



DELIVERING TRANSFORMATIONAL CHANGE 2011-21

FULL REPORT

Implementing the CARICOM 'Regional Framework for
Achieving Development Resilient to Climate Change'

March 2012

DELIVERING TRANSFORMATIONAL CHANGE 2011-21

FULL REPORT

**Implementing the CARICOM 'Regional Framework for
Achieving Development Resilient to Climate Change'**

March 2012



This document has been prepared by the Caribbean Community Climate Change Centre in response to a request from the CARICOM Heads of Government to produce an Implementation Plan to guide the delivery of the 'Regional Framework to Achieving Development Resilient to Climate Change'.

Technical Report 5C/CCCCC-12-03-01

Copyright © March 2012 by Caribbean Community Climate Change Centre and the Climate and Development Knowledge Network

Published by Caribbean Community Climate Change Centre,
Belmopan, Belize

No use of this publication may be made for resale or for any other commercial purpose whatsoever. It may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. The Caribbean Community Climate Change Centre (CCCCC) would appreciate a copy of any publication that uses this report as a source.

Caribbean Community Climate Change Centre, Ring Road, P.O.
Box 563, Belmopan, Belize

Visit our website at <http://www.caribbeanclimate.bz>

ISBN: 978-976-8236-08-1 (paperback)

ISBN: 978-976-8236-05-0 (pdf)

REPUBLIEK SURINAME



The Implementation Plan for the Regional Framework for Achieving Development Resilient to Climate Change which defines the Regional Strategy for coping with Climate Change was approved by the Twenty-Third Inter-Sessional Meeting of the Conference of Heads of Government of the Caribbean Community, held in Suriname 8 – 9 March, 2012.

Official decision of the Heads

“Heads of Government approved the ‘Implementation Plan for the Regional Framework for Achieving Development Resilient to Climate Change’ which defines the Region’s strategic approach for coping with climate change for the period 2011 – 2021;

They expressed appreciation for the support of International Development Partners with respect to the Implementation Plan and pledged to support the further efforts of the Climate Change Centre and the CARICOM Secretariat in the execution of the Plan”.

This document has been prepared by the Caribbean Community Climate Change Centre in response to a request from the CARICOM Heads of Government to produce an Implementation Plan to guide the delivery of the 'Regional Framework to Achieving Development Resilient to Climate Change'.

Structure of the Report

Chapter 1	provides the context for the Implementation Plan.
Chapter 2	discusses the Implementation Plan process and introduces the concept of the 'three-ones' approach to resource mobilisation.
Chapter 3	explores the critical issue of finance to support the actions to build climate resilience and deliver low carbon economies.
Chapter 4	considers the role of risk management and the need to create a risk 'ethic' in the Caribbean with evidence-based decisions.
Chapter 5	reviews capacity implications drawing on the UNDP country assessments
Chapter 6	considers the need for engagement across and within the Caribbean, recognising that the level of awareness is low.
Chapter 7	emphasises the need for greater integration between disaster risk reduction and climate change and the alignment work that is now underway.
Chapter 8	reviews the role of stakeholders in implementing the strategic elements and goals of the Regional Framework.
Chapter 9	considers the actions identified by stakeholders required in the next 2-5 years to build resilience and low-carbon economies (A table of actions against each of the strategic elements and goals is provided in Annex 1).
Chapter 10	explores monitoring and implementation of the Regional Framework and the Implementation Plan.

Contents

EXECUTIVE SUMMARY	17
1. INTRODUCTION	41
The Regional Context	41
A call for transformational change	46
The 'Regional Framework for Achieving Development Resilient to a Changing Climate' (the Regional Framework)	47
2. EXECUTION OF THE IMPLEMENTATION PLAN	49
Resource mobilisation using the 'three-ones' principle	53
Policy convergence using a twin-track approach	60
3. FINANCING	63
Introduction	63
Policy and investment roadmaps	64
Adaptation, mitigation and development	67
Financing by national governments	67
Private investment and capital markets	68
External funding from donors and IFIs	72
4. RISK MANAGEMENT	75
Introduction	75
CARICOM Risk Management Guidelines	75
Review of the CARICOM Risk Management Guidelines	78
5. CAPACITY	81
Data and information are public goods	82
Building on existing knowledge and expertise	82
6. ENGAGING THE CARIBBEAN	85
Introduction	85
Engagement and outreach programme	86
7. IMPLEMENTATION THROUGH DISASTER RISK REDUCTION	91
Strengthening the linkages between disaster risk reduction and adaptation	93

8. ROLE OF STAKEHOLDERS	99
Clear commitment by governments and stakeholders	99
The Role of Regional Stakeholders	99
The Role of National Governments	103
The Role of the Private Sector	105
The role of the non-governmental and community based organisations and wider civil society	106
Role of the international development community	107
9. DELIVERING TRANSFORMATIONAL CHANGE	109
Introduction	109
Actions included in this Implementation Plan	109
Additional actions	110
Additional research actions	111
10. MONITORING AND EVALUATION OF THE REGIONAL FRAMEWORK AND THE IMPLEMENTATION PLAN	113
Execution of the Implementation Plan	115
Implementation plan milestones	115
ANNEXES	
Annex 1. Proposed actions identified by stakeholders	117
Annex 2. Capacity assessments	151
Annex 3. Climate Change Adaptation and Mitigation Funding Opportunities	157
Annex 4. Current actions database	183
Annex 5. In-country discussions with key stakeholders	189
Annex 6. Liliendaal Declaration on Climate Change and Development	195
Annex 7. Implementation Plan toolkit to institutionalise resilience building	199
Annex 8. Implementation Plan Preparation Methodology	209
REFERENCES	211

Acronyms used in this document

ADAPT	Assessment and Design for Adaptation to Climate Change
AF	Adaptation Fund
AFD	French Development Agency
AOSIS	Alliance of Small Island States
ACCC	Adaptation to Climate Change in the Caribbean
ACS	Association of Caribbean States
AGF	Advisory Group on Climate Finance
AMAP	Arctic Monitoring and Assessment Program
Aus AID	Australian Agency for International Development
BEST	Bahamas Environment, Science and Technology Commission
BLPC	Barbados Light and Power Company
CAIB	Caribbean Association of Indigenous Banks
CAIC	Caribbean Association of Industry and Commerce
CABEI	Central American Bank for Economic Integration
CANARI	Caribbean Natural Resources Institute
CARDI	Caribbean Agricultural Research and Development Agency
CAREC	Caribbean Epidemiological Centre
CARICOM	Caribbean Community
CARIWIN	Caribbean Water Initiative
CAS	Country Assistance Strategy of the UNDP
CAWASA	Caribbean Water and Sewerage Association Inc.
CBOs	Community Based Organizations
CDB	Caribbean Development Bank
CCA	Climate Change Adaptation
CCCCC	Caribbean Community Climate Change Centre
CCDM	Mainstreaming Climate Change into Disaster Risk Management Project
CCRIF	Caribbean Catastrophic Risk Insurance Facility
CCS	Caribbean Community Secretariat
CDEMA	Caribbean Disaster and Emergency Management Agency
CDERA	Caribbean Disaster and Emergency Response Agency
CDKN	Climate and Development Knowledge Network
CDM	Clean Development Mechanism
CDM	Comprehensive Disaster Management
CEDA	Caribbean Export Development Agency
CEDRA	Climate Change and Environmental Degradation Risk and Adaptation Assessment
CEHI	Caribbean Environmental Health Institute
CEIF	Clean Energy Investment Framework (of the World Bank)
CERs	Certified Emission Reductions
CERMES	Centre for Resource Management and Environmental Studies
CFLs	Compact Fluorescent Lights
CHTA	Caribbean Hotel Tourism Association

CIDA	Canadian International Development Agency
CIF	Climate Investment Fund
CIMH	Caribbean Institute of Meteorology and Hydrology
CLME	Caribbean Large Marine Ecosystem Project
CMC	Canadian Meteorological Centre
CMO	Caribbean Meteorological Organization
CMS	Centre for Marine Sciences of the UWI
CNIRD	Caribbean Network for Integrated Rural Development
CO₂	Carbon dioxide
COFCOR	Council for Foreign and Community Relations
COP	Conference of the Parties to the UNFCCC
COP MOP	Conference of the Parties Meeting of the Parties to the Kyoto Protocol
CORS	Continuously Operating Reference System
COHSOD	Council for Human and Social Development
COTED	Council for Trade and Economic Development
CPACC	Caribbean Planning for Adaptation to Climate Change
CPDI	Cambridge Project Development Incorporation
CREDP	Caribbean Renewable Energy Project
CREWS	Coral Reef Early Warning System
CRFM	Caribbean Regional Fisheries Mechanism
CRIS	Coastal Resource Inventory System
CRISTAL	Community Risk Screening Tool - Adaptation and Livelihoods
CRMI	Caribbean Risk Management Initiative
CRMN	Caribbean Reef Monitoring Network
CROSQ	CARICOM Regional Organization for Standards and Quality
CSG	Climate Studies Group of the UWI
CTF	Clean Technology Fund
CTO	Caribbean Tourism Organization
CVCA	Climate Vulnerability and Capacity Analysis
CXC	Caribbean Examination Council
CWWA	Caribbean Water and Wastewater Association
CZMAI	Coastal Zone Management Agency and Institute of Belize
CZMU	Coastal Zone Management Unit, Barbados
DFID	Department for International Development
DM	Development Market Place
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DSLI	Department of Survey and Land Information of UWI
EC	European Commission
ECLAC	Economic Commission for Latin America and the Caribbean
EDF	Environmental Defense Fund
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EMA	Environmental Management Authority
ERI	Environmental Research Institute of the University of Belize
ESIA	Environmental and Social Impact Assessment

ESMAP	Energy Sector Management Assistance Program
ESSP	Earth System Science Partnership
EU	European Union
FAO	Food and Agriculture Organization of the UN
FCPF	Forest Carbon Partnership Facility
GCC	Global Climate Change
GCCA	Global Climate Change Alliance
GDP	Gross Domestic Product
GECAFS	Global Environmental Change and Food Systems
GEF	Global Environment Facility
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GFDRR	Global Facility for Disaster Reduction and Recovery
GHGs	Green House Gases
GIS	Geographic Information System
GPS	Global Positioning System
GLOSS	Global Sea Level Observing System
GWPC	Global Water Partnership Caribbean
HFA	Hyogo Framework for Action
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HVCs	Hazards, Vulnerabilities and Capacities
IAC	Insurance Association of the Caribbean
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
IDA	International Development Assistance
IDRC	International Development Research Centre
IEA	International Energy Agency
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFIs	International Financial Institutions
IICA	Inter-American Institute for Cooperation on Agriculture
INSMET	Instituto de Meteorologico de Cuba
INWAP	Inter-American Development Bank-Netherlands Water Partnership Program
IOCARIBE	Caribbean section of the International Oceans Commission
IP	Implementation Plan
IPCC	Inter-Governmental Panel on Climate Change
IPCC AR	Inter-Governmental Panel on Climate Change Assessment Report
ISDR	International Strategy for Disaster Reduction
ITF	International Transport Forum
IUCN	International Union for the Conservation of Nature
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JPSCo	Jamaica Public Service Company Ltd.
KP	Kyoto Protocol
LAN	Local Area Network
LCDS	Low-Carbon Development Strategy

LDCs	Least Developed Countries
LDCF	Least Developed Countries Fund
LUCELEC	Saint Lucia Electricity Services Ltd.
M & E	Monitoring and Evaluation
MACC	Mainstreaming Adaptation to Climate Change
MAR	Meso-American Reef
MDBs	Multi-Lateral Development Banks
MDG-F	Millennium Development Goals Achievement Fund
MDGs	Millennium Development Goals
MFPS	Ministry of Finance and the Public Service, Jamaica
MRV	Monitoring Reporting and Verification
NACF	National Adaptive Capacity Framework
NAPA	National Adaptation Programs of Action
NCCC	National Climate Change Committee
NCSA	National Capacity for Self Assessment
NCSF	National Communication Support Program
NDC	Nordic Development Fund
NEAs	National Enabling Activities
NEEC	National Environmental Education Committee
NEMOs	National Emergency Management Organizations
NEMS	National Environmental Management Strategy
NEPA	National Environmental Protection Agency of Jamaica
NFPs	National Focal Points
NGOs	Non Governmental Organizations
NICUs	National Implementation Coordinating Units
NOAA	National Oceanic and Atmospheric Administration
NOAA/NOS	National Ocean Service of the U.S. National Oceanographic and Atmospheric Administration
NRM	Natural Resource Management
NTOs	National Tourism Organizations
NSWMA	National Solid Waste Management Agency
OAS	Organization of American States
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OECS	Organization of Eastern Caribbean States
OTEC	Ocean Thermal Energy Conversion
OUR	Office of Utilities Regulation, Jamaica
PADR	Participatory Assessment of Disaster Risk
PAHO	Pan American Health Organization
PANCAP	Pan Caribbean Partnership
PCJ	Petroleum Corporation of Jamaica
PIOJ	Planning Institute of Jamaica
PPCR	Pilot Partnership for Climate Resilience
PPP	Public-Private Partnership
PROFOR	Program on Forests
PSCG	Private Sector Commission of Guyana
PSOJ	Private Sector Organization of Jamaica

RAC	Regional Archiving Centre
REDD	Reducing Emissions from Deforestation and Forest Degradation
RTF	Rainforest Trust Fund
RTP	Regional Transformation Program
RUD	Risk, Uncertainty and Decision-making
SAS	Small Activities Scheme (of the Adaptation Fund)
SCCF	Special Climate Change Fund
SCF	Strategic Climate Fund
SGP	Small Grants Program (of the GEF)
SIDS	Small Island Developing States
SIDS DOCK	Small Island Developing States Docking Facility
SLM	Sustainable Land Management
SOPAC	Pacific Islands Applied Geo-science Commission
SPACC	Special Pilot Adaptation to Climate Change
SREP	Scaling Up Renewable Energy Program
UB	University of Belize
UKCIP	United Kingdom Climate Impacts Program
UKJNCC	United Kingdom Joint Nature Conservation Committee
UKOTCF	United Kingdom Overseas Territories Conservation Forum
UN	United Nations
UNAIDS	Joint United Nations Program of HIV/AIDS
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Education Fund
UNITAR	United Nations Institute for Training and Research
UNWTO	United Nations World Tourism Organization
US	United States
USAID	United States Agency for International Development
USD	United States Dollar
UTech	University of Technology, Jamaica
UTT	University of Trinidad and Tobago
UWI	University of the West Indies
VCA	Vulnerability and Capacity Assessment
VCAM	Vulnerability and Capacity Assessment Manual
WB	World Bank
WHO	World Health Organization
WRA	Water Resources Authority
WRI	World Resources Institute
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

Context

CARICOM countries have considerable concerns about the severe threats posed by a changing climate to their development prospects and have come to the conclusion that both mitigation and adaptation options will require a significant and sustained investment of resources that the Member States will be unable to provide on their own.

These concerns are reflected in the Liliendaal Declaration which the CARICOM Heads of Government endorsed at their meeting in Guyana in July 2009 (Annex 6). The Liliendaal Declaration defines the national and international position of the CARICOM Member States and makes a number of declarations which can only be delivered by transformational change. These declarations include:

1. Long-term stabilization of atmospheric greenhouse gas (GHG) concentrations at levels which will ensure that global average surface temperature increases will be limited to below 1.5 °C of preindustrial levels; that global GHG emissions should peak by 2015; and ultimately reducing GHG emissions by more than 95% of 1990 CO₂ levels by 2050.
2. Adaptation and capacity-building must be prioritized and a formal and well-financed framework established within and outside the UNFCCC to address the immediate and urgent, as well as long-term, adaptation needs of vulnerable countries, particularly the Small Islands and Lowlying Coastal Developing States (SIDS) and the Least Developed Countries (LDCs).
3. The need for financial support to SIDS to enhance their capacities to respond to the challenges brought on by climate change and to access the technologies that will be required to undertake needed mitigation actions and to adapt to the adverse impacts of climate change.

In the Declaration, the Heads of Government expressed grave concern that the region's efforts to promote sustainable development and achieve the Millennium Development Goals (MDGs) are under severe threat from the devastating effects of climate change and sea level rise. Of particular note is the increasing intensity of extreme weather events, resulting in severe damage to the region's socio-economic resource base. The Declaration emphasized that dangerous climate change is already occurring in all SIDS regions including the Caribbean requiring urgent ambitious and decisive action by CARICOM States and by the international community.

"It is absolutely necessary that all our countries identify and implement, in the shortest possible timeframe, a series of measures designed to minimise and mitigate the effects of global warming on our countries and populations..."

**Chair CARICOM 2009,
Hon. Dean Oliver
Barrow, Prime
Minister of Belize**

The Regional Framework

Previous to the Liliendaal Declaration, the CARICOM Heads of Governments had requested the Caribbean Community Climate Change Centre (CCCCC) to prepare a strategy to address climate change in the region. At the same meeting in Guyana in July 2009 the Heads of Government also approved the submission by the CCCCC entitled 'Regional Framework for Achieving Development Resilient to Climate Change' (the Regional Framework). The Regional Framework defined CARICOM's strategic approach for coping with climate change and is guided by five strategic elements and some twenty goals designed to significantly increase the resilience of the CARICOM Member States' social, economic and environmental systems. The strategic elements are as follows:

- a. Mainstreaming climate change adaptation strategies into the sustainable development agendas of CARICOM states.
- b. Promoting the implementation of specific adaptation measures to address key vulnerabilities in the region.
- c. Promoting actions to reduce greenhouse gas emissions through fossil fuel reduction and conservation, and switching to renewable and cleaner energy sources.
- d. Encouraging action to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate.
- e. Promoting action to derive social, economic, and environmental benefits through the prudent management of standing forests in CARICOM countries.

The Regional Framework provides a roadmap for action by Member States and regional organisations over the period 2009-2015, while building on the groundwork laid by the CCCCC and its precursor programmes and projects in climate change adaptation¹. It also builds upon the extensive work undertaken by governments, regional organisations, NGOs and academic institutions in recent years assessing the impacts of a changing climate.

The Heads of Government subsequently mandated the CCCCC to prepare an Implementation Plan (IP) to take forward and deliver the strategic elements and goals identified in the Regional Framework.

Economic Costs:

An economic analysis of the costs of a changing climate in just three categories -increased hurricane damages, loss of tourism revenue, and infrastructure damages- projected that the Caribbean's annual cost of inaction could total \$10.7 billion annually by 2025, \$22 billion by 2050 and \$46 billion by 2100. These costs represent 5%, 10% and 22% respectively, of the current Caribbean economy (2004 GDP).

The net effect of costs on this scale is equivalent to causing a perpetual economic recession in each of the CARICOM Member States.

¹ Including the National Enabling Activities (NEAs), the First National Communications Projects, the Caribbean Planning for Adaptation to Climate Change (CPACC) project (1998-2001), the Adaptation to Climate Change in the Caribbean (ACCC) project (2001-2004), the Mainstreaming Adaptation to Climate Change (MACC) project (2003-2009), and the pilot projects being undertaken under the Special Pilot Adaptation to Climate Change (SPACC).

The Implementation Plan

This is the Executive Summary of the CARICOM Implementation Plan for the 'Regional Framework for Achieving Development Resilient to Climate Change'.

