans in keeping with local area drainage plans (proposed under the Critical Infrastructure, Human Settlements and Water Resources section of this Policy);

13. Increase coastal setback and elevation requirements for tourism infrastructure/facilities under the forthcoming Planning Act 2004 regulations in order to protect infrastructure/facilities from sea level rise, storm surges and flooding. Revised setback and elevation requirements should be based on the necessary supporting studies/assessments;

14. Undertake a national risk mapping exercise to identify critical tourism infrastructure and properties at risk to sea level rise, storm surge, flooding and high wind; and

15. In highly vulnerable areas, establish "no build zones" for critical tourism infrastructure and properties, including proposals for accommodation developments in or over the ocean.

c) Insurance and Banking

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

1. Reduce the exposure of The Virgin Islands insurance and banking sector by updating and improving the ***Building Ordinance 1955 and*** the ***Building Regulations 1999*** by adopting the relevant International Codes (I-Codes) of the International Code Council, including the International Building Code by 2014;

2. Require the establishment of Climate Change risk management protocols for the insurance and banking sector;

3. Impose a small **Climate Change Financial Risk Management Levy** on offshore registered companies that would go towards a Climate Change Trust Fund (described in detail under Financing) dedicated to reducing the vulnerability of The Virgin Islands, including its financial sector and economic base, to Climate Change impacts.

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 to agriculture, the Government of The Virgin Islands commits to taking the following adaptation actions:

STRENGTHENING OF AGRICULTURAL LEGISLATION AND POLICY

1. Update and approve the ***2006 Draft National Agricultural Policy*** within the next 2 years;

2. Develop and implement a ***Food Safety Policy*** and supporting regulations;

3. Revise the ***Agricultural Small Holdings Act, Cap 83*** within the next 4 years to require best management practices for soil erosion control and conservation, forestry restoration, irrigation, water conservation and hurricane resilience (e.g. natural windbreaks);

EXPANSION AND PROTECTION OF AGRICULTURAL LANDS

4. Enhance legal protections of agricultural lands, including passing specific regulations on authorized uses of agricultural lands;

5. Pursue further designation of lands for agricultural purposes through conservation easement type agreements, incentives for maintaining lands in agricultural production or designation of Environmental Protection Areas under the Physical Planning Act 2004;

AGRICULTURAL FINANCING AND INSURANCE SCHEMES

6. Deliver a low interest, small loans scheme/programme to help persons invest in agricultural production;

7. Conduct a feasibility study to determine the most appropriate insurance/crop recovery approach for producers;

CAPACITY BUILDING

8. Develop an outdoor agricultural research, training and development facility to support educational programmes and mainstreaming of best practices;

9. Integrate agricultural studies into the existing school curriculum at the primary and secondary levels and restart an agricultural studies programme at the H. Lavity Stoutt Community College;

10. Revitalize the school gardens programme and start a community garden programme;

INVESTING IN TECHNOLOGIES

11. Promote the integration of intensive/semi-intensive production systems (e.g. small scale 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

12. Enhance infrastructure for water capture and storage for agricultural purposes. This will include commissioning a watershed assessment of Paraquita Bay, within the next two years, to develop a detailed engineering plan to capture, store and distribute rainwater and sustainably harvest and store groundwater. Assessments of other agricultural watersheds should follow;

13. 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;

14. 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;

15. Implement policies to encourage use of traditional cultivars (varieties) that are adapted to the local climate and use of new species of drought resistant, pest resistant and salt tolerant crops, grasses and legumes as well as drought resistant livestock and poultry;

16. Develop and approve a standard protocol for responding to pests, diseases and invasive species, including a good reporting and alert system within the next year;

17. Enhance programmes to mainstream Integrated Pest Management;

18. Encourage agricultural producers to plant a variety of crops, instead of using a mono cropping approach, in order to increase resilience to pests and other threats;

19. Develop and encourage best management practices for hurricane preparedness and development a protocol to guide compensation to producers suffering loss from hurricane damage;

20. 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 into health sector policies and planning and strengthen inter-agency collaboration on health issues;

2. Fully implement the ***Port Health Programme***, including by providing the necessary technical, human and financial resources needed for implementation by the earliest date possible;

3. Revise the outdated ***Quarantine Act, Cap 196*** and ***Infectious Diseases Notification Ordinance, Cap 180***;

4. Amend the ***Nuisance Regulations*** to allow for a ticketing system to enhance enforcement of the Regulations;

5. Reinstitute a dedicated and properly trained Health Education Unit within the Ministry of Health and Social Development;