1. Delivering Transformational Change

Building climate resilient low carbon economies in the Caribbean will require a transformational change by national governments, regional organisations, NGOs, the private sector and civil society supported by an unprecedented level of financial and technical assistance from the developed world. The Implementation Plan therefore acknowledges that a transformational change in mindset, institutional arrangements, operating systems, collaborative approaches and integrated planning mechanisms are essential to deliver the strategic elements and goals of the regional framework.

The Plan:

- Seeks to guide the identification and prioritisation of actions by regional and national stakeholders under each strategic element and goal area of the Regional Framework through the use of risk management approaches to decision making;
- Considers responsibilities and functional co-operation between regional organisations and national governments;
- Recognises that there are existing significant resource and capacity challenges that hold back the region's sustainable development and growth and proposes building on a process known as the 'three-ones' to assist in resource mobilisation and co-ordination of actions; and
- Proposes a monitoring and evaluation (M&E) framework

The Implementation Plan was developed to be a 'live process' and will be subject to review and modification in response to inter alia :

- Enhanced knowledge and understanding of climate science and the direct and indirect impacts (supported by quantitative evidence where possible).
- The development and access to funding mechanisms.
- Changes in financial, technical and human resource capacity.
- Prevailing economic conditions in the Caribbean.

Business as usual, given the scale of the costs of climate change and the catastrophic impact on our economies, society and environment is not an option. Business as usual will mean that the economies of the Caribbean are in permanent recession.

This requires leadership at all levels throughout the political and the wider community working in partnership with stakeholders to deliver change..... now.

- Success or otherwise of actions taken.
- Results from the M&E framework.
- International negotiations on emissions control and climate change financing.

A biannual review is proposed of both the Regional Framework and the Implementation Plan to ensure that they continue to provide the right focus for the required transformational changes. The CCCCC has a coordinating and delivery role in this regard and will maintain a continuous dialogue with key stakeholders to ensure that the Regional Framework and the Implementation Plan accurately reflect the Caribbean's transformational needs. This on-going dialogue will ensure that the Regional Framework and the Implementation Plan remain 'live' documents.

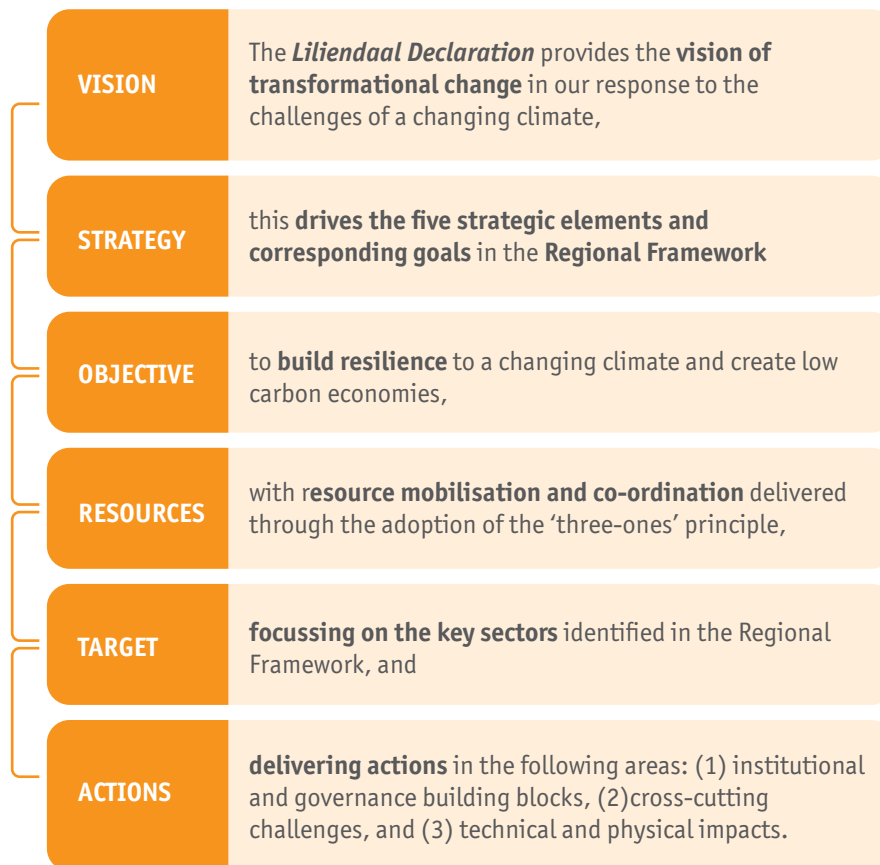
2. Preparation Process

The Implementation Plan was prepared following an extensive programme of in-country discussions with politicians, government officials, regional agencies, NGOs, the private sector, donors and development banks. For the most part these discussions have been on a one-to-one basis or in small groups, followed by further engagement and focussed on identifying those actions stakeholders believed were required to be undertaken within the next 2 to 5 years. Meetings have been held with over 140 stakeholders during the in-country discussions.

3. High Level Overview of the Implementation Plan

An overview of the Implementation Plan is provided in figures 1 and 2. The process follows these steps:

FIGURE 1: Implementation Plan high level overview



4. The “Three-ones” approach to resource mobilisation and IP execution

The transformational changes required by the Liliendaal Declaration and necessary to deliver the strategic elements and goals in the Regional Framework also require corresponding changes in the process of policy setting and decision-making in all organisations. Implementation through the specific actions identified in this

report, and through wider regional and national sustainable development and growth strategies, policies and actions requires a process which can:

- Effectively mobilise limited resources.
- Ensure alignment with those wider sustainable development and growth objectives.
- Deliver inclusive policies and decisions that ensure climate resilience and low carbon is built in, rather than added on as an afterthought.
- Co-ordinate and manage delivery.
- Monitor, evaluate, review and improve.

Member States, regional organisations and CARICOM are already over tasked and under-resourced. Delivering transformational change requires an approach that recognises these constraints.

The ‘three-ones’ approach is an essential feature of the Implementation Plan process and has been used successfully in the Caribbean (see side bar). The Implementation Plan recommends that the ‘three-ones’ approach is adopted at regional and national levels. It is based on the principle of establishing a sustainable resource mobilisation plan with three core elements:

- One plan that provides the framework for co-ordinated action by all partners. (Note ‘One Plan’ means one agreed set of shared and common goals and objectives which can be contained within various individual documents).
- One co-ordinating mechanism to manage the process. The Implementation Plan recommends a single regional co-ordinating mechanism and separate national co-ordinating mechanisms in each country).
- One monitoring and evaluation framework to measure progress, transparency and value for money.

Each member country and each regional organisation has different challenges, organisational processes and governance. The process developed by each government and regional organisations to mobilise resources should reflect this and work within, and build upon the effective governance and institutional arrangements that already exist. The coordination of the execution of the IP (including linkages between the political and technical processes drivers) will be the function of a new coordinating body. The Coordinating Mechanism will report to the Heads of Government, with the CCCCC working within its mandate to provide technical and secretarial support.

The Three-ones approach: an example of the Caribbean working in partnership; mobilising resources to deliver results.

The three ones model has been successfully used by the Pan Caribbean Partnership (PANCAP) to deliver transformational change with limited resources. Over the 10 year period of the programme not only has PANCAP been declared an international best practice example by the United Nations but it has also contributed greatly to the management of HIV/AIDS across the Caribbean.

- It has mobilised over US\$75 million.
- Contributed to international strengthening.
- Delivered a 28% reduction in the spread of HIV.
- Reduced deaths by 50%.
- Reduced the mother to child transmission of HIV by 80%.
- Trained over 200 professionals most of whom are engaged in managing national and regional HIV programmes.

FIGURE 2: Implementation Plan

THE LILIENDAAL DECLARATION PROVIDES THE VISION OF TRANSFORMATIONAL CHANGE IN OUR RESPONSE TO THE CHALLENGES OF A CHANGING CLIMATE

This drives the Regional Framework's Five Strategic Elements (and 20 goals nested within these):

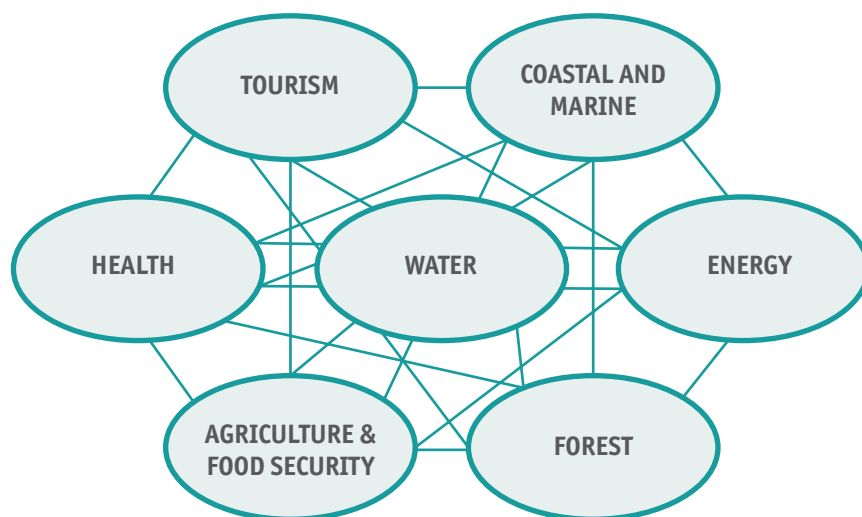
1. Mainstream climate change adaptation strategies into the sustainable development agendas of CARICOM states.
2. Promote the implementation of specific adaptation measures to address key vulnerabilities in the region.
3. Promote actions to reduce greenhouse gas emissions through fossil fuel reduction and conservation, and switching to renewable and cleaner energy sources.
4. Encourage action to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate.
5. Promote action to derive social, economic, and environmental benefits through the prudent management of standing forest on CARICOM countries.

To build resilience to a changing climate and low carbon economies.

WITH RESOURCE MOBILISATION TO MEET THE CHALLENGE THROUGH THE 'THREE ONES' PRINCIPLE

ONE PLAN	ONE CO-ORDINATING MECHANISM	ONE M&E SYSTEM
Liliendaal Declaration Regional framework strategic elements and goals delivered through:	Regional level through CARICOM (Coordinating Mechanism)	M&E focus Resource mobilisation and strategic direction through: One plan & one co-ordinating mechanism.
Track One Implementation Plan	National level through governments	Progress and results from institutional and intervention actions.
Track Two Regional and National strategies & policies		Achieving transformational change





FOCUSING ON THE REGIONAL FRAMEWORK SECTORS

These are the sectors identified in the Regional Framework. Impacts in one sector have consequences and feeds back into the others.

DELIVERING ACTIONS IN THESE AREAS:

Institutional and governance building blocks

These are key priorities for transformational change and for successful implementation.

Actions are proposed including the adoption of the 'three-ones' principle.

Cross-cutting challenges

Information and evidence gaps.
Gender public outreach, engagement and communications.
Disaster risk reduction.
Technical, financial and human capacity.
Information management and access.
Private sector mobilisation.

Actions are proposed in these areas.

Technical and physical impacts

Actions are proposed in all these areas at both regional and national levels.

Those actions that could be undertaken (subject to funding and other capacity challenges) are identified as possible projects in the next 2 years.

5. Haiti - A Special Case

Full engagement with the government and other stakeholders from Haiti has been difficult during the time set aside for in-country dialogue. Discussions are now taking place with representatives from the Government, with further dialogue planned, including contact with other key stakeholders.

It has been agreed with the National Focal Point that whilst the general principles contained in this report and the approach to implementation, are relevant to Haiti, it would be beneficial to develop a specific Haiti focused Implementation plan².

6. Other Outputs of the IP Process

Desktop review of climate change related projects:

During the earlier stages of preparing the Implementation Plan a desktop review was undertaken to develop a database of climate change-related actions that are currently underway or about to be started in the Caribbean. The database includes nearly 300 actions in various stages of preparation and completion which have been initiated in the region over the last ten years. These actions were coded against the strategic elements and goals of the Regional Framework³ and have since been transformed into an interactive and user-friendly web-based product that is available on the CCCCC website.

² This may also need to include a review of the Regional Framework's strategic elements and goals to confirm their relevance to Haiti.

³ Further details of the database can be found in Annex 5 of the main report. This database has been developed as a web-based tool and is hosted on the CCCCC website. It allows a user to search for projects against sector, country, sponsor, funding, strategic elements and goals. Project descriptions and links to core project documents and websites will be provided.

Actions essential for transformational change

1. Selection process for IP Actions

Stakeholders were asked, during the preparation of this implementation plan, to identify those actions they believed were required to be undertaken within the next 2 to 5 years to deliver the strategic elements and goals of the Regional Framework. These actions were recorded and stakeholders consulted on a Feedback Report during April 2011. The actions were then further developed at a regional stakeholder workshop held in Saint Lucia in May 2011. It should be noted that many of the actions identified by stakeholders are not derived from risk assessments of the hazards and vulnerabilities. Countries and regional organisations will have to undertake risk assessments using the best available information to ensure that the most appropriate solution is identified.

It also became clear during discussions with stakeholders, that the issue of sustainable livelihoods and gender has not been adequately covered in the Regional Framework. It is recommended that this should be covered in an interim review of the Regional Framework by the end of 2011. In the meantime further work is required by stakeholders to ensure that sustainable livelihoods and gender are identified and accounted for as crosscutting issues in all relevant actions in this Implementation Plan. These are set out in the main report in Chapter 9 and Annex 1.

A number of priority challenges and actions have been identified and examples provided in this Executive Summary. They, together with those actions which could be started in the next 2 years if funding or another capacity constraint can be overcome (early-start actions), provide the immediate focus for delivering the transformational change envisaged by the Liliendaal Declaration.

The priority challenges and actions, which cover institutional and governance building blocks, technical and physical impacts and cross-cutting challenges are considered in the next section. Each country will need to context these generic challenges and actions against the specific priorities in each country.

Priority actions

These reflect the reality of the challenges ahead, and the need to mobilise and take action now.

The Member States through the Liliendaal Declaration and the Regional Framework have already agreed that building resilience and low carbon economies is no longer an option for further debate.

Action has to take place now if we are to avoid the worst fears that a changing climate will bring to the Caribbean.

2. Institutional and governance building blocks

- 1. Building resilience requires transformational change and an effective mobilisation of scarce resources.** The scale of the challenges ahead requires an integrated approach across the region and within each of the Member States to embed climate change and low carbon energy into all policy setting and decision-making.

A multifaceted system of public (from both national budgets and development assistance) and private finance is required to provide the incentives that are necessary to go beyond 'business as usual' in the Caribbean and to allow access to capital to build low carbon climate resilient economies.

Member States, regional organisations and CARICOM Secretariat are already over-tasked and under-resourced. Delivering transformational change requires an approach that recognises these constraints.

ACTION: It is recommended that the 'three ones' principle should be adopted at a regional level by CARICOM and at a national level by each government.

At the national level it is recommended that the 'one co-ordinating mechanism' should be seen as a role for national strategic planning and/or finance ministries. Within the context of the national government environment, these institutions or similar ones are the departments best placed to manage scarce resources and take advantage of the external funding opportunities working in partnership with all other departments and organisations. Each national government will make the final decision on how best to mobilise, plan and monitor using the 'three-ones' principle.

Timeline: within 2 years.

At the regional level it is recommended that CARICOM adopts the 'three-ones' principle for resource mobilization, co-ordination, planning and monitoring by forming a new sub-committee of the Heads of Government, with the CCCCC serving as secretariat.

The Coordinating Mechanism will provide guidance to the Heads of Governments on the transformational changes required to achieve resilience to climate change in the areas of climate change adaptation and mitigation policy, finance and investment, and foreign relations.

The Coordinating Mechanism will receive briefings at such intervals as it might establish from the scientific community and communicate the policy imperatives to the CARICOM Heads of Government and monitor regional implementation.

Timeline: within 6 months.

The Coordinating Mechanism

It is proposed that a new regional coordinating mechanism with overall responsibility for driving transformational change at the regional level under the Liliendaal Declaration and the Regional Framework will be established. The coordinating mechanism will be chaired by the Head of Government with responsibility for sustainable development and emergency management. The CCCCC will provide the technical and secretariat support. The Coordination Mechanism should include the chairpersons of COTED, COSHOD and COFCOR and the CARICOM Secretariat, together with:

- Vice Chancellor or President from selected Caribbean Universities;
- Caribbean Universities;
- The President of the Caribbean Development Bank;
- The Executive Directors from CARICOM mandated regional organisations; and
- Representatives from the private sector and civil society.

2. Building a low carbon climate resilient economy is an integral element of the wider sustainable development agenda.

Addressing climate change without addressing the existing underlying sustainable development and growth challenges faced by Member States will not deliver resilience. Building low carbon climate resilience within the context of the wider sustainable development objective should become an integral feature of all policy setting and decision-making. A twin-track approach to implementation is required: which ensures that building resilience and creating low carbon economies becomes part of the wider sustainable development and growth agenda.

- a. **Track One:** Through the specific actions identified to meet the Regional Framework's strategic elements and goals by this IP.
- b. **Track Two:** Implementation through and as part of wider regional and national sustainable development and growth planning. The ultimate goal has to be that countries and organisations build resilience as an integral part of their development and growth planning, rather than as an add-on.

ACTION: The CARICOM Secretariat, national governments and regional organisations to review all their existing strategies, policies and actions to:

- ensure they align, are consistent with, and make a positive contribution to building resilience and delivering a low-carbon economy (and specifically the strategic elements and goals in the Regional Framework), and
- will continue to meet their wider development and growth objectives over time within the context of a changing climate.

Economic and operational planning by governments and by critical infrastructure operators must factor in the impacts of, and responses to a changing climate. Standard economic appraisal processes are required to enable comparisons and cross-sectoral implications to be assessed.

Timeline: within 2 years

Lead: CARICOM Secretariat, national governments, and regional organisations with regard to their respective strategies and policies

Partners: ECLAC, all regional organisations, CCRIF, critical infrastructure operators

- 3. The Caribbean cannot deliver resilience and create low carbon economies 'without financial and technical assistance.** CARICOM countries now have an opportunity to attract climate change finance to support their initiatives to build the resilience of their economies and achieve low carbon climate resilient development through initiatives such as the fast start funds under the Copenhagen Accords.

Partnerships are being developed, for example: the PPCR programme with several Caribbean states. The development of a Low-Carbon Development Strategy has provided Guyana with the road map to guide the sustainable development of the country during the life of the IP. The signing of the Memorandum of Understanding and the Joint Concept Note with Norway has cemented a win-win partnership and will provide financial resources of up to US\$250 million by 2015 to commence and partially support the implementation of the LCDS.

ACTION: CARICOM Member States should develop a region-wide position on the most effective and equitable funding mechanisms and engage with donors and IFIs on the basis of country-led needs assessments and processes. The Caribbean Development Bank can play an instrumental role working with the donors and IFIs to develop a regional funding mechanism.

It is recommended that the CCCCC working with the CDB develops a technical support facility to advise regional organisations and national governments on the funding opportunities, matching projects with funds and preparing funding applications.

Timeline: Within 12 months

Lead: CARICOM Secretariat, national governments, regional organisations and CDB

Partners: Donors and IFIs

The CCCCC is developing partnerships with donors and financial institutions to build technical capacity on accessing finance.

The AOSIS initiative SIDS DOCK is an excellent example of a partnership that will increase small island nations' access to the financing, technology, technical assistance and participation in the global carbon market to transition to a low carbon economy.