6. Update and improve the ***Building Ordinance 1955*** and the ***Building Regulations 1999*** by adopting the relevant International Codes (I-Codes) of the International Code Council, including the International Building Code to reflect and better manage health issues resulting from poor building design and indoor air quality by 2014;

STRENGTHENING EMERGENCY RESPONSE AND EPIDEMIC/PANDEMIC RESPONSE SYSTEMS

7. Enhance the emergency response capacity of the health care system during natural disasters and epidemics;

8. Strengthen the system/mechanism to transport sick/injured persons during 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 the capacity of the 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 existing clinics and proposed polyclinics to natural hazards, in terms of building design and location. 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 the 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 tertiary treatment system;

21. Improve garbage collection and disposal system to reduce and control rodent populations.

22. Institute a waste reduction and recycling programme; and

23. Incorporate “green” design into buildings to maximise natural light and ventilation.

f) Critical Infrastructure, Human Settlements and Water Resources

In order to minimize the described impacts of Climate Change to critical infrastructure, human settlements and water resources, the Government of The Virgin Islands commits to taking or supporting the following adaptation actions within the next 4 years, unless otherwise stated:

ENHANCING LEGISLATION AND ENFORCEMENT

1. Revise the ***Building Ordinance 1955*** by 2014 to be consistent with the Planning Act 2004 and the current building environment and to support the relevant International Codes (I-Codes) of the International Code Council (ICC), including the International Building Code;

2. Update and improve the ***Building Regulations 1999*** by adopting the relevant International Codes (I-Codes) of the ICC by 2014 to address safe building standards, climate specific hazards, energy efficiency, water efficiency, indoor air quality and “green” building standards;

3. Ensure 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. Implement measures to increase the efficiency with which violations of the ***Physical Planning Act 2004, Building Ordinance 1955*** and ***Building Regulations 1999*** are addressed;
5. Develop and pass regulations to accompany the ***Physical Planning Act 2004***;

6. Include increased setback requirements for coastal developments in the forthcoming ***Physical Planning Act 2004 Regulations*** based on localized storm surge and sea level rise mapping, other relevant assessments and best practices;

7. Include setback requirements for developments from natural drainage areas (ghuts and ponds) in the forthcoming ***Physical Planning Act 2004 Regulations*** based on hydrological studies and flood records. Increase the 30 feet minimum setback noted in the Draft Subdivision Guidelines 2010 where necessary;

8. Include requirements for minimum elevation of buildings above sea level in the forthcoming ***Physical Planning Act 2004 Regulations*** to minimize impact from flooding, sewage backup and sea level rise;

9. Include in the forthcoming ***Physical Planning Act 2004 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 applying a blanket minimum. Regulations should allow for considerations for development of inherited lands;

10. Include in the forthcoming ***Physical Planning Act 2004 Regulations*** limitations on the clearing of vegetation and removal of soil as well as measures to minimise foundation cuts during development;

11. Include in the new ***Physical Planning Act 2004 Regulations*** a stipulation that requires all developments to implement soil erosion control measures during the construction and post construction phases as necessary;

12. Revise 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. Develop and approve a **National Physical Development Plan** () to regulate the use of land and the allowed types and densities of developments in different areas, taking into consideration planning objectives, natural hazard threats and environmental features;

14. Develop and approve **Local Area Plans** for major settlements and towns, with identified priority areas completed urgently;

15. Enhance the human capacity (especially through appointment of certified Planners) of the Town and Country Planning Department in order to achieve the development of the plans above and other key actions;

16. Allocate 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. Create 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. Improve 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 ensure all such assessments consider and address anticipated impacts from Climate Change;

19. Require developments of a certain size and over to be designed by a registered architect/engineer;

20. Build local capacity in various engineering and other disciplines by encouraging pursuit of degrees, continuing education opportunities and experiences 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. Develop and approve specific "climate proof" standards for the construction and maintenance of Government buildings, both owned and rented;

22. Develop 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. Enhance local weather monitoring to provide early flood warning notifications by installing additional weather stations to complement the existing network;

24. Complete a detailed flood risk mapping and modeling exercise of the major Road Town watersheds and basic mapping and modeling of other significant watersheds in the Territory by the end of 2014;

IMPROVING DRAINAGE, STORMWATER MANAGEMENT AND FLOOD PLANNING

25. Require the creation of **Flood Action Plans** and development standards for major flood prone communities based on flood risk mapping and modeling;

26. Develop and approve a **National Drainage Plan** and **Local Area Drainage Plans** (to accommodate a 100 year flood event) for the greater Road Town area and all other priority towns and settlements based on flood risk mapping and modeling and the National and Local Area Physical Development Plans;