SIDS DOCK will connect the energy sector in SIDS with the global market for finance, sustainable energy technologies and with the European Union (EU and the United States (US) carbon markets. Estimates place the potential value of the US and EU markets between USD 100 to 400 billion annually.

- 4. The private sector has a fundamental role in providing and financing solutions.** Private sector investment has been identified as a significant contributor to the combined adaptation and mitigation funding target of US\$100 billion per annum by 2020. Governments (with support) must address the private sector risk reward balance in order to access the full range of funding opportunities.

Improving country risk profiles will have an added benefit of opening up other non-climate-related investment opportunities, thereby improving the growth potential.

Engagement with individual companies, representative organisations and professional bodies and their inclusion in strategy and policy development is essential.

ACTION: Assess and review the risk profiles for each CARICOM Member State in partnership with the private sector (operating at national, regional and international levels). Identify and implement a 5-year transformational programme to deliver the actions needed to improve the risk balance and attract private sector investment.

Timeline: Review within 12 months, implement within 5 years,

Lead: CARICOM Secretariat, CDB, national government ministries with responsibilities for finance and economic development, CICA

Partners: Caribbean financial services sector, international financial services sector

Attracting private sector investment

The Advisory Group on Climate Finance (AGF) was set up to identify how the US\$100 billion could be secured and in its report issued in November 2010 it concluded that finding the extra money was 'challenging but feasible'. If the Caribbean is to attract that part of the US\$100 billion to be provided by the private sector then it must ensure there is a rebalancing of risk to create sufficient interest. Investors will only invest if they can secure appropriate risk returns on their capital.

- 5. Acting regionally to deliver nationally.** The scale of the challenges limits the ability of any country acting on its own to build resilience. CARICOM and the regionally-mandated organisations therefore have a key role to play in the execution of the IP. Working collectively through a regional support structure allows countries to maximise their resources and technical expertise to the benefit of all.

Securing the necessary financial, technical and human resources and political support to move forward on CARICOM policy initiatives, and meet the needs of Member States to deliver sustainable development actions must be acknowledged as key priorities. It is clear that the regional organisations will need support from the international development community. Building a sustainable financial position to allow the regional organisations to meet future demand is critical to delivering transformational change.

Regional institutions including the CDB can also make an important contribution as implementing entities.

ACTION: A detailed financial, technical and human resource capacity assessment followed by action planning and implementation must be undertaken for each of the regional organisations (including CARICOM).

Sustainable resource strategies should be developed leading to enhanced capacity to meet the challenges arising from a changing climate. Securing a sustainable financial position to allow all regional organisations to meet future demand is critical to the delivery of the Implementation Plan.

Timeline: Capacity assessments to be undertaken within 12 months. Sustainable financial positions to be secured within 2 years

Lead: CARICOM and all regional organisations

Partners: CARICOM, national governments, and donors

- 6. Caribbean States must become low-carbon economies.** There is an overriding imperative to improve the resilience of the economies of the Caribbean by reducing the dependency on imported high-cost fossil fuels by improving energy efficiency and the development of low carbon energy generation. This would transform economies, lower unit costs of production and enable countries to increase the resources devoted to resilience building.

ACTION: Mapping-out the pathways to reduce the dependency on fossil fuels is an imperative and should be completed as a national priority in each country within 2 years. This exercise must include a full supply/demand assessment, an economic appraisal, cost benefit analysis and an environmental and social impact assessment (ESIA). It must also identify the existing legislative and regulatory constraints, the incentives (for example, feed in tariffs) and identify the required enabling legislative and regulatory framework.

Investment in public debate and engagement on low-carbon development planning and actions is required to secure national mandates. This must include the private sector. The changes required, their scale and implications necessitate a level of communication and engagement that is perhaps unprecedented.

There is an urgent need for countries to identify a portfolio of projects that can be presented to donors for the Fast Start financing programme.

Timeline: Pathways to be mapped out within 2 years, with Fast Start financing programme projects identified within 12 months.

Lead: National governments, CARICOM Secretariat.

Partners: The private sector, regional organisations, donors and IFIs

7. We must develop a risk management ethic in our decision-making. The Regional Framework is founded upon the principle of using risk management processes and tools to aid decision-making.

Decision-making based on subjective value judgements without using the information and the expert advice and guidance that is available, given the challenges and uncertainties we face, will compromise resilience building. Risk management assists in the selection of optimal cost-effective strategies for reducing vulnerability, using a systematic and transparent process. Policies or initiatives that aim to reduce this vulnerability can be designed to complement and support the goals of poverty reduction, sustainable development, disaster preparedness and environmental protection.

The increasing integration of climate change resilience building with disaster risk reduction through the partnership work of CCCCC and CDEMA is an example of this risk management ethic developing in a practical way with great benefits.

The initial entry points for creating a risk ethic across the Caribbean should be in the following areas:

- Coastal zone management.
- Disaster risk reduction.
- National strategic and budgetary planning.

ACTION: The CARICOM Climate Risk Management Framework should be revised to take into account the latest developments in climate risk management techniques. An on-line version should be developed with full guidance and links to other tools and techniques. The revised risk management framework must be supported by a comprehensive training programme for decision-makers across all stakeholders. The training programme must be repeatable on request and adapted to reflect stakeholder needs (including the private sector).

All organisations (including donors and development banks) operating at regional and national levels should 'stress-test' policies and decisions against the potential impacts of a changing climate. A standard 'stress-test' process and guidance based on the revised Caribbean Risk Management Framework should be developed by the CCCCC. The 'stress-test' result should be disclosed and made available to other stakeholders and the wider public.

Timeline: Release revised risk management framework and 'stress-test' process within 6 months including on-line training tool. Undertake stakeholder training over the following 12 month period starting with government finance and planning ministries.

Lead: CCCCC

Partners: National government ministries, CDB, regional organisations, the private sector and donors

2. Technical and physical impacts

- 8. Uncertainty is not a reason for inaction.** We have sufficient information to make some decisions.....NOW.

We know there are issues with baseline data and knowledge gaps, particularly with regard to social and economic impacts, and these need to be addressed. But we also know that there is a wealth of information already available regarding the impacts of a changing climate on the Caribbean. During the preparation of this report nearly 300 current or recently completed Caribbean focussed climate change programmes, plans and actions were identified (included in a database which will be made available on the CCCCC website). This is in addition to the many more projects that have been completed in previous years.

Taking action will produce win-win solutions to meet wider sustainable development and growth challenges and enhance disaster resilience. For example, many of our greatest risks relate to our coastal areas where populations and economic activity are concentrated and where essential infrastructure and utilities are located. Actions to assess the risks, protect existing populations and assets, and build resilience into current and future development proposals are essential and must become part of mainstream government financial management and investment planning. Disaster risk management must be embedded in these actions.

The action identified below is an example of an early-start action (Annex 1 provides other actions that can and should be undertaken within the next 12 months, subject to securing funding or overcoming other capacity challenges).

ACTION: The impact of Hurricane Tomas on Saint Lucia's water infrastructure was significant. Shortfalls in data and knowledge of the location, age, condition and types of water utility assets may have been a contributory factor in not being able to have foreseen the devastating consequences. A full asset inventory of Saint Lucia's water utility assets should be undertaken, followed by a risk assessment of their vulnerability to climate variability and climate change. This could, for example, also include assessing potential changes in precipitation, impacts on ground conditions and identify assets at risk. A template programme for other utilities and countries should also be developed and discussed with donors for funding.

Significant win-win benefits could also be realised. The asset inventory would, for example: greatly improve operational management, enable operational and additional asset investment to be more effectively targeted, identify leakage problems, improve water quality management, and assist in energy management and efficiency.

Timeline: Complete asset inventory within 18 months.

Lead: Saint Lucia Water Utility

Partners: Donors and IFIs, CWWA/CAWASA, University of West Indies Department of Engineering, CCCCC

Essential infrastructure

A risk assessment programme for all essential infrastructure and utilities would enable national programmes of resilience-building actions (capital and operational) to be developed. It would also have major benefits for disaster risk reduction. This is another example of an early-start climate change resilience-building action creating a win-win delivering immediate benefits. An essential infrastructure risk assessment programme should be developed by each national government, supported by relevant regional organisations (for example: CCCCC, CDEMA, and CCRIF) in partnership with donors to secure both financial and technical assistance.

3. Cross-cutting challenges

- 9. Data and information are public goods.** Attitudes and protocols regarding data collection, management, storage, sharing, control and ownership of data and information will need to change.

Building resilience and using risk management to aid decision-making where there is uncertainty requires access to the best available data and information. An 'open-source' and 'open-access' attitude should be encouraged thereby providing the means by which all decision makers can share and make use of the best available information. Institutional cultures which restrict access are not in the long-term interests of the Caribbean. In some cases these restrictions are imposed for entirely understandable budgetary reasons; information can be a revenue earner. In these situations alternative and more viable funding mechanisms are required.

ACTION: Governments and other regional organisations should develop their own 'clearing house' facilities with free access to data and information. This should extend to information supporting development proposals, for example, base data and analysis provided in ESIAs. Donors/IFIs and project sponsors must always release all data and information (within established protocols that recognise some information may be sensitive). All governments and regional organisations will need financial, technical, and human resource support, including for example, the development of alternative funding mechanisms. Institutional legislative challenges may need to be addressed.

Timeline: within 2 years

Lead: National governments, regional organisations

Partners: Donors and IFIs

CCCCC Clearing-House

The CCCCC has already created a Clearing House facility through its website. This will enable climate-related information and knowledge to be freely available including access to climate and impact modelling.

The full roll out of the CCCCC Information and Data Clearing House facility to support research, public education and open access to information on climate change in the region will facilitate greater participation of the region's decision makers and citizens in building a society that is resilient to a changing climate.

- 10. The CARICOM region must build on the information, knowledge and expertise we already have, expand our understanding and knowledge and develop our capacity.** A great deal of time, effort and resources has been invested into impact and vulnerability assessments, and research. In some cases the recommendations and guidance have not been acted upon. Reports sit on shelves through lack of resources, baseline data sets are not digitised and are difficult to access, technical knowledge is lost as staff retire or move out of the Caribbean. Retaining and growing technical, professional, managerial and academic research expertise and capacity is vital.

Traditional farming practices and local community and indigenous knowledge are also vital resources that we are at risk of losing. They are essential resources that will assist in identifying flexible adaptation options. We can build on these invaluable information and expertise resources if we can address the underlying capacity issues.

We must also step-up the research into climate change, climate variability and impact modeling to provide data and support for non-scientists engaged in decision-making, risk and vulnerability assessments, and the preparation of adaptation and mitigation strategies. It is also essential that we develop a programme of institutionalizing climate model outputs into stakeholder decision-making tools.

ACTION: Undertake a skills and expertise audit to identify the additional training and knowledge that technicians, professionals, the private sector, politicians, and those across the wider civil society (including for example, farmers and fisher folk) will require to access and use the information that exists. A sustainable programme of training, communications and ongoing support will be required.

Timeline: Develop audit and training packages within 12 months including pilot projects. Roll out across the Caribbean over a 2-year period.

Lead: Universities, professional institutions and sector support groups, regional organisations,

Partners: Donors and IFIs

ACTION: Assess the research needs in the Caribbean to deliver the strategic elements and goals in the Regional Framework. Identify actions to fill research gaps and to develop decision-making tools. Develop a co-ordinated programme across the Caribbean's research institutions.

Timeline: Assessment to be completed within 6 months

Lead: CCCCC

Partners: Caribbean universities, the Institute of Meteorology (INSMET) of Cuba, regional organisations, international research community, and technical users.

The CARICOM region needs to create a coordinated research programme.

This will ensure that decisions can be based on the best available information. For example in a report published in May 2011 it is considered that sea levels may be rising faster than we realised. The report states that sea levels may rise by up to 1.6 meters by 2100. The impacts on the Caribbean would be disastrous.

Technology transfer

We must take advantage of the opportunities technology can bring. Technology transfer from both the developed world and from those countries in similar situations to the Caribbean is an essential capacity building resource that must be fully exploited working in partnership with donors and IFIs and with the private sector.

11. Disaster risk reduction and climate change are inextricably linked.

Building resilience to existing climate variability and the changes we are already seeing in our climate through the disaster risk reduction programmes across the Caribbean and the work of CDEMA must remain a priority area.

This can be supported for example by the development of early warning tools as an output from the work on climate modelling. Impact modelling, hazard mapping, and vulnerability assessments are also examples of how risk assessment of the effects of a changing climate can also assist and inform those working on disaster risk reduction. There is a real opportunity to reinforce the importance of disaster risk reduction within Member States through the increasing focus on the impacts of a changing climate.

CDEMA working with stakeholders has identified a series of actions to integrate climate change into disaster risk reduction through its 'Mainstreaming Climate Change into Disaster Risk Management for the Caribbean Region (CCDM) Project'

ACTION: The CDEMA Regional Programme and Plan of Action for Climate Change Adaptation and Disaster Risk Reduction identify a series of actions linked to the Regional Framework's strategic elements and goals. All of the actions identified will directly contribute to the Regional Framework and to disaster risk reduction. These actions have been included in the Implementation Plan.

A key action to be undertaken is to secure the necessary funding for disaster risk reduction actions in the Caribbean.

Timeline: continuous.

Lead: CDEMA, CARICOM Secretariat

Partners: National governments, international donors and IFIs, CCCCC

12. The challenges ahead may be far greater than for which we are currently planning for. It is clear that individual policy and project interventions will be insufficient to transform the economies of the CARICOM states based on the principles of sustainable development. It is also clear that the current initiatives by the world's developed countries and the emerging economies to limit greenhouse gas emissions (GHGs) fall short of that which is required to limit average global temperature increases to less than 2.0 °C, never mind the 1.5 °C that is the AOSIS/CARICOM target.

The reality is that without a major shift in the geo-political balances and a new political urgency by both the developed countries and the emerging economies to implement and enforce action to reduce GHGs, we will be faced with global average temperature increases above 2.0 °C.

The direct and indirect consequences for the Caribbean of average global temperature increases of 4 °C, when its social, environmental and economic systems are already stressed and struggling to meet the existing impacts of current climate variability and anthropogenic climate change, are unthinkable.

This reinforces the need to treat the Implementation Plan as a live process through regular reviews taking into account the latest information on climate science and impacts. It also reinforces the need for a risk management ethic to be developed across the Caribbean in all strategy and policy development and in decision-making, to ensure that best available information is used, risks assessed and appropriate management options developed.

ACTION: Strengthen the CARICOM international negotiating position and its long-term capacity to plan through an enhanced, resourced, comprehensive programme of evidence-based peer-reviewed research on the science of climate change and the social, environmental and economic impacts.

Ensure that CARICOM's collective and individual negotiating position is maintained by ensuring that negotiators have the information they need and are well trained. Civil servant/expert advisor continuity between negotiating meetings is also critical to build up the expertise and awareness needed to effectively represent the Caribbean's best interests.

Timeline: continuous.

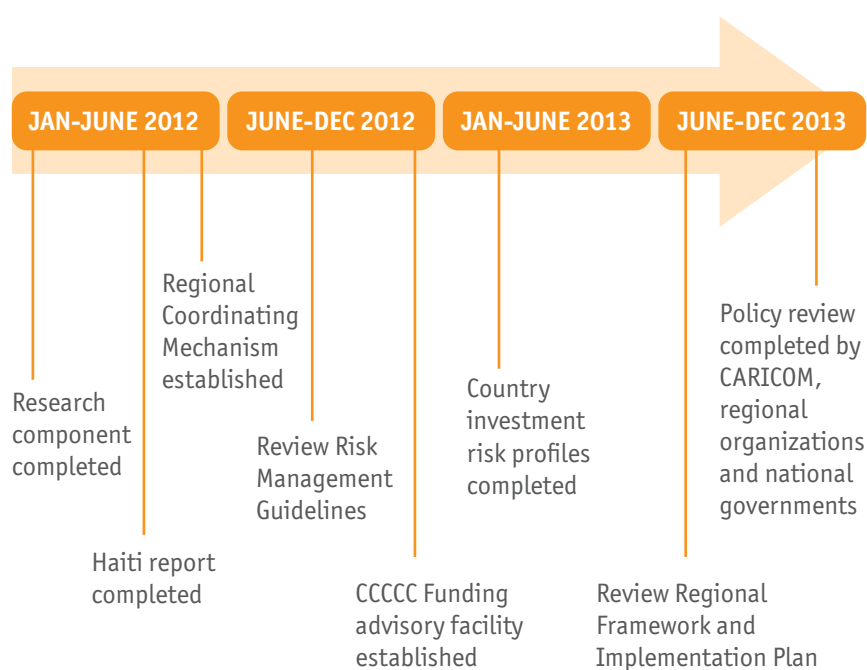
Lead: CARICOM Secretariat, Caribbean universities, Ministries of Foreign Affairs, regional organisations.

Partners: International research institutions, CCCCC

Action timeline

The timeline provided in figure 3 provides examples of the priority challenges that could be undertaken within the next 2 years. It is representative as each country will have its own early-start actions to meet its specific challenges.

FIGURE 3: Implementation Plan Priority milestones



Acknowledgements

The Caribbean Community Climate Change Centre (CCCCC) and the project team wish to acknowledge the support and assistance received during the consultation process and in the drafting of this document from the Governments of the CARICOM member states, the CARICOM Secretariat, Regional Organisations, NGOs, the private sector, international donors and IFIs.

Technical leadership in the development of the Implementation Plan was provided by Dr. Ulric Trotz, Science Advisor to the CCCCC and supported by Acclimatise, a United Kingdom consultancy firm specializing in risk management and climate change-related development with John Firth as Project Manager. Project Coordination provided by Joseph McGann, consultant to the CCCCC.

Financial support for the development of the Implementation Plan

The development of the Implementation Plan has only been made possible with the support and financial assistance from The Climate & Development Knowledge Network (CDKN) and the United Kingdom's Department for International Development (DFID) Caribbean. The CCCCC would like placed on record its appreciation of the financial support and the technical contribution made by DFID and CDKN.

In addition to producing the Implementation Plan, the project will serve as a basis for drawing on a range of other CDKN services as required, including knowledge and communication products, capacity building and scoping a related research programme.

CDKN

CDKN is an alliance of six private and not-for-profit organisations, launched in March 2010. Led by PricewaterhouseCoopers LLP, the alliance also includes the Overseas Development Institute, LEAD International, INTRAC, SouthSouthNorth in Africa and Fundación Futuro Latinoamericano in Latin America and the Caribbean, bringing together a wide range of experience.

CDKN's purpose is to support decision makers in developing countries to design and deliver climate compatible development. We do this by combining research, advisory services, knowledge management and capacity building processes in support of locally owned and managed policy processes.

CDKN was set up and funded by DFID and other donors are now also contributing funding. CDKN is independent from DFID, although it works closely with DFID and other donor programmes wherever possible.

For more information visit the CDKN website: www.cdkn.org.

About DFID

DFID is the part of the UK government that manages Britain's aid to poor countries and works to get rid of extreme poverty. As well as headquarters in London and East Kilbride, near Glasgow, DFID has offices in around 40 developing countries and provides aid to around 90 countries.

DFID is working to reach the Millennium Development Goals (MDGs), the international targets agreed by the United Nations (UN) to halve world poverty by 2015.

DFID works with governments of developing countries as well as charities, businesses and international bodies, including the World Bank, UN agencies and the European Commission. All our partners share our ambition to achieve the MDGs.

In the Caribbean, DFID is supporting efforts to improve growth, insecurity and build resilience to reduce the region's extreme vulnerability to natural disasters and climate change and maintain its progress on poverty reduction. For more information visit the DFID website: www.dfid.gov.uk.