27. Require **Site Specific Drainage Plans** for all developments. These should be based on the Local Area Drainage Plans once they have been developed;

28. Develop a strong, **comprehensive policy on stormwater management and sedimentation control** within the next two years;

29. Implement a programme to reforest cleared/degraded lands with trees/grasses of high water and soil conservation value;

30. Develop and approve policies to minimise impervious surfaces in order to reduce stormwater runoff. Such policies may include requiring use of permeable pavement systems for sidewalks and parking lots and encouraging green roofs where suitable;

31. Commission a study to explore options for the capture, treatment and reuse of stormwater for applications such as cooling, irrigation, flushing toilets etc.;

32. Implement 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.

33. Implement a programme and provide the necessary resources to maintain and clean identified priority ghuts on a regular basis;

34. Encourage the declaration of ghuts and salt ponds as **Protected/Forestry/Water 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*;

35. Extend enhanced legal protections to salt ponds as important drainage and catchment areas.

36. Use 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

37. Include in the forthcoming *Physical Planning Act 2004 Regulations* a requirement for commercial buildings to have cisterns for rainwater capture. Retain the requirement for residential buildings to have cisterns;

38. Develop a **Sustainable Freshwater, Watershed and Coastal Waters Management and Pollution Prevention Plan** based on a water carrying capacity study and other relevant studies;

39. Fully repair and expand public infrastructure for water capture, storage and delivery within the next 10 years. Storage capacity should meet the international standard of a 3 day minimum supply;

40. 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 (2027);

41. Install bulk meters at different zones of the water distribution system to better account for water and detect leaks/theft;

42. 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;

43. Restore wells and manage groundwater resources for agricultural applications;

44. Require new desalination plants to use sea water intakes (whether direct intakes or intakes from near shore seawater wells) and not intake from groundwater supplies (in order to protect the groundwater table);

45. Implement strict water conservation and efficiency programmes, including through education and use of incentives. Incentives may include duty concessions on importation of water saving devices and revisions to the water tariff to charge consumers the true cost of water received;

46. Conduct an economic study to determine how many desalination companies the market can bear as the need arises;

47. Encourage use of alternative energy sources (e.g. solar) to power desalination plants.

g) Energy Security

In order to minimize the extent 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** with the necessary resources and Cabinet authority to conduct research and draft policies on energy. The Committee should be inter-agency and also include non-governmental representation;

2. Assign a public offer to act as the **National Energy Focal Point** to support the work of the National Energy Committee ;

3. Require the National Energy Committee to further develop and implement the **Stage 1 Actions - to Develop a National Energy Policy** (see below) within the next 4 years;

4. Require the National Energy Committee to develop a **Comprehensive National Energy Policy** to direct all aspects of energy production, distribution and consumption in The Virgin Islands based on the outcomes of the **Stage 1 Actions** and incorporating the **Stage *2* Actions** (see below) within the next 4 years. The Policy should achieve enhanced energy efficiency and conservation, the meaningful integration of renewable energies into the energy mix (with a base production capacity identified), enhanced electricity sector performance and generating power efficiency and the reduction of energy use in the transport sector.

5. Pass changes to the *British Virgin Islands Electricity Corporation Ordinance, Cap 277, Customs Duties Ordinance, Cap 105* and other relevant legislation and regulations (including creating new legislation or regulations if necessary) to support the National Energy Policy at the earliest date possible within the next 4 years.

CAPACITY BUILDING AND PUBLIC EDUCATION

6. Implement an ongoing public education programme on energy conservation, efficiency and renewable energy;

7. Integrate energy conservation/efficiency and renewable energy into the existing curriculum at all levels of the education system.

8. Encourage training in energy conservation/efficiency and renewable energy technologies (at Certificate, Bachelor and Master levels), including through listing renewable energy as a priority area for Government scholarships and study leave and providing ongoing opportunities for training.

9. 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. This may be done through many existing institutions/mechanisms such as EDIN (Energy Development in Island Nations), the Global Sustainable Energy Islands Initiative and The Caribbean Renewable Energy Development Programme (CREDP).