The CCCCC

The Caribbean Community Climate Change Centre (CCCCC or the Centre) was established by the Heads of Government of the Caribbean Community (CARICOM) at their annual conference in July of 2002.

The Centre coordinates the CARICOM region's response to climate change and is the key node for information on climate change issues and the CARICOM effort to manage and adapt to climate change.

Through its Mission, the CCCCC supports the people of the Caribbean as they address climate variability and change on all aspects of economic development, through the provision of timely forecasts and analysis of potentially hazardous impacts of both natural and man-induced climatic changes on the environment, and the development of special programmes which create opportunities for sustainable development. The CCCCC is recognized as a Centre of Excellence by the CARICOM Member States and by international donors.

This document presents the Implementation Plan (IP) for the Regional Framework for Achieving Development Resilient to a Changing Climate (the Regional Framework). It has been prepared in response to the mandate given to the Caribbean Community Climate Change Centre (CCCCC) by the CARICOM Heads of Government at their meeting in July 2009. CCCCC was requested to embark on a process to develop a comprehensive regional plan for the implementation of the strategy set out in the Regional Framework.

The Regional Context

CARICOM countries have considerable cause for concern as the threats posed by a changing climate to their development prospects are severe and adaptation will require a sizeable and sustained investment of resources that governments are unable to provide on their own. Specifically, global climate change is expected to result in a more hostile regional climate change and rising sea levels. Rising sea levels (see box 1), together with the associated coastal erosion and salt water intrusion, an escalation in the frequency and intensity of tropical storms and hurricanes, and disruptions in rainfall and fresh-water supply threaten the very existence of the CARICOM countries.

The climatic conditions⁴ will have serious consequences for social, economic and environmental systems with direct impacts on the standard of living. Further cause for concern is the estimated total annual impact of potential climate change on all CARICOM countries, headline figures (which are based on the impact costs in just three categories: increased hurricane damages, loss of tourism revenue, and infrastructure damages) are provided in box 2. The scale of the costs which clearly outweigh recent increases in total Gross Domestic Product (GDP) of 1.2% in CARICOM countries, including Associate Member States, during the period 2004-07 are dramatic.

⁴ It is not appropriate for this document to provide a full description of the possible changing climatic conditions and the social, economic and environmental impacts. Further information can be found on the CCCCC website www.caribbeanclimate.bz

Box 1: Sea level rise may be even greater than expected

In early 2011, the Arctic Monitoring and Assessment Programme (AMAP) published results from a new assessment of the impacts of climate change on the Arctic (SWIPA). The study brings together the latest scientific knowledge about the changing state of each component of the Arctic cryosphere. These changes in the Arctic are of global significance, with the potential to have major ramifications on the global climate and sea level in distant locations, such as the Caribbean.

The AMAP study proposes that global sea level will rise more dramatically than was predicted nearly four years ago by the Intergovernmental Panel on Climate Change (IPCC). By 2100, AMAP expect mean sea level to rise by 0.9 to 1.6 m, compared to the IPCC AR4 projection made in 2007 of 0.18 to 0.59 m. These findings from AMAP corroborate a number of previous studies (Table 1) that suggested global sea levels could be 1.4 m or more by the end of the century.

The more conservative estimates provided in the IPCC AR4 projections are due to the exclusion of rapid ice flow dynamics within the model simulations.

TABLE 1: Summary of global sea level rise projections for 21st Century (Source: Simpson et al, 2010)

	2050*	2100		
		Low Range	Central Estimate	High Range
Continuation of current trend (3.4mm/yr)	13.6 cm	-	30.6 cm	-
IPCC AR4 (2007)	8.9 cm to 23.8 cm	18 cm	-	59 cm
Rahmstorf (2007)	17 cm to 32 cm	50 cm	90 cm	140 cm
Horton et al. (2008)	~ 30 cm		100 cm	
Vermeer and Rahmstorf (2009)	~ 40 cm	75 cm	124 cm	180 cm
Grinstead et al. (2009)	-	40 cm	125 cm	215 cm
Jevrejeva et al. (2010)	-	60 cm	120 cm	175 cm

Governments have to understand the more extreme possibilities that cannot be discounted (Simpson et al, 2010). The AMAP value of 1.6 m exceeds the 1.0 m sea level rise figure used in the recent study by the CARIBSAVE Partnership for UNDP Barbados and the OECS ("Modelling the Transformational Impacts and Cost of Sea Level Rise in the Caribbean" Simpson et al, 2010). This study predicts that the impacts from a 1 m sea level rise in the Caribbean will be severe, including:

- Nearly 1,300 km² land area lost (e.g., 5% of The Bahamas, 2% Antigua and Barbuda).
- Over 110,000 people displaced (e.g., 5% of population in The Bahamas, 3% Antigua and Barbuda).
- At least 149 multi-million dollar tourism resorts damaged or lost, with beach assets lost or greatly degraded at many more tourism resorts.





- Over 1% agricultural land lost, with implications for food supply and rural livelihoods (e.g., 5% in Dominica, 6% in The Bahamas, 5% in St. Kitts and Nevis).
- Transportation networks severely disrupted, including loss or damage of 21 (28%) CARICOM airports, lands surrounding 35 ports inundated (out of 44) and loss of 567 km of roads (e.g., 14% of road network in The Bahamas, 12% Guyana, 14% in Dominica).

The CARIBSAVE study concluded that “Sea level rise will continue for centuries after 2100, even if global temperatures are stabilized at 2 °C or 2.5 °C and therefore represents a chronic and unidirectional, negative threat to coastal areas in the Caribbean and globally”.

A 1.6 m rise in sea level based on the AMAP analysis would have a catastrophic effect on Caribbean states.

Box 2: Economic costs

An economic analysis of the costs of a changing climate in just three categories—increased hurricane damages, loss of tourism revenue, and infrastructure damages—projected that the Caribbean’s annual cost of inaction could total \$10.7 billion annually by 2025, \$22 billion by 2050 and \$46 billion by 2100. These costs represent 5%, 10% and 22% respectively, of the current Caribbean economy (2004 GDP).

While the regional average is large, some countries have much higher projected impacts. The projected annual cost of inaction by 2025 (only taking into account the three categories above) as a % of GDP is projected to be:

Antigua and Barbuda 12.2%,	Jamaica 13.9%,
Bahamas 6.6%,	St Kitts and Nevis 16.0%,
Barbados 6.9%,	Saint Lucia 12.1%,
Dominica 16.3%,	St Vincent and the Grenadines 11.8%,
Grenada 21.3%,	Trinidad and Tobago 4.0%.
Haiti 30.5%,	

By 2100 the costs will be 75 percent of GDP or more in Dominica, Grenada, Haiti, and in St. Kitts and Nevis.

A second report analysing the costs associated with hurricane-induced wind damage, coastal flooding/storm surge, and inland flooding due to both hurricanes and non-tropical systems calculated that climate change has the potential to greatly exacerbate these risks, and could increase expected loss by 1 - 3% of GDP by 2030.

The net effect of costs on this scale is equivalent to causing a perpetual economic recession in each of the CARICOM Member States.

Although the contribution of CARICOM countries to global greenhouse gas emissions (GHGs) is quite negligible, the projected impacts of global climate change on the Caribbean region are expected to be devastating. These impacts will be reinforced due to the limited adaptive capacity of the CARICOM small island and low-lying coastal states, and the current sustainable development and growth challenges they face, such as addressing the Millennium Development Goals (MDGs). Caribbean countries (with some exceptions):

- are small in physical size,
- have a high level of indebtedness, in some cases in excess of 150% of GDP, preventing deployment of financial resources to support priority adaptation programs,
- operate in open economies with a heavy dependence on exports and imports,
- suffer from the burden of extremely high domestic energy costs, driven by a dependence on imported fossil fuels (which are increasing in price and subject to price volatility),
- have relatively high levels of absolute poverty, ranging from 20% to more than 70%, and
- are subject to significant levels of external emigration depriving the region of its most skilled and experienced human resources.

The low adaptive capacity exacerbates the vulnerabilities (see box 3) and risks of the Caribbean States while simultaneously reducing their resilience to growing global events, such as global recessions and climate variability and change.

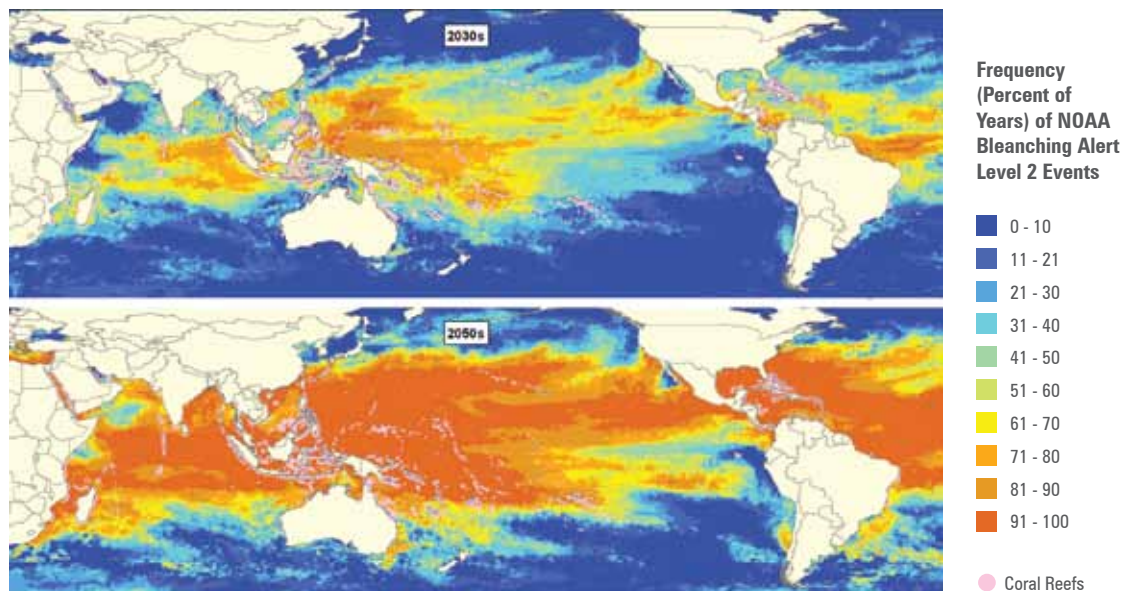
The climatic impacts, the scale of the development challenges and limited adaptive capacity will make it impossible for governments acting alone to allocate adequate resources to address adaptation needs.

Box 3: Vulnerability

Despite some recent improvements in management and conservation, the region's coral reefs and associated marine ecosystems now face major challenges as a consequence of climate impacts. The slow and steady increases in global sea surface temperatures and ocean acidification are already adversely affecting the region's coral biome. Because current sea surface temperatures are near the upper temperature thresholds for survival of corals, bleaching is predicted to become more frequent as ocean temperatures increase (Hoegh-Guldberg, O. 1999). (Figure 4)

Corals are extremely sensitive to even small changes in water temperature that lead to bleaching and ultimately death. A lower pH also reduces the viability of corals. A combined effect of coral reef disappearance and increases in extreme weather events can pose further threats to already stressed ecosystems. Indicators of decline in the coral biome include: a) a reduction in fisheries annual catch, coral cover, and in coastal mangroves; b) encroachment in coastal beach area and coastal lagoons thus affecting the value of the services provided by the reef; and c) severe coral mortality induced by warmer sea surface temperatures; and d) increasing acidity. As these impacts become more manifest the region's social and economic development will continue to be negatively impacted with the most vulnerable groups placed at the greatest risk. The impacts on the tourism sector and Caribbean economies will be severe. The loss of the coral reefs will significantly increase the risks to essential infrastructure, utilities, and urban areas from storm surge.

FIGURE 4. Frequency of future bleaching events in the 2030s and 2050s (WRI, 2011).



Source: Adapted from Donner S.D. 2009 "Coping with Commitment: Projected thermal stress on coral reefs under different future scenarios". PLoS ONE 4(6): e5712 for use in the Reefs at Risk Revisited project.

The map depicts the frequency of future bleaching events in the 2030s and 2050s, as represented by the percentage of years in each decade where a NOAA Bleaching Alert Level 2 (i.e. severe thermal stress) is predicted to occur. Predictions are based on an IPCC A1B emissions scenario and adjusted to account for historical temperature variability, but not adjusted by any other resistance or resilience factors.

Figure adapted by WRI (2011) from: Donner, S.D. 2009. "Coping with commitment: Projected thermal stress on coral reefs under different future scenarios." PLoS ONE 4(6): e5712

A call for transformational change

The imperative for transformational change is embedded within the call to action of the Liliendaal Declaration on Climate Change and Development which was issued from the thirtieth meeting of CARICOM Heads in Liliendaal, Guyana, July 2-5, 2009. (see Annex 6). The Declaration makes a number of commitments, endorsements and specific declarations on the actions needed to manage the effects of climate change and development.

The Heads of Government expressed grave concern that the region's efforts to promote sustainable development and achieve the MDGs are under severe threat from the devastating effects of climate change and sea level rise. Of particular note is the increasing intensity of extreme weather events, resulting in severe damage to the region's socio-economic structure and natural resource base. CARICOM Heads also emphasized that the devastating effects of changing climate were already being experienced in all Small Islands and Low-lying Coastal Developing States (SIDS) including the Caribbean and that many SIDS will cease to exist without urgent, ambitious and decisive action by the international community.

The Liliendaal Declaration called for, inter alia:

- That all Parties to the UNFCCC should work with an increased sense of urgency and purpose towards arriving at an ambitious and comprehensive agreement at the COP 15 in Copenhagen in 2009 which provides for: long-term stabilization of atmospheric greenhouse gas concentrations at levels which will ensure that global average surface temperature increases will be limited to well below 1.5 °C of pre-industrial levels; that global greenhouse gas emissions should peak by 2015; global CO₂ reductions of at least 45 percent by 2020 and reducing greenhouse gas emissions by more than 95% of 1990 CO₂ levels by 2050.
- Adaptation and capacity-building must be prioritized and a formal and well-financed framework established within and outside the UNFCCC, including the multi-window insurance facility, to address the immediate and urgent, as well as long-term, adaptation needs of vulnerable countries, particularly the SIDS and the LDCs.
- The need for financial support to SIDS to enhance their capacities to respond to the challenges brought on by climate change and to access the technologies that will be required to undertake needed mitigation actions and to adapt to the adverse impacts of climate change.

The 'Regional Framework for Achieving Development Resilient to a Changing Climate' (the Regional Framework)

The CARICOM Heads of State participating in the First Congress for the Environmental Charter and Climatic Change (held at Ávila Mountain, Caracas, 11-13 October, 2007) requested that the Caribbean Community Climate Change Centre (CCCCC) prepare a Regional Framework document that would lay the ground for achievement of the vision of a "Caribbean society and economy that is resilient to a changing climate".

In response to the region's vulnerability the region's political leaders, climate change scientists, planners and policy makers and other professionals from diverse technical backgrounds, coalesced their intellectual capacities into the evolution of a shared and common vision for the region that would underpin its economic and social development to the end of the twenty-first century. This strategic vision is reflected through the '*Regional Framework for Achieving Development Resilient to a Changing Climate*'⁵ that was approved by the CARICOM Heads of Government at their meeting in Georgetown, Guyana in July 2009.

The purpose of the Regional Framework prepared by the CCCCC is to: "*Establish and guide the Caribbean's direction for the continued building of resilience to the impacts of global climate change by CARICOM States*". The Framework clearly articulates the strategic direction for the region's response to climate change risks. This strategy represents a long-term vision on climate issues and reflects the political will of the region. It is one of the first regional strategies drafted in developing nations, joined by a common purpose to face the climate challenge and takes forward the call for transformational change enshrined in the *Liliendaal Declaration*.

It provides a roadmap for action over the period 2009-2015, while building on the groundwork laid by the CCCCC and its precursor programmes and projects in climate change adaptation. These include National Enabling Activities (NEAs) including the First National Communications Projects, the Caribbean Planning for Adaptation to Climate Change (CPACC) project (1998-2001), the Adaptation to Climate Change in the Caribbean (ACCC) project (2001-2004), and the Mainstreaming Adaptation to Climate Change (MACC) project (2003-2009). It also builds upon the pilot projects being undertaken under the Special Pilot Adaptation to Climate Change (SPACC) project together with the extensive work undertaken by governments, regional organisations, NGOs and academic institutions in recent years.

The Regional Framework focuses on the identification and consolidation of a set of complementary activities that would utilize the experience and capacities of the CCCCC and other regional and national institutions and agencies to formulate and implement a series of mitigation and adaptation policies and measures in response to a changing climate and its projected impacts on the economic and social development of the region. The Regional Framework is guided by five key strategies (strategic elements) and some twenty goals that, if delivered, will lead to the creation of a successful and sustainable resilience building programme and meet the call for action provided by the *Liliendaal Declaration*:

⁵ A copy of the Regional Framework document can be downloaded from the CCCCC website www.caribbeanclimate.bz

- Strategic Element 1: Mainstream climate change adaptation strategies into the sustainable development agendas of the CARICOM Member States.
 - Climate change must be considered within the context of the existing social, economic and environmental challenges in the Caribbean.
- Strategic Element 2: Promote the implementation of specific adaptation measures to address key vulnerabilities in the region.
 - The Regional Framework specifically refers to the impacts of climate change on water supply, coastal and marine ecosystems, tourism, coastal infrastructure and health as representing the greatest threats to the well-being of the CARICOM countries. (Note that the Implementation Plan has added agriculture, fisheries and food security to this list).
- Strategic Element 3: Promote actions to reduce GHG emissions through fossil fuel reduction and conservation, and switching to renewable and cleaner energy sources.
 - Removing the Caribbean's dependency on high price imported fossil fuels is essential if the economies of Caribbean countries are to be transformed.
- Strategic Element 4: Promote actions to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate.
 - Institutional changes are required to deliver, enforce and maintain required regulatory provisions, national standards and building codes. Applied research and development is essential, along with public education and awareness.
- Strategic Element 5: Promote actions to derive social, economic and environmental benefits for the prudent management of standing forests in CARICOM countries.
 - The extensive standing forest resource offers the region significant opportunities to derive economic benefits regionally, whilst providing benefits globally.

The Regional Framework facilitates the ongoing involvement of the international community to efficiently strengthen the capacity of the CARICOM countries to adapt to a changing climate. The CCCCC has primary responsibility for coordinating the implementation of the strategy in collaboration with the relevant regional and national institutions, and for providing technical support and guidance as required by the respective implementing agencies and/or countries through their national contact points.

EXECUTION OF THE IMPLEMENTATION PLAN

The Implementation Plan acknowledges that transformational changes in mindset, institutional arrangements, operating systems, collaborative approaches and integrated planning mechanisms are essential to deliver the strategic elements and goals of the regional framework.

The Plan:

- Seeks to guide the identification and prioritisation of actions by regional and national stakeholders under each strategic element and goal area of the Regional Framework through the use of risk management approaches to decision-making.
- Considers responsibilities and functional co-operation between regional organisations and national governments.
- Recognises that there are existing significant resource and capacity challenges that hold back the region's sustainable development and growth and proposes building on a process known as the 'three-ones' to assist in resource mobilisation and co-ordination of actions.
- Proposes a monitoring and evaluation (M&E) framework.

The Implementation Plan is intended to be a 'live process' and will be subject to review and modification in response to *inter alia* :

- Enhanced knowledge and understanding of climate science and the direct and indirect impacts (supported by quantitative evidence where possible).
- The development and access to funding mechanisms.
- Changes in financial, technical and human resource capacity.
- Prevailing economic conditions in the Caribbean.
- Success or otherwise of actions taken.
- Results from the M&E framework.
- International negotiations on emissions control and climate change financing.

A biannual review is proposed of both the Regional Framework and the Implementation Plan to ensure that they continue to provide the right focus for the required transformational changes. The CCCCC has a co-ordinating and delivery role in this regard and will maintain a continuous dialogue with key stakeholders to ensure that the Regional Framework and the Implementation Plan accurately reflect the Caribbean's transformational needs. This on-going dialogue will ensure that the Regional Framework and the Implementation Plan remain 'live' documents.

The Implementation Plan was prepared following an extensive programme of in-country discussions with politicians, government officials, regional agencies, NGOs, the private sector, donors and development banks. For the most part these discussions have been on a one-to-one basis or in small groups, followed by further engagement and focussed on identifying those actions stakeholders believed were required to be undertaken within the next 2 to 5 years. Meetings have been held with over 140 stakeholders during the in-country discussions (see Annex 5).

An overview of the Implementation Plan process is provided in figures 5 and 6. The process follows these steps:

FIGURE 5: Implementation Plan high level overview

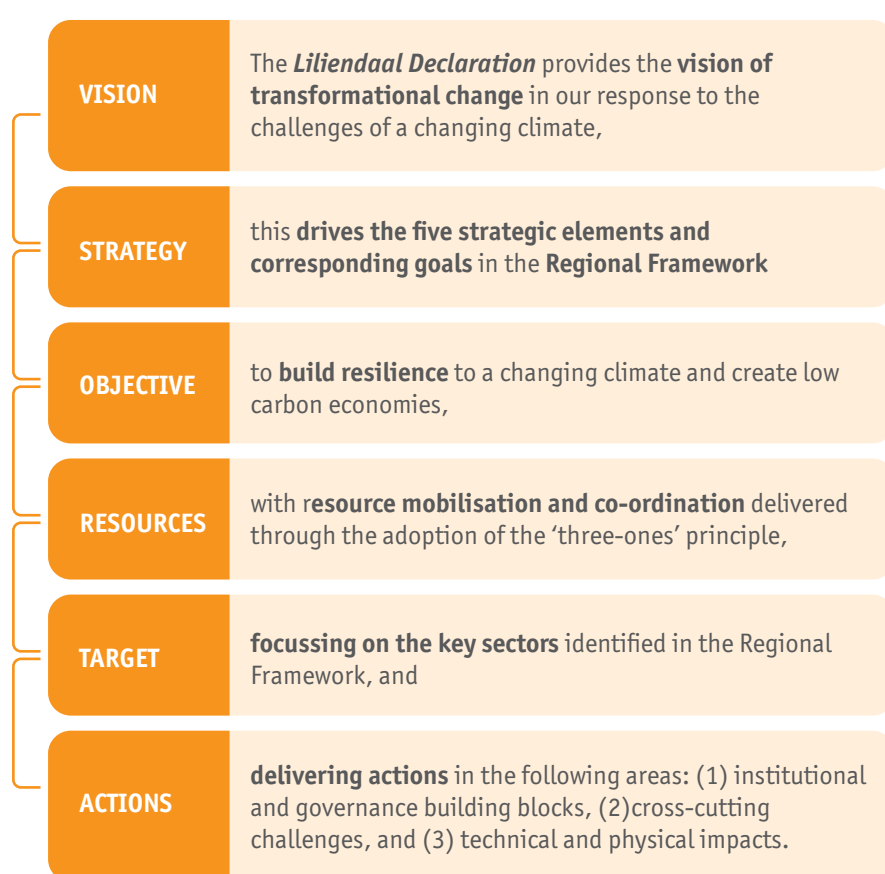


FIGURE 6: Implementation process

THE LILIENDAAL DECLARATION PROVIDES THE VISION OF TRANSFORMATIONAL CHANGE IN OUR RESPONSE TO THE CHALLENGES OF A CHANGING CLIMATE

This drives the Regional Framework's Five Strategic Elements (and 20 goals nested within these):

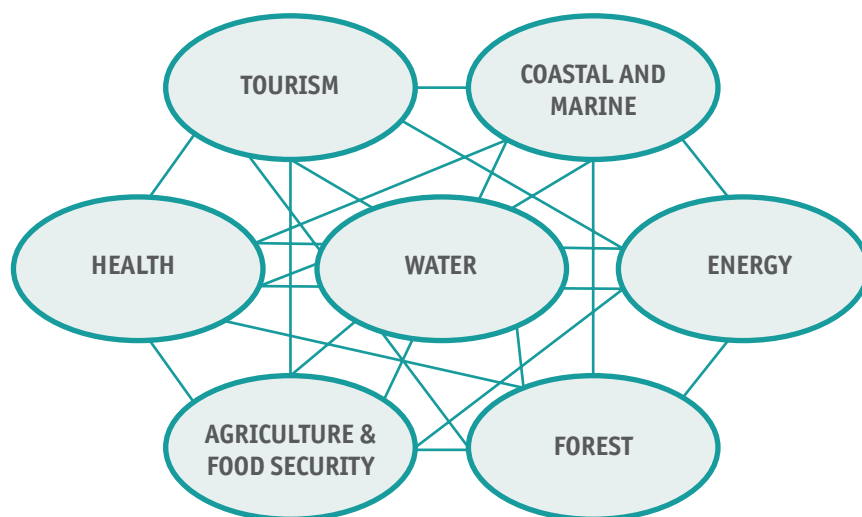
1. Mainstream climate change adaptation strategies into the sustainable development agendas of CARICOM states.
2. Promote the implementation of specific adaptation measures to address key vulnerabilities in the region.
3. Promote actions to reduce greenhouse gas emissions through fossil fuel reduction and conservation, and switching to renewable and cleaner energy sources.
4. Encourage action to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate.
5. Promote action to derive social, economic, and environmental benefits through the prudent management of standing forest on CARICOM countries.

To build resilience to a changing climate and low carbon economies.

WITH RESOURCE MOBILISATION TO MEET THE CHALLENGE THROUGH THE 'THREE ONES' PRINCIPLE

ONE PLAN	ONE CO-ORDINATING MECHANISM	ONE M&E SYSTEM
Liliendaal Declaration Regional framework strategic elements and goals delivered through:	Regional level through CARICOM (Coordinating Mechanism)	M&E focus Resource mobilisation and strategic direction through: One plan & one co-ordinating mechanism.
Track One Implementation Plan	National level through governments	Progress and results from institutional and intervention actions.
Track Two Regional and National strategies & policies		Achieving transformational change





FOCUSING ON THE REGIONAL FRAMEWORK SECTORS

These are the sectors identified in the Regional Framework. Impacts in one sector have consequences and feeds back into the others.

DELIVERING ACTIONS IN THESE AREAS:

Institutional and governance building blocks

These are key priorities for transformational change and for successful implementation.

Actions are proposed including the adoption of the 'three-ones' principle.

Cross-cutting challenges

Information and evidence gaps.
Gender public outreach, engagement and communications.
Disaster risk reduction.
Technical, financial and human capacity.
Information management and access.
Private sector mobilisation.

Actions are proposed in these areas.

Technical and physical impacts

Actions are proposed in all these areas at both regional and national levels.

Those actions that could be undertaken (subject to funding and other capacity challenges) are identified as possible projects in the next 2 years.

Resource mobilisation using the 'three-ones' principle

The transformational changes required by the Liliendaal Declaration and necessary to deliver the strategic elements and goals in the Regional Framework also require corresponding changes in the process of policy-setting and decision-making in all organisations. Implementation through the specific actions identified in this report, and through wider regional and national sustainable development and growth strategies, policies and actions requires a process which can:

- Effectively mobilise limited resources.
- Ensure alignment with those wider sustainable development and growth objectives.
- Deliver inclusive policies and decisions that ensure climate resilience and low carbon is built in, rather than added on as an afterthought.
- Co-ordinate and manage delivery.
- Monitor, evaluate, review and improve.

Member States, regional organisations and CARICOM are already over-tasked and under-resourced. Delivering transformational change requires an approach that recognises these constraints.

An approach that has been used with great success in the Caribbean and provides a model for mobilising limited resources, policy-setting and decision-making, and monitoring is the 'three ones' principle. This was used in the Joint United Nations Programme of HIV/Aids (UNAIDS) in the Pan Caribbean Partnership (PANCAP) (see side bar). It is based on the principle of establishing a sustainable resource mobilisation plan on the basis of:

- **One co-ordinating** mechanism to manage the process (Note in the Implementation Plan we recommend that there is a regional co-ordinating mechanism and separate national co-ordinating mechanisms in each country).
- **One plan** that provides the framework for co-ordinated action by all partners. (Note 'One Plan' means one agreed set of shared and common goals and objectives which can be contained within various individual documents).
- **One monitoring and evaluation framework** to measure progress, transparency and value for money. (Each country to define its own targets, defined by risk assessments and national priorities, and M&E measures).

The Three-ones

The three ones model has been successfully used by Pan Caribbean Partnership (PANCAP) to deliver transformational change with limited resources. Over the 10-year period of the programme not only has PANCAP been declared an international best practice example by the United Nations it has also contributed greatly to the management of HIV/AIDS across the Caribbean.

- It has mobilised over US\$75 million.
- Contributed to international strengthening.
- Delivered a 28% reduction in the spread of HIV.
- Reduced deaths by 50%.
- Reduced the mother to child transmission of HIV by 80%.
- Trained over 200 professionals most of whom are engaged in managing national and regional HIV programmes.

Member States, regional organisations and CARICOM are already over-tasked and under-resourced. Delivering transformational change requires an approach that recognises these constraints. The ‘three-ones’ principle works with the organisations that are already in place utilising existing resources, more effectively. The only new body that this Implementation Plan proposes should be created is the Coordinating Mechanism (see Table 2) which will report to the Heads of Governments, with the CCCCC working within its mandate to provide technical and secretarial support to the Coordinating Mechanism.

It is not, however, intended that this recommendation should be prescriptive. Each member country and each regional organisation has different challenges, organisational processes and governance. The process developed by each government and regional organisations to mobilise resources should reflect this and work within, and build upon the effective governance and institutional arrangements that already exist.

The regional version and an ‘illustrative’ national version of the ‘three-ones’ approach are shown in figures 7 and 8. Tables 2 and 3 provide more information on the breakdown of the three-ones at regional and national levels.

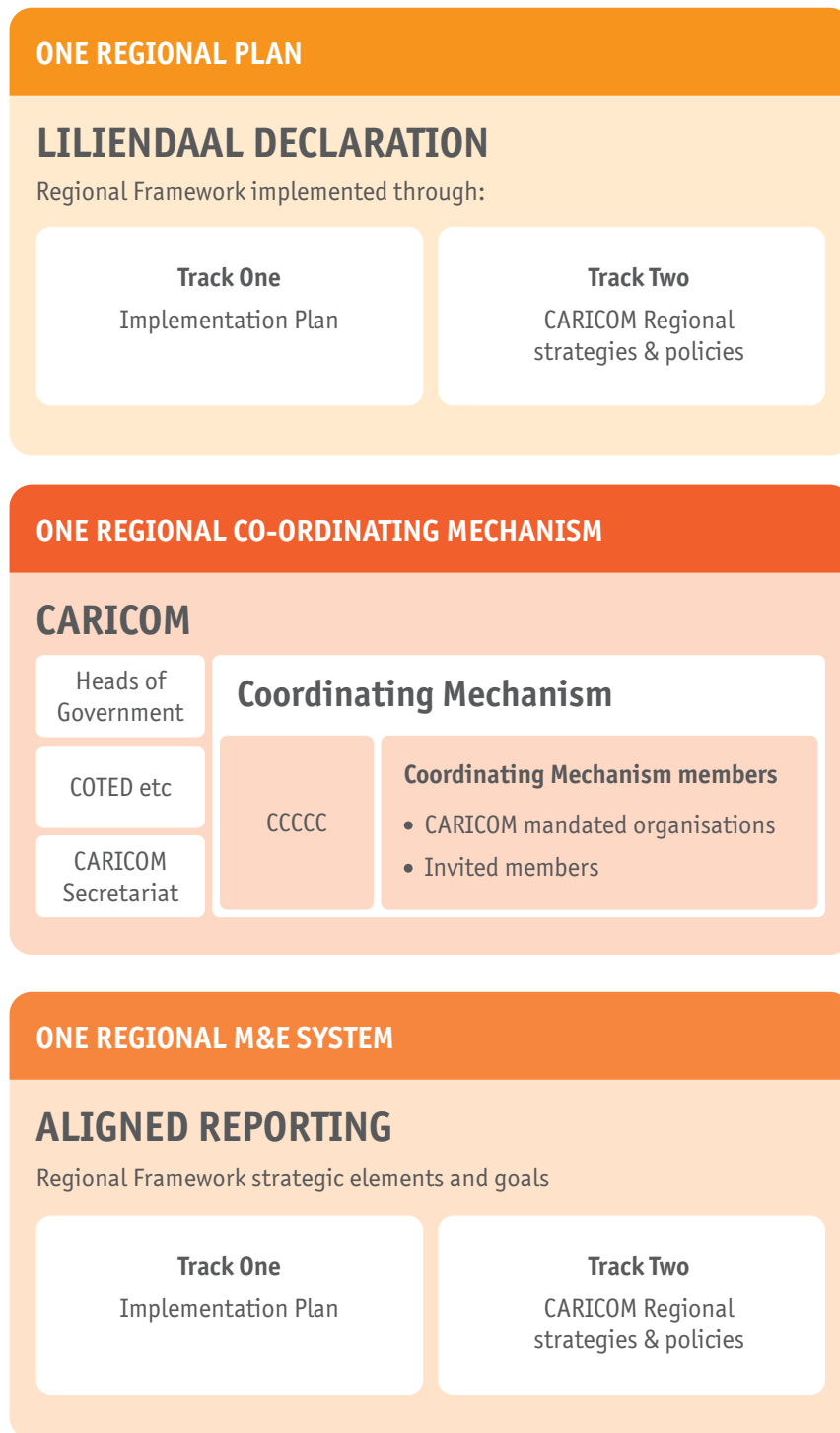
FIGURE 7: The 'Three-ones' implementation process at a regional level

TABLE 2: The ‘Three-ones’ implementation process at a regional level

THREE ONES	WHAT DOES THIS MEAN?	ACTIONS TO BE TAKEN
One Plan	The Liliendaal Declaration and the Regional Framework provide the overall strategic direction, focus and goals for the Caribbean. The strategic elements of the Regional Framework will be embedded within the goals and objectives in CARICOM’s strategies and policies, and through the actions of the CARICOM mandated regional organisations (Track Two)	Review and align all: - CARICOM strategies and policies, and - Regional organisations’ strategies and policies with the Liliendaal Declaration and the Regional Framework.
One Co-ordinating Mechanism	The Coordinating Mechanism (CM) will have overall responsibility for driving transformational change at the regional level under the Liliendaal Declaration and the Regional Framework. It will be chaired by the Prime Minister with responsibility for sustainable development and emergency management, with CCCCC providing the technical and secretariat support. The CM should include the chairpersons of COTED, COSHOD and COFCOR and the CARICOM Secretariat, together with: - Vice Chancellor/President from selected Caribbean Universities - President of the Caribbean Development Bank - Executive Directors from each of the CARICOM mandated regional organisations - Representatives from the private sector and civil society The CM will require members to report on their progress in delivering the Regional Framework strategic elements and goals, and demonstrate that they have integrated climate change into their policy-setting and decision-making.	Develop Terms of Reference for CM, secure CARICOM approval and appoint members. CCCCC working in partnership with the regional organisations, will meet every 12 months as an Implementation Plan co-ordinating group. The Coordinating Mechanism will meet twice a year.
One Monitoring and Evaluation Framework	The review and alignment of CARICOM and regional organisation strategies and policies must also develop a common approach to monitoring and evaluation. This will ensure that the combined implementation efforts through tracks one and two can be monitored and their combined contribution to transformational change evaluated. The M&E process should focus on delivering transformational change through delivery of the Regional Framework strategic elements and goals. This should be a process looking at actions undertaken at a regional level.	Review current M&E frameworks in use and ensure consistency, avoid duplication, use common baselines.

FIGURE 8: The ‘Three-ones’ implementation process at a national level (illustrative)

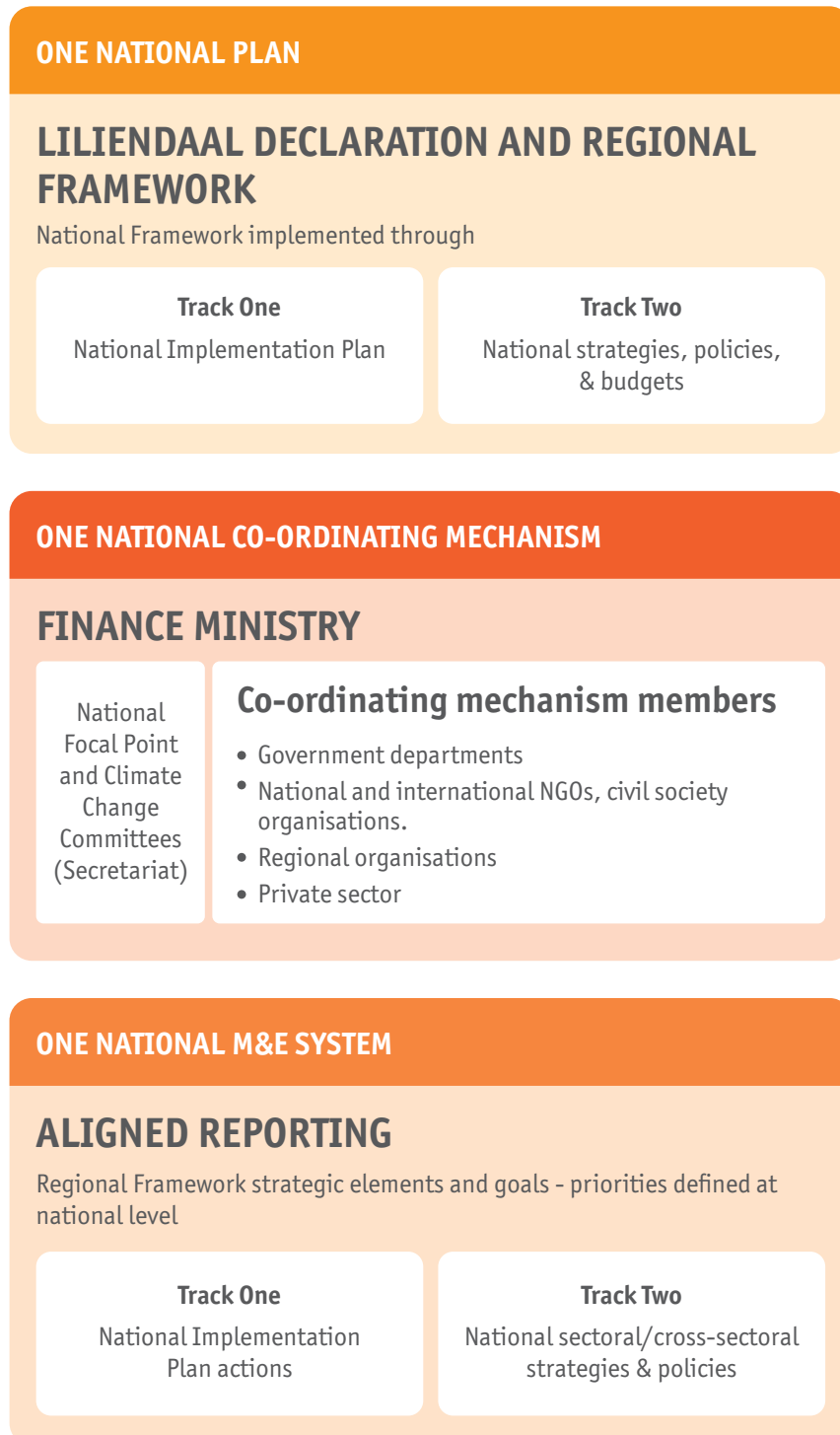


TABLE 3: Three-ones implementation process at a national level

THREE ONES	WHAT DOES THIS MEAN?	ACTIONS TO BE TAKEN
One Plan	The Liliendaal Declaration and the Regional Framework provide the overall strategic direction, focus and goals for Caribbean. The strategic elements of the Regional Framework should be embedded within the goals and objectives in national strategies and policies, and those of other organisations. (Track Two)	Review and align all: - national strategies and policies, and - other organisational strategies operating and policies with the Liliendaal Declaration and the Regional Framework. Aligned strategies and policies together with a risk based approach to decision-making will enable each country to identify their own national priorities and actions.
One Co-ordinating Mechanism	At a national level it is considered essential that building resilience and creating low carbon economies has to be embedded within, and become central to, government policy and action. For this reason it is recommended that the co-ordinating mechanism should be seen as a role for national strategic planning and/or finance ministries. They are the departments best placed to manage scarce resources and take advantage of the external funding opportunities working in partnership with all other departments and organisations. They will be supported by national focal points and climate change committees acting in a similar role as the CCCCC in its support of the Coordinating Mechanism. It is recognised, however, that some countries have been successful in integrating climate change and developing a co-ordinated approach through a strong Environment Ministry or the Office of Prime Minister (as in Belize) or the Office of the President (as in Guyana). These are also acceptable. The national co-ordinating mechanism will need to work with other departments and organisations and request evidence that they have integrated climate change into their policy-setting and decision-making.	Develop Terms of Reference for the coordinating mechanism. Secure cabinet approval. CCCCC will develop stress-test, audit and appraisal tools to help the co-ordinating mechanism evaluate progress.



THREE ONES	WHAT DOES THIS MEAN?	ACTIONS TO BE TAKEN
 One Monitoring and Evaluation Framework	The review and alignment of national strategies and policies must also develop a common approach to monitoring and evaluation. This will ensure that the combined implementation efforts through tracks one and two can be monitored and their combined contribution to transformational change evaluated. Each country should develop its own national targets reflecting their national priorities. This should be based on an informed risk assessment. Monitoring and evaluation of the targets can then be based on national and sub-national measures, ideally based on data sets that currently exist. The M&E process should focus on delivering transformational change through delivery of the Regional Framework strategic elements and goals. This should be a process looking at actions undertaken at a national level.	Review current M&E frameworks in use and ensure consistency, avoid duplication, use common baselines.

ACTION: It is recommended that the ‘three ones’ principle should be adopted at a regional level by CARICOM and at a national level by each government.

At a national level it is considered essential that building resilience and creating low carbon economies have to be embedded within, and become central to, government policy and action. For this reason it is recommended that the ‘one co-ordinating mechanism’ should be seen as a role for national strategic planning and/or finance ministries. They are the departments best placed to manage scarce resources and take advantage of the external funding opportunities working in partnership with all other departments and organisations. It is, however, up to each government to make the final decision on how best to mobilise, plan and monitor using the ‘three-ones’ principle.

Timeline: within 1 year.

At a regional level it is recommended that CARICOM adopts the ‘three-ones’ principle to resource mobilisation, co-ordination, planning and monitoring by forming a new sub-committee of the Heads of Government to be known as the Coordinating Mechanism.

The Coordinating Mechanism will provide guidance to the Heads of Governments on the transformational changes required to achieve resilience to climate change in the areas of climate change adaptation and mitigation policy, finance and investment, and foreign relations. The Coordinating Mechanism will receive briefings at such intervals as it might establish from the scientific community and communicate the policy imperatives to the CARICOM Heads of Government and monitor regional implementation.

Timeline: within 6 months.

Policy convergence using a twin-track approach

All countries, regional organisations, NGOs, and the private sector will have to institutionalise climate change. Building low carbon climate resilience within the context of the wider sustainable development objective has to become an integral feature of all policy-setting and decision-making. Addressing climate change without addressing the existing underlying sustainable development and growth challenges faced by Member States will not deliver resilience.

A twin-track approach to implementation is required which ensures that building resilience and creating low carbon economies becomes part of the wider sustainable development and growth agenda. Convergence between the strategic elements and goals of the Regional Framework and those set out in the wider sustainable development and growth strategies and policies at regional and national level stakeholders will be necessary.

Track One: This Implementation Plan focuses on the specific institutional and governance building process improvements, technical and physical, and cross-cutting actions to be undertaken within the next 2-5 years. These provide the foundation on which transformational change can be delivered.

Track Two: Implementation of the Regional Framework through and as part of wider regional and national sustainable development and growth planning initiatives. The ultimate goal has to be that countries and organisations build resilience as an integral part of their development and growth planning, rather than as an add-on. This includes all planning and policy initiatives by CARICOM (see box 4), regional organisations, and Government departments.

Building a low carbon climate resilient economy is an integral element of the wider sustainable development agenda. Policy-setting and decision-making in has to converge with the strategic elements in the Regional Framework.

Addressing climate change without addressing the existing underlying sustainable development and growth challenges faced by Member States will not deliver resilience. An integrated approach to policy development and decision-making is required to ensure that building resilience and creating low carbon economies is set within the context of these wider challenges.

Box 4: Convergence with CARICOM policies and programmes

CARICOM has a central role to play in strategy development and in driving actions forward. CARICOM has been highly successful in some areas of functional cooperation across and within the Member States. For example: the Caribbean Disaster and Emergency Management Agency (CDEMA) has been working with the member countries in collaborative disaster preparedness, response and risk reduction programmes. The HIV/AIDS Programme (PANCAP), the CXC Education Programme, the CARICOM public health programme, the development of Caribbean Vocational Qualifications, are other CARICOM initiatives providing models of the level of functional cooperation required to implement the Regional Framework.

A number of CARICOM strategies, policies and programmes have a direct relevance to building resilience to a changing climate and creating a low carbon economy, including for example:

- Environmental Rights' of the Charter of Civil Society for the Caribbean Community
- The Caribbean Single Market and Economy
- Draft Energy Policy (2007)
- Draft Community Agriculture Policy (2009)
- Jagdeo Initiative
- Draft Regional Food and Nutrition Security Policy (2010)

These CARICOM strategies and policies do not currently take account of the transformational changes required under the Liliendaal Declaration or the strategic elements and goals of the Regional Framework. The CARICOM Secretariat working with national governments and regional organisations must ensure that strategies, policies and actions are consistent with (and make a positive contribution to) delivering low-carbon economies, and meeting objectives over time within the context of a changing climate. All existing strategies, policies, legal and regulatory measures and actions should be reviewed within the next 2 years and all new initiatives should be designed to make a positive contribution to building low carbon, climate resilient economies.

This review process has to sit alongside renewed efforts to secure the necessary financial and technical resources to create a financially sustainable CARICOM with the requisite delivery and implementation capacity.

ACTION: The CARICOM Secretariat, national governments and regional organisations to review all their existing strategies, policies and actions to:

- ensure they align, are consistent with, and make a positive contribution to building resilience and delivering a low-carbon economy (and specifically the strategic elements and goals in the Regional Framework), and
- will continue to meet their wider development and growth objectives over time within the context of a changing climate.

All new initiatives should be designed to make a positive contribution to building low carbon climate resilient economies consistent with the Regional Framework's strategic elements and goals. An appraisal template will be required.

This will ensure that implementation can be delivered through Track Two.

Economic and operational planning by governments and by critical infrastructure operators must factor in the impacts of, and responses to a changing climate. Standard economic appraisal processes are required to enable comparisons and cross-sectoral implications to be assessed.

Timeline: within 1 years.

Lead: CARICOM Secretariat, national governments, and regional organisations with regard to their respective strategies and policies.

Partners: ECLAC, all regional organisations, CCRIF, critical infrastructure operators.

Introduction

High indebtedness, economies based on sectors sensitive to climatic changes, technical and resource capacities, dependence on imported fossil fuels, and high poverty levels create economies that are already at risk. The costs arising from the impacts of a changing climate, and the budget implications in responding to these impacts and then building resilience are far greater than the financial resources of the Member States. It is, therefore, imperative that the Caribbean takes advantage of international funding opportunities such as those identified at the recent Conference of the Parties in Cancun in December 2010 (see Annex 3).

CARICOM and the national governments, working with organisations such as the Caribbean Development Bank (CDB) together with the other Multilateral Development Banks (MDBs) and donors active in the Caribbean, must explore and develop innovative public and private financing mechanisms to maximise the leverage on donor grants and government budgetary allocations. It should, however, be clearly recognised that traditional modalities are likely to be inappropriate for assessing projects, disbursement scheduling, and monitoring and evaluating performance.

There are a number of climate change finance challenges that the Caribbean will need to address:

- Securing access to new and innovative sources of climate finance (including private sector investment).
- Creating investor and donor confidence in policy, legislative and regulatory frameworks.
- Promoting synergies between development finance and climate finance and addressing the particular problem of additionality.
- Making effective use and delivery of limited sources of public finance to catalyse climate finance.
- Delivering low-carbon growth and climate resilience as an integral part of national budgets and investments.

“Only a limited number of developing countries are currently benefitting from these new financing opportunities, as their markets are not yet in a position to attract climate investments”.

“Developing the capacity of low-income countries to create conditions that enable public and private investment flows to address pressing environmental problems is a key priority to finance the transition toward a low-emission climate-resilient society”.

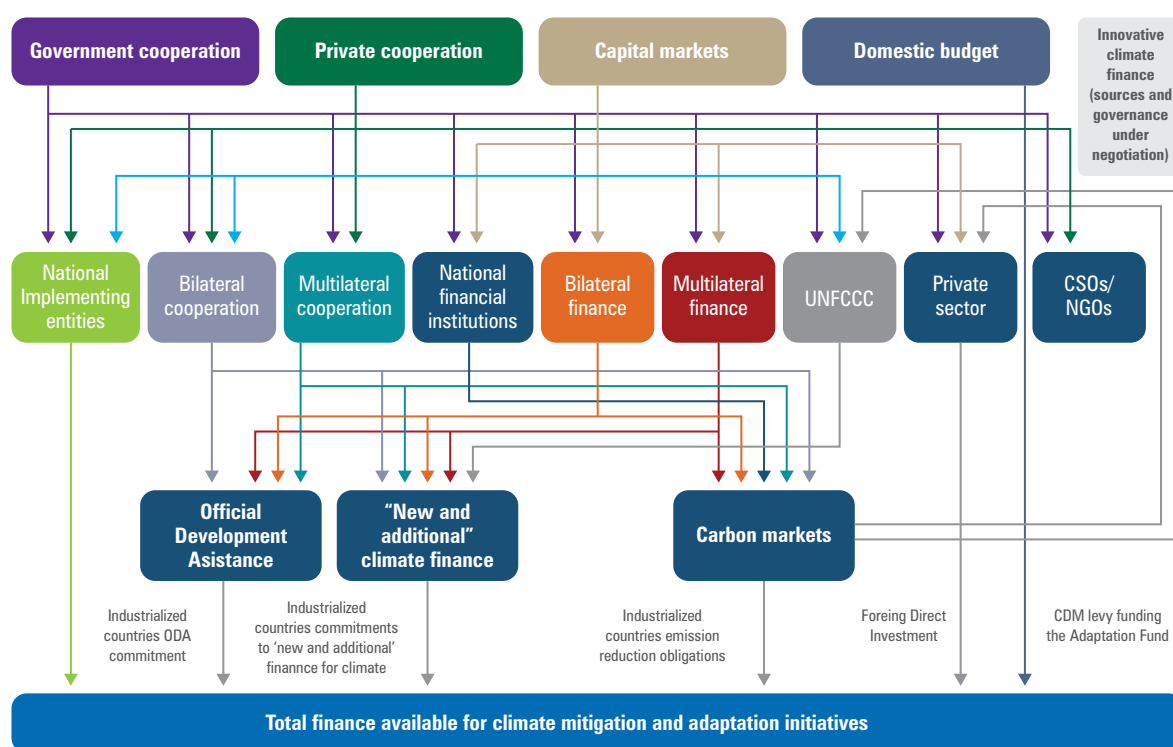
Glenmarec (2011)

Policy and investment roadmaps

A recent report published by the UNDP (Glenmarec 2011)⁶ provides guidance on the financing options available for developing countries to support low-emission and climate resilient development. The range of climate finance sources is complex and includes ODA, new climate funds, private sector and capital market investment, and domestic government budgets. These are set out in figure 9 and are further considered in later parts of this chapter (see also Annex 3).

The UNDP guidance sets out a roadmap approach for project developers and countries to follow to secure finance. Key to this approach is securing an optimal national policy mix for the promotion of climate investment. It should be noted that the policy mix, for example to develop renewable energy generation, will not be the same in each country. The existing regulatory and legislative controls vary from country to country across the Caribbean, countries have different resources, challenges, needs and priorities. New regulatory instruments will be required; some existing policies (e.g. fossil fuel subsidies) will need to be changed before investment-support policies for renewable energy can be effectively implemented.

FIGURE 9: Climate change finance sources⁷



⁶ Glenmarec, Yannick (2011). Catalysing Climate Finance: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development. United Nations Development Programme, New York, NY, USA.

⁷ UNDP (Glenmarec 2011)

The selection of the most appropriate mix of public policies to catalyse climate investment for either low carbon or climate resilience building actions will be influenced by:

- Technology maturity (low carbon) and impact uncertainties (adaptation).
- Global market conditions for investment.
- Country conditions, including the macro-economy, the existing policy framework, institutional structures, maturity of the financial system, capacity issues, resource mobilisation, and availability of evidence based impact assessments.
- Specific national barriers and challenges.

The UNDP guidance suggests a four-step approach to select and implement an optimal mix of public policies and financing instruments to catalyse climate finance in line with national development priorities. The four steps are:

1. Identify priority adaptation and mitigation/low-carbon options
2. Assess key barriers and challenges
3. Develop appropriate policy mix
4. Select financing options

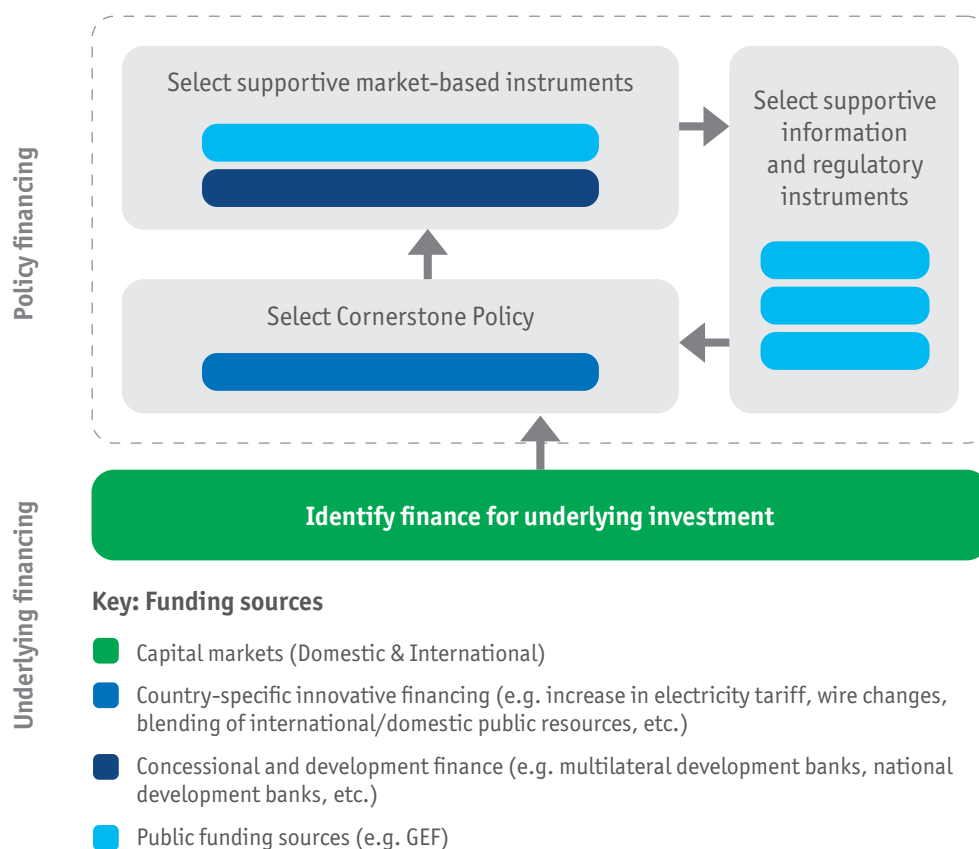
Steps 1 to 3 can be delivered through the risk assessment and management process (described in Chapter 4) that underpins the Regional Framework and this Implementation Plan.

Step 4 explores the four key areas where finance is required to:

- Assist in policy development
- Support financial instruments
- Identify and select information and regulatory instruments
- Provide project investment

The first three areas are related to the development of internal policies to enable the low carbon or climate resilience action to be undertaken, managed and secured. Figure 9 identifies likely sources for the finance required. There may be some flexibility in the funding criteria of donors to enable other policy financing areas to be covered (and in the case of climate resilience actions, donors and IFIs may also be prepared to directly fund asset creating projects).

The interest of private sector investors and the capital markets is likely to be less flexible, with their focus firmly on direct financing of a new asset or a revenue generating service. They will look for regulatory and institutional incentive policies to be in place as a pre-condition. A key task of national governments seeking to attract private sector finance will be to identify, design and implement an appropriate combination of public policies to change background conditions and manage investment and project risk (see Private investment and capital markets, Chapter 3, page 66).

FIGURE 10: Selecting an optimal financing mix⁸

ACTION: Many of the approaches contained in the UNDP guidance are directly relevant to the Caribbean. It is recommended that this guidance is reviewed and specifically tailored to address the challenges and needs of the Caribbean at a regional and national level. This would then provide the detailed guidance for each country to produce its own national climate investment roadmap.

Timeline: Review within 6 months, followed by national investment roadmaps over the next 12 months.

Lead: CARICOM Secretariat, CDB, CCCCC at regional level. National government ministries with responsibilities for finance and economic development at national level

Partners: UNDP, Caribbean financial services sector, international financial services, donors and IFIs

⁸ UNDP (Glenmarec 2011)

Adaptation, mitigation and development

Low-carbon and mitigation actions are often considered as separate and distinct from those concerned with adaptation and resilience building to a changing climate and indeed to wider sustainable development objectives. However, this can create potential problems if proposed actions are not assessed against a composite range of mitigation, adaptation and development goals (It is also one of the reasons why this Implementation Plan proposes policy convergence and alignment using a twin-track approach, (see Policy convergence using a twin-track approach, Chapter 2, page 58).

An example of the relationship between creating a mitigation/low-carbon development action and an adaptation/resilience building action can be seen in energy and water resource management, where the mutual benefits are likely to be missed if actions in both areas are developed in isolation. Energy and water are inextricably linked as can be seen, for example, in hydro-power schemes and bio-fuel production.

It is clearly important that the investment in any project delivers wider benefits beyond the initial adaptation or low-carbon or development objectives that the project was originally designed to achieve. Failure to consider the linkages to the other objectives may lead to missed opportunities, maladaptation and a requirement for additional investment at a later date. For example:

- Improving the energy efficiency of buildings also provides an opportunity to increase the resilience of communities to extreme weather events (e.g. heat waves, storms, etc.), because the improvements required in building design and construction to improve their thermal efficiency can be similar to those needed to increase their resilience to extreme events.
- The cost of increasing the resilience of buildings to extreme events can be a more compelling investment case if the additional energy savings are taken into account.
- Investment in energy efficient buildings might also enable additional finance to be secured from the carbon markets. This finance would not be available if mitigation is not considered when developing adaptation actions for buildings, (Glenmarec 2011).

Financing by national governments

The concept of national sustainable development roadmaps is not new. It is clear however that there are advantages if countries focus their wider strategic planning and operational investment taking into account:

- The importance of mapping-out the pathways to reduce the dependency on fossil fuels for the economy and by key sectors. This is an imperative and should be completed as a national priority within 2 years.
- The need to invest in public debate and engagement on low-carbon development planning and actions. The changes required and their scale and implications necessitate a level of communication and engagement that is perhaps unprecedented.

- The imperative actions to initiate institutional changes and ensure that low carbon climate resilient development becomes a fundamental element of strategic and budgetary planning in Caribbean Governments.
- There is also a responsibility on the Member States to ensure that their own investment projects and their operational budgetary expenditure are low carbon and climate resilient. This responsibility also extends to projects that are financed with grants and loans from donors and development banks.

The fiscal challenges now faced by Governments will be exacerbated in a changing climate regime, including for example, the financing of post disaster rehabilitation, energy price volatility, reduced price competitiveness of export goods and services, rising food prices, and the attendant foreign exchange deficit. Urgent actions are needed to reduce fiscal burdens by insulating regional economies from these internal and external shocks through, for example, increased investments in renewable energy, energy efficiency and the Regional Transformation Programme (RTP) on agriculture. These areas should be recognised as priorities for funding by national governments and international partners.

Private investment and capital markets

Investing in a low-carbon economy and the appropriate technology even in developed countries is seen by the mainstream private investment sector as having higher inherent risks compared with conventional investment strategies. Transforming the Caribbean States to low carbon and climate resilient economies, when investors are already concerned about the risk reward balance in developing countries, places additional challenges to countries wishing to access future adaptation and mitigation funding.

In a recent report (Parhelion, 2010⁹) the authors together with Standard & Poor's and representatives from a number of development banks, investment banks, insurers and institutional investors explored the risks for funders and investors in climate change financing, within the context of the Copenhagen Accord.

They identified the risks that they feel currently restrict the level of private sector investment in climate finance in developing countries. Table 4 adapted from a table in the Parhelion report sets out these risks.

The Cancun agreements in December 2010 on climate financing, building on the previous year's Copenhagen Accord, sets out an objective of making available US\$100 billion a year by 2020 from developed countries to finance mitigation and adaptation investment. Whilst this has been seen as a positive move, it still falls short of the upper range and conservative estimates by the World Bank for the amount required by developing countries (\$90 billion-\$210 billion). Private sector investment was identified in the Copenhagen Accord as a significant contributor to this financing flow, without being specific as to the mechanisms and the incentives required.

The Advisory Group on Climate Finance (AGF) was set up to identify how the US\$100 billion could be secured and in its report issued in November 2010 it concluded that finding the extra money was 'challenging but feasible'.

⁹ http://www.parhelion.co.uk/pdf/Parhelion_Climate_Financing_Risk_Mapping_Report_2010.pdf

Finding the money may be possible, but persuading the private sector to invest in the Caribbean is another challenge, where the risk reward balance may not be seen favourably by investors. If the Caribbean is to attract that part of the US\$100 billion to be provided by the private sector then it must ensure there is a rebalancing of risk to create sufficient interest. This will not be easy.

What is also required is concerted political action across the Caribbean to address those risks that are under the control of the countries, or to which they can exert positive influence to improve the risk reward balance. Investors will only invest if they can secure appropriate risk returns on their capital. De-risking the Caribbean is an action that must be undertaken as a pre-qualifier to gain access to the private sector climate financing agreed at Cancun.

It should also be noted that over time the global investment sector is likely to explore its long-term asset allocations. This may result in steps to divest increasingly high-risk carbon-intensive companies, and those businesses most susceptible to the impacts of a changing climate, from investment portfolios. The recent announcement by Standard & Poor's that it will begin factoring in the price of carbon into its company ratings is an early signal of the changes we can expect to see, driven by a greater awareness of the material impacts on businesses and their operations. Caribbean-based businesses (and those international companies with large Caribbean operations) will be at risk. Caribbean governments will need to explore how they can support these businesses in their actions to improve their risk profiles to ensure there is no withdrawal of investment and shareholder confidence.

ACTION: Assess and review the risk profiles for each CARICOM member state in partnership with the private sector (operating at national, regional and international levels). Identify and implement a 5 year transformational programme to deliver the actions needed to improve the risk balance and attract private sector investment.

Timeline: Review within 12 months, implement within 5 years

Lead: CARICOM Secretariat, CDB, national government ministries with responsibilities for finance and economic development, CICA

Partners: Caribbean financial services sector, international financial services sector

TABLE 4: A private sector investment perspective on risks involved in securing climate change finance

CATEGORY	RISK AREA	DESCRIPTION
Policy risks	Additionality	Lack of clear environmental additionality
	Cannibalisation	Climate budgets are not additive to ODA spending
	Enforcement	Rules not fully binding or difficult to enforce
	Illegitimate policy changes	Nationalisation, confiscation, expropriation, deprivation
	Inconsistency	Regional, national, international rules and regulations in conflict
	Legitimate policy changes	Change in legislation in the ordinary course of government
	Longevity	Regulations only in force for a short period compared to investor horizon / capital commitment
	Methodology, reporting and verification (MRV)	Lack of appropriate methodologies
	Multiplicity	Multiple project types in multiple countries and/or employing multiple technologies
Capacity risks	Aggregation / commoditisation	Difficulty in aggregating and/or commoditising individual transactions into large-scale investment vehicles
	Human / operational	Lack of well-trained work force to implement projects
	Infrastructure	Poor physical infrastructure
	Institutional – regulatory and legal	Lack of well established and resourced regulator – legal provisions uncertain
	Policy development	Lack of understanding within policy development role / civil service



CATEGORY	RISK AREA	DESCRIPTION
Transactional risks	Branding	Public unacceptability of mechanism e.g. market-based solution, securitisation etc.
	Complexity	Financial instruments are too complex
	Currency	Currency fluctuations
	Economic /commodity price volatility	Fluctuation in economic conditions and commodity prices
	Fungibility	Lack of fungibility between regimes / environmental instruments
	Liquidity risk	Fragmented measures lead to too many different regimes
	Private sector funding shortage	General shortage of funding
	Risk/reward imbalance	Insufficient returns available given risks involved
	Transaction cost	High transaction costs, including high costs of complying with MRV requirements
Project risks	Fraud / cash leakage	Investment eroded by leakage costs and/or fraud
	Physical	Natural hazards, including fire, explosion, war, machinery breakdown and other material damage
	Scale	Individual project size unattractive
	Technology	Technology is not efficient and/or too complex and/or not publicly accepted

Source: Parhelion Underwriting Ltd.

External funding from donors and IFIs

There is wide agreement that a rapid and successful deployment of climate change finance to Small Island Developing States is critical to allow them to reduce their vulnerability to climate change and achieve low carbon growth and development. A large number of external sources of finance exist for climate change mitigation and adaptation initiatives in the Caribbean.

Donors have provided essential technical and financial support to the Caribbean, funding many climate change-related projects identified in the database developed as part of the IP project.

In the context of recent commitments for increased climate change finance, CARICOM countries have an opportunity to attract climate change finance in order to build the resilience of their economies and achieve low carbon growth, poverty reduction and sustainable development.

To realise this opportunity, Caribbean countries should work collectively to develop region-wide positions on the most effective, innovative and fairest funding mechanisms and engage with the donor community on the basis of country-led needs assessments and processes.

Currently over 20 global climate change funds exist. Within five years the total number of these funds may be over 100 (Thornton, 2010). Some of these funds have a very specific focus, while others have a broader scope (see Annex 3 for further details). With a few exceptions, CARICOM Member States are eligible to apply for funding from all these sources. There are, of course, concerns regarding those Caribbean states that are not defined as LDCs, as middle-income countries currently receive little overseas development assistance (ODA) or multi-lateral lending. Non-LDC SIDS may require around 3.4% of the total adaptation needs in the developing world, but currently receive only 2.2% of ODA and only 1.7% of multi-lateral development flows (Vivid Economics, CDKN 2011). Each fund has its own administrative and institutional requirements, as well as particular funding constraints, which create significant complexity for recipient countries.

Debate on how climate change finance flows will be scaled-up in the long-term is ongoing. It is expected that funding will come from a wide variety of sources, including bilateral aid, multilateral organisations, ODA, and the private sector (UN Secretary General, 2010). There is also scope for innovative sources of funding in the future, such as Guyana's REDD+ Investment Fund based on payments by Norway for environmental services (UN Secretary General, 2010). The Pilot Program for Climate Resilience (PPCR), a part of the Strategic Climate Fund (SCF), and a multi-donor Trust Fund within the Climate Investment Funds (CIFs) is another source of funding available to CARICOM Member States to finance climate change activities through grants and loans. The PPCR provides funding for actions which seek to integrate climate resilience in national development planning consistent with poverty reduction and sustainable development goals. Six CARICOM countries, Grenada, Jamaica, Dominica, St. Vincent and the Grenadines, Saint Lucia and Haiti are currently involved in the PPCR.

This puts a significant burden on Caribbean countries to understand the changing landscape of climate finance and reflect on the best menu of funding options taking into account the specific circumstances of the region of each country, for example:

- Relative advantages of region-wide and/or country-based funding programmes.
- Identifying the regional and national priority actions.
- Alignment with existing regional and national development programmes (additionality).

- Harmonisation of international donor and IFI climate change interventions.
- Role of implementing entities.
- Fiscal space within national economies and budgets and the capacity to take advantage of and manage the scale of the funding opportunities.
- Leveraging private sector investment through donor and IFI funding.
- Funding through grants and/or loans.

No agreement exists on issues related to the ‘adaptation deficit’ of developing countries and, at present, it is unclear whether development interventions that contribute to building adaptive capacity are considered as additional adaptation activities eligible for climate change funding. Further, accounting for the incremental cost of projects or programmes due to climate change impacts is very complex due to the difficulty of establishing a baseline scenario. The Caribbean Community has an opportunity to promote an informed international debate on whether development and climate change interventions should be differentiated and to propose a robust approach to measure, report and verify adaptation activities that receive external support, bearing in mind the existing uncertainties of future climate change and its impacts.

The Cancun Agreements defined that the nationally appropriate mitigation actions that developing countries will take in the context of sustainable development with international support will need to be measured, reported and verified domestically and subject to a process of international consultation and analysis. The potential costs and constraints on Caribbean countries that these measures may involve needs to be considered, especially as guidelines are being developed by the UNFCCC.

In summary, to realise the existing climate change funding opportunities, the Caribbean Community needs to establish clear priorities for climate change action, agree on a common approach to external financing and strengthen institutional capacities to access external climate finance, in line with the recommendations of the Bangkok Call for Action. This will also ensure that the external financing that the region receives is based on region-wide and country-based assessments rather than driven by the requirements of each available fund. Failure to do so may translate into lost opportunities to access climate change finance.

ACTION: CARICOM Member States should develop a region-wide position on the most effective and equitable funding mechanisms and engage with donors and IFIs on the basis of country-led needs assessments and processes. The Caribbean Development Bank can play an instrumental role working with the donors and IFIs to develop a regional funding mechanism.

It is recommended that the CCCCC working with the CDB develops a technical support facility to advise regional organisations and national governments on the funding opportunities, matching projects with funds and preparing funding applications.

Timeline: Within 12 months

Lead: CARICOM Secretariat, national governments, regional organisations and CDB.

Collaborating partners: Donors and IFIs

Introduction

In a region already characterized by high variability in the current climate, a changing climate represents an additional stress for society, economic sectors and natural environments. This changing risk profile will have an effect on the outcome of a wide range of decisions affecting individual, societal and economic well-being. In order to plan effectively for the future, decision-makers must assess and be aware of these changing risks.

As our understanding of climate change improves it is becoming possible to gain an increasing confidence about some of the expected changes, for example, regard to increasing temperatures. However, our knowledge of the climate system is not perfect, resulting in uncertainty around the precise extent of future climate change. Furthermore, we cannot know how future emissions of GHGs will change. Uncertainty also stems from our incomplete understanding of the impacts of future climate on society, the environment, and economies.

Despite these uncertainties and regardless of the effectiveness of emissions reduction efforts worldwide, Caribbean governments must continue to make decisions to plan for the future. The Regional Framework is founded upon the principle of using risk management processes and tools to aid decision-making. Risk management processes can be used to manage our responses to aspects of climate variability and climate change that create or increase an existing risk.

CARICOM Risk Management Guidelines

Climate risk management explicitly recognises the altered risk profiles that climate change presents, allowing decision-makers to manage likely climate impacts, and exploit potential opportunities. The *'Caribbean Risk Management Guidelines for Climate Change Adaptation Decision Making'* (CARICOM Secretariat, 2003), recognises the challenges of decision-making in the face of climate change uncertainty, and recommends risk management as a tool for designing strategies for coping with uncertainty.

These guidelines were developed to assist CARICOM country risk management practitioners in the decision-making process for the selection and implementation

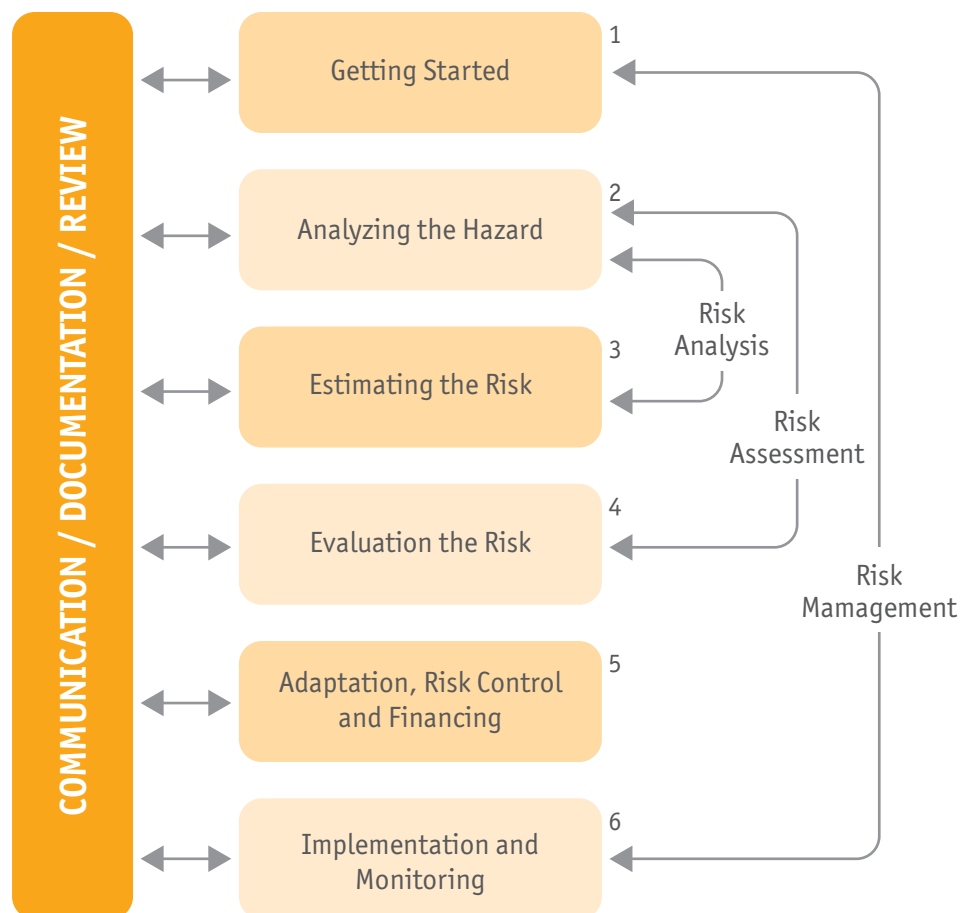
The CARICOM countries must develop a risk management ethic

Decision-making based on subjective value judgements without using the information and the expert advice and guidance that is available will compromise resilience building. Risk management assists in the selection of optimal cost-effective strategies for reducing vulnerability, using a systematic and transparent process. Policies or initiatives that aim to reduce this vulnerability can be designed to complement and support the goals of poverty reduction, sustainable development, disaster preparedness and environmental protection.

of feasible options for adaptation to climate change. The methodology employed in these guidelines is based on the Canadian National Standard (CAN/CSA-Q850- 97): Risk Management: Guideline for Decision-Makers, and follows the key steps of this standard.

FIGURE 11: Steps in the Risk Management Process (Caribbean Community Secretariat, 2003).

(Tools and resources applicable at each of the 7 steps are discussed in Annex 7)



The following key principles underpin the risk management framework presented in the guidelines:

- Stakeholder involvement – key stakeholders are identified and involved throughout the process.
- Communication – the interaction between stakeholders and a risk management team is designed to be transparent and to facilitate:
 - acquisition of relevant information;
 - building public awareness of the particular risk and support for the process;
 - effective consultation;
 - evaluation of stakeholder acceptance of risks;
 - Monitoring and review mechanisms.
- Promotion of sustainable development – using the risk management framework for decision-making should further the region’s sustainable development goals.
- Documentation – an agreed and consistent process of documentation is used throughout the risk management process to ensure:
 - Harmonization of execution from place to place and sector to sector.
 - Accountability and transparency.
 - Preservation of records which serve as a model for future reference or applications.
- Maximization of the use of existing tools, human and technical resources – the process incorporates existing resources including data sets, technical methods and documentation of previous risk assessments. New tools and data are also developed where needed, for example, socio-economic scenarios.
- Maximization of the use of local expertise and knowledge – valuable local knowledge and community awareness is integrated throughout the decision-making process.
- Public education and awareness – wider stakeholder support for climate risk management is encouraged through the development of public education and awareness – of climate variability and climate change issues as well as of the risk management process itself – throughout the process.

Risk management frameworks provide a process for managing our responses to aspects of climate variability and climate change that create or change a risk to receptors in the Caribbean region, its Member States, citizens, infrastructure, economies and environment. Risk management is a decision-making tool that assists in the selection of optimal, or the most cost-effective strategies for reducing vulnerability, using a systematic and transparent process. Policies or initiatives that aim to reduce this vulnerability can be also designed to complement and support the goals of poverty reduction, sustainable development, disaster preparedness and environmental protection.

Some general climate risk management principles include:

- Using **adaptive management** to cope with uncertainty, by putting in place incremental adaptation options rather than undertaking large-scale adaptation in one go. This principle preserves or increases options that allow climate adaptation in future, when the need for adaptation and performance of different measures is less uncertain.
- Trying to find **no- or low-regret adaptation options**. ‘No regret’ options deliver benefits that exceed their costs, whatever the extent of climate change. For example, if you are already experiencing weather related problems, no-regret options are cost-effective actions to deal with current climate variability. ‘Low regret’ options are low cost actions which deliver potentially large benefits under climate change. For example, building climate change adaptation in at the design stage of new infrastructure development.
- Finding **‘win-win’ options**, which contribute to climate adaptation objectives, and also help to deliver on other goals and objectives, for example, the action to develop an asset inventory in Saint Lucia for the water utility (see action box).
- Avoiding **adaptation-constraining actions** that will make it more difficult for you, or others, to cope with future climate risks.

Review of the CARICOM Risk Management Guidelines

Efforts to understand the scope and nature of climate change have increased considerably since the publication of the Caribbean Risk Management Guidelines. In that time, the climate risk management agenda has become more prominent, and the development of adaptation methodologies and guidance has increased rapidly. A risk management process is now required that will allow the complexities and uncertainties of climate change to be navigated; tailored to the specific needs of the Caribbean.

The process should be capable of both the assessment and management of risks and uncertainties, and be based on standard decision-making and broadly applicable risk principles. Users must be encouraged to consider their climate risks alongside their non-climate risks, thereby enabling climate risks to be ‘mainstreamed’ within existing challenges.

Decision-making based on subjective value judgements without using the information and the expert advice and guidance that are available, given the challenges and uncertainties we face, will compromise resilience building. Risk management assists in the selection of optimal cost-effective strategies for reducing vulnerability, using a systematic and transparent process. Policies or initiatives that aim to reduce this vulnerability can be designed to complement and support the goals of poverty reduction, sustainable development, disaster preparedness and environmental protection.

The increasing integration of climate change resilience-building with disaster risk reduction through the partnership work of CCCCC and CDEMA is an example of this risk management ethic developing in a practical way with great benefits.

The initial entry points for creating a risk ethic across the Caribbean should be in the following areas:

- Coastal zone management
- Disaster risk reduction
- National strategic and budgetary planning

ACTION: The CARICOM Climate Risk Management Framework should be revised to take into account the latest developments in climate risk management techniques. An on-line version should be developed with full guidance and links to other tools and techniques. The revised risk management framework must be supported by a comprehensive training programme for decision-makers across all stakeholders. The training programme must be repeatable on request and adapted to reflect stakeholder needs (including the private sector).

All organisations (including donors and development banks) operating at regional and national levels should ‘stress-test’ policies and decisions against the potential impacts of a changing climate. A standard ‘stress-test’ process and guidance based on the revised Caribbean Risk Management Framework should be developed by the CCCCC. The ‘stress-test’ result should be disclosed and made available to other stakeholders and the wider public.

Timeline: Release revised risk management framework and ‘stress-test’ process within 6 months including on-line training tool. Undertake stakeholder training over the following 12-month period starting with government finance and planning ministries.

Lead: CCCCC

Partners: National government ministries, CDB, regional organisations, the private sector, donors and IFIs

The UNDP “National Capacity Self-Assessment” (NCSA) reports for the Caribbean have been accessed to explore what capacity exists or is lacking at the systematic, institutional and individual levels.

The NCSA reports were designed to identify capacity issues that would enable or prevent individual countries to meet the obligations under the three United Nations conventions (UNCBD – United Nations Convention on Biological Diversity, UNFCCC – United Nations Framework Convention on Climate Change, and UNCCD – United Nations Convention to Combat Desertification, also known as the United Nations Convention on Land Degradation and Drought). The NCSA reports have been used as the best available current information on capacity issues.

Capacity refers to the ability of entities (institutions, organizations, and communities) and individuals operating within a system to define specific objectives and work effectively and efficiently to attain those objectives.

Three levels of capacity are highlighted:

Systemic	• Inter-agency coordination arrangements. • Political commitment, policy gaps & overlaps. • Public service incentives and accountability. • Legal and regulatory frameworks.
Institutional	• Clarity of mandates and strategies. • Management systems, structures and processes. • Information management within and among organizations. • Human and financial resources, infrastructure. • Public accountability, client orientation.
Individual	• Job descriptions, responsibilities and motivation. • Technical skills. • Personal workspace facilities.

The main capacity themes that are evident in all the Caribbean countries are a need for appropriate legislation, adequate funding, additional training and heightened public awareness. Furthermore, management of the environment must continue to be treated as a shared responsibility among governmental, non-governmental agencies, community groups and individuals. Each of these capacity themes represents an area for action under the Regional Framework. Regional organisations, national governments and organisations, NGOs, civil society and local communities all require support to improve their systemic, institutional and individual capacity.

Annex 2 provides a summary of the main capacity limitations (and enabling mechanisms, highlighted in grey) as presented in the individual country UNDP “National Capacity Self-Assessment” (NCSA) reports. All countries have existing capacity gaps that need to be addressed. The effects of a changing climate and the need to develop low carbon economies will exacerbate the gaps that already exist. The NCSA reports should be used to develop capacity improvement actions in each country.

Data and information are public goods

Attitudes and protocols regarding data collection, management, storage, sharing, control and ownership of data and information will need to change. Building resilience and using risk management to aid decision-making where there is uncertainty requires access to the best available data and information. An 'open-source' and 'open-access' attitude should be encouraged thereby providing the means by which all decision makers can share and make use of the best available information. Institutional cultures which restrict access are not in the long-term interests of the Caribbean. In some cases these restrictions are imposed for entirely understandable budgetary reasons; information can be a revenue earner. In these situations alternative and more viable funding mechanisms are required.

ACTION: Governments and other regional organisations should develop their own 'clearing house' facilities with free access to data and information. This should extend to information supporting development proposals, for example, base data and analysis provided in ESIA's. Donors/IFIs and project sponsors must always release all data and information (within established protocols that recognise some information may be sensitive). All governments and regional organisations will need financial, technical, and human resource support, including for example, the development of alternative funding mechanisms. Institutional legislative challenges may need to be addressed.

Timeline: within 2 years

Lead: National governments, regional organisations

Partners: Donors and IFIs

Building on existing knowledge and expertise

A great deal of time, effort and resources have been invested into impact and vulnerability assessments, and research. In some cases the recommendations and guidance have not been acted upon. Reports sit on shelves through lack of resources, baseline data sets are not digitised and are difficult to access, technical knowledge is lost as staff retire or move out of the Caribbean. Retaining and growing technical, professional, managerial and academic research expertise and capacity is vital.

We can build on these invaluable information and expertise resources if we can address the underlying capacity issues.

We must also step-up the research into climate change, climate variability and impact modelling to provide data and support for non-scientists engaged in decision-making, risk and vulnerability assessments, and

the preparation of adaptation and mitigation strategies. It is also essential that we develop a programme of institutionalising model outputs into stakeholder decision-making tools. A review of research needs is being developed by the CCCCC working with researchers across the Caribbean and will be included as an Annex to this Implementation Plan when it is completed in July 2011.

ACTION: Undertake a skills and expertise audit to identify the additional training and knowledge that technicians, professionals, the private sector, politicians, and those across the wider civil society (including for example, farmers and fisher people) will require to access and use the information that exists. A sustainable programme of training, communications and ongoing support will be required.

Timeline: Develop audit and training packages within 12 months including pilot projects. Roll out across the Caribbean over a 2-year period.

Lead: Universities, professional institutions and sector support groups, regional organisations,.

Partners: Donors and IFIs

ACTION: Assess the research needs in the Caribbean to deliver the strategic elements and goals in the Regional Framework. Identify actions to fill research gaps and to develop decision-making tools. Develop a co-ordinated programme across the Caribbean's research institutions.

Timeline: Assessment to be completed within 6 months

Lead: CCCCC

Partners: Caribbean universities, the Institute of Meteorology (INSMET) of Cuba, regional organisations, international research community, and technical users

Introduction

Responding effectively to climate change will necessitate the involvement of, and coordination between, a wide range of actors, including politicians, technical staff in many different sectors, academics, the private sector, civil society organisations and individuals. Effective strategies can only be developed and implemented if all these actors understand the nature of the problem and what options exist for responding to the particular challenges that climate change will present to their sector or locality.

Yet, in spite of long-standing recognition in the region that there is a need for communication and outreach about climate change, comparatively little has been done and there are few signs of the necessary widespread shifts in policy or attitudes or behaviour. There are a number of reasons why there is a limited awareness and understanding in the Caribbean about climate change, and the impacts it will have on all aspects of people's livelihoods:

- Most of the available information about climate change is not accessible to the lay person because it is written in highly technical language and published in specialist journals.
- Communicating clearly about the projected specific impacts of climate change in the Caribbean is constrained by the fact that although regional modelling has improved there remain many uncertainties.
- There have been few comprehensive engagement and outreach initiatives at the community level, which encompass all the steps needed to enable communities to design their own response strategies.
- Although there are a large number of climate change projects across the Caribbean, knowledge and lessons learned are not routinely shared.
- Insufficient attention has been paid to strategically targeting key groups or to the type of communications that will be most effective with different target audiences, with a historic over-reliance on printed materials.
- Little work has been done in the region to evaluate the effectiveness of communication strategies relating to the environment and climate change, so much of what is developed is based on a perception of what will work rather than clear evidence. (CANARI 2010)

Engagement and outreach programme

In 2004, 12 CARICOM countries collaborated to develop a Caribbean Regional Climate Change Adaptation Public Education and Outreach (PEO) Strategy. The strategy was endorsed by the Council of Trade and Economic Development (COTED) as a basis for a programme of PEO activities to be implemented under the Mainstreaming Adaptation to Climate Change Project (MACC).

During the consultation process for the Implementation Plan the CCCCC invited PANOS, CANARI and CaribSave to make recommendations for an engagement and outreach programme to support the Regional Framework.

The proposed programme draws on a concept note produced by CANARI and on the recommendations in the 2004 strategy. It recognises that there is a need to:

- Review relevant studies and activities that have taken place since 2004
- Analyse the effectiveness of different climate change communication strategies being used in the region and elsewhere
- Amend the strategy to reflect current climate change science and understanding of impacts on the Caribbean
- Align the strategy with the Regional Framework

The target audiences identified in the proposed programme are set out in Table 5.

TABLE 5: Target audiences

TARGET AUDIENCES				
Audience	Desired Action by Audience	Required Message and Opportunities	Evidence and Source	Channels
Policymakers and technocrats (including climate change focal points)	Increased awareness of the issue Inclusion of Coastal Community adaptation into national planning	Costs of inaction Benefits of action Support demonstration projects	Research of possible effects of climate change Expert opinions Results from projects	Meetings Publications (policy briefs) Workshops Film
The private sector (including tourism developers, managers)	Adopt profitable and sustainable business models/ practice Adopt environmentally-friendly business models/ practices	Increased income Sustainability Opportunity for growth Adaptation is cost-effective / feasible Support demonstration projects	Case studies of success Lessons learned from past projects Analysis of economic impact of doing nothing Cost/benefit analysis	Associations Publications and personal communication Presentations Workshops Film





TARGET AUDIENCES				
Audience	Desired Action by Audience	Required Message and Opportunities	Evidence and Source	Channels
Teachers	Teach climate change as part of curricula (science, geography, social studies, etc.)	Our children are our future Children in Caribbean households can influence other generations		
Media workers	Cover more stories about climate change Approach climate change experts to source information on possible linkages of climate-related events to climate change			
Students	Replicate and scale up new models and approaches in the region Design projects that build on MIF experiences/ learning	Impact Feasibility Relevance to mission/ region Potential for high social & environmental impact They are the right organization to take it forward	Project evaluations with detail on implementation and impact, as well as risk mitigation Testimonials from other community organizations Toolkits and how-to guides	Community leaders Political leaders Media Networks of community organizations
Leaders of non-governmental and community-based organisations (including faith-based organisations)	Change behavior	Sustainability Profitability	Experiences from other countries/ regions Simple how-to guides (step-by-step) Opinion of someone trusted (community leaders)	Associations Workshops

There will be a strong emphasis on young people in the Caribbean (see The role of the non-governmental and community based organisations and wider civil society, Chapter 8, page 104) because they have proven to be effective advocates and influencers of their peers and they are likely to bear the brunt of the impacts of climate change.

The proposed programme builds on several promising, innovative initiatives underway, including:

- Panos Caribbean’s national public education and communication strategy on climate change in Jamaica working with the media and established as well as upcoming performance artists to build their capacity to act as climate change ‘champions’ and communicators.
- Toolkits designed by CANARI, in partnership with other non-profit organisations, to increase the capacity of community-based organisations and community members to understand and respond to climate change and to develop effective communication and advocacy strategies (for example, *Addressing Climate Change in the Caribbean: A toolkit for communities* (Christian Aid); *Communicating climate change: A toolbox for local communities* (Commonwealth Foundation)).
- Short films produced and directed by Owen Day, formerly with Buccoo Reef Trust and now a Director of Caribsave (for example, *In Hot Water*, *A Burning Agenda*; *Islands on the Edge*).
- The Climate Change Handbook for Caribbean Journalists (August 2005), under the Mainstreaming Adaptation to Climate Change Project.
- The work of Barbadian performance poet and UNDP Peace Ambassador, Aja, particularly for the for development of the community of Artistes Weathering Climate Change and production of the climate change concerts.
- The regional radio serial drama approach being used by Media Impact in *My Island – My Community*.
- CDEMA’s development of a Model Community Based Climate Change and Disaster Risk Reduction Programme, including materials to enhance a community’s capacity to plan, communicate and advocate.

The programme concept is set out in Figure 12. This is now under discussion with the CCCCC and will be further developed in partnership with PANOS, CANARI, CaribSave and other regional and national organisations.

ACTION: Develop and implement an engagement and outreach programme at regional, national and community levels across the Caribbean building on the programme proposals prepared by PANOS, CANARI and CaribSave.

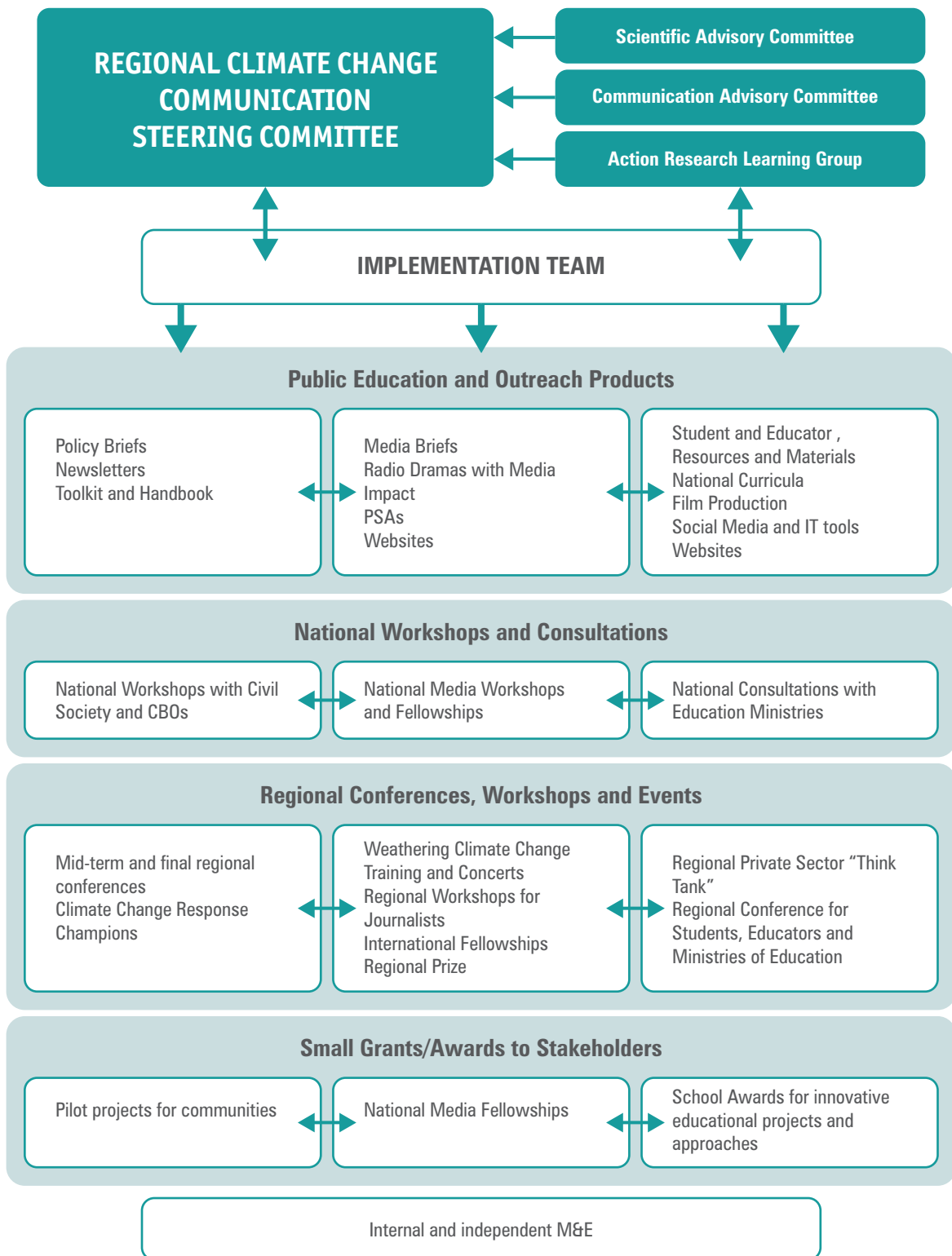
Identify and secure appropriate funding from donors.

Timeline: Complete programme development and secure funding within 6 months.

Lead: CANARI, PANOS, CCCCC, CaribSave

Partners: Universities, professional institutions, sector support groups, regional organisations, NGOs, CBOs, and donors

FIGURE 12: Engagement and outreach programme



IMPLEMENTATION THROUGH DISASTER RISK REDUCTION

The Caribbean is acknowledged as being one of the most prone regions in the world to a range of natural hazards, including tropical storms and hurricanes, drought, floods, landslides, earthquakes and volcanic eruptions. Statistics from the Inter American Development Bank (IDB) indicate that during the 1990s, natural disasters in the Caribbean region killed more than 45,000 people, affected 40 million people and caused over \$20 billion in direct damages. With an average of 40 major disasters a year, the region ranks second only to Asia in terms of the frequency of disaster occurrence.

There is an increasing frequency of climate related extreme events. Whilst these are indicative of the conditions that the climate models predict, it is not possible to state that any one event was caused by climate change due to the underlying variability in our climate. What is clear is that the Caribbean is likely to be faced with more extreme events and disaster situations.

Natural hazards by themselves do not necessarily cause disasters – rather it is the combination of an exposed, vulnerable and ill-prepared population or community with a hazard event that results in a disaster (ISDR). Adaptation to climate change and disaster risk reduction, share the same ultimate goal of reducing vulnerability to weather and climate hazards. Looking at Disaster Risk Reduction (DRR) through a climate change lens provides an opportunity to raise the profile of DRR across the Caribbean and access climate funding to support DRR programmes.

DRR and climate change are inextricably linked. Building resilience to existing climate variability and the changes we are already seeing in our climate, through the disaster risk reduction programmes across the Caribbean and the work of CDEMA must become a priority area.

The leading policy initiative