ENHANCING THE DISASTER PREPAREDNESS AND RESILIENCE OF THE ENERGY INFRASTRUCTURE

10. Test and update safety measures and hurricane contingency plans for energy facilities;

11. Avoid building new energy infrastructure in vulnerable areas or with vulnerable designs or materials;

12. Climate-proof existing/planned fuel terminals and electricity generation/distribution systems to reduce vulnerability to climate threats;

13. Improve drainage around the main electricity generation plant at Pockwood Pond;

14. Bury electrical lines where it is determined to be strategic; and

15. 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 ACTIONS - TO DEVELOP A NATIONAL ENERGY POLICY

Energy Conservation and Efficiency

a) Develop draft adaptive energy conservation and efficiency standards and financial incentive programmes to encourage energy conservation practices and energy efficient appliances (e.g. Energy Star), equipment (e.g. air conditioning systems), building products and materials;

Renewable Energy Integration and Promotion

b) Commission a ***National Renewable Energy Feasibility Study*** to:
   I. Identify available renewable energy sources and technologies that are practical, commercially viable and suited to the culture and economy of The Virgin Islands;
   II. Determine the feasibility of renewable energy production at the utility scale (i.e. by the BVI Electricity Corporation);
   III. Determine the feasibility of small scale grid-tie renewable energy integration at the residential and private sector scale [as implemented in the United States Virgin Islands by the Water and Power Authority (WAPA)];
   IV. Determine requirements to ensure that the electric grid can safely handle distributed power production;

V. Determine the feasibility of waste to energy production;
VI. Evaluate financial incentive best practices and create a Virgin Islands approach to encourage public and private sector investment in renewable energy technologies. The policy should ultimately provide *opportunities and mechanisms to allow Virgin Islanders to be the principal investors and owners in the renewable energy sector;*
VII. Evaluate the existing revenue model of the BVI Electricity Corporation and revise it accordingly to ensure that it is suitable/sustainable for going forward in a renewable energy mix future;
VIII. Determine suitable incentive programmes or tariff schemes to encourage greater water and energy conservation and efficiency practices;

c) Develop a standard application process to enable the BVI Electricity Corporation to evaluate requests for renewable energy production feeding into the electrical grid by private producers; and

d) Develop a proposal for a solar water heater programme that encourages installation of solar water heaters, using a locally appropriate version of the Barbados model.

STAGE 2 ACTONS - FOR INCLUSION IN A NATIONAL ENERGY POLICY

Energy Conservation, Efficiency and Education

a) Update and improve the ***Building Regulations 1999*** by adopting the relevant International Codes (I-Codes) of the ICC by 2014, including the International Building Code and International Energy Conservation Code, to address energy efficiency and "green" building standards;

b) Require existing buildings to be retrofitted to meet (to the extent feasible) new energy efficiency standards within a specified time period;

c) Increase supply-side energy efficiencies by upgrading the energy infrastructure where necessary;

d) 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; and

e) Create a wide reaching, efficient and dependable national public transportation system.

Renewable Energy Integration and Promotion

f) Promote renewable energy installations on school buildings/campuses to increase exposure to and learning about renewable energy;

g) 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:

- Agricultural Small Holdings Act, Cap 83
- British Virgin Islands Electricity Corporation Ordinance, Cap 277
- Buildings Ordinance, Cap 234
- Buildings Regulations, 1999
- Customs Duties Ordinance, Cap 105
- Environmental Management and Conservation of Biodiversity Bill, 2008 (draft)
- Fisheries Act, 1997
- Hotel Aid Ordinance, Cap 290
- Infectious Diseases Notification Ordinance, Cap 180
- Nuisance Regulations
- Planning Act, 2004 (and forthcoming regulations)
- Quarantine Act, Cap 196
- Road Ordinance, Cap 217

IX. ACCOUNTABILITY

Responsibility for the timely and coordinated implementation of *The Virgin Islands Climate Change Adaptation 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. Each Ministry and relevant Department and Statutory Body of Government, however, under the guidance of the NCCC, is to be responsible for actively integrating the implementation of the Climate Change Policy directives into their respective annual work programmes.

The National Climate Change Committee has already been approved by Cabinet 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 (as a part of the Cabinet Paper accompanying this Policy) 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 proposed under the ECACC Project and as required to ensure effective adaptation, it is further 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 would mean that 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 all development applications

for the seabed and land 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 development decisions.

X. FINANCING (Climate Change Trust Fund)

A *Climate Change Trust Fund* shall be established to fund the effective implementation of *The Virgin Islands Climate Change Adaptation Policy.* This Trust 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 environmental levies, carbon offsets, inventive programmes, etc; and (b) **manage the funds** to ensure that they 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 and criteria 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;
- ✓ ***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:

- ***Environmental Levy*** (such as a carbon levy through a bed tax to offset energy use) on guests of hotels and charter yachts which can raise **US$6.6 million per year** based on a US$20 bed tax on (a) 150,000 hotel and rental guests, and (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 a 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 *The Virgin Islands Climate Change Adaptation Policy*.

XI. MONITORING AND REPORTING

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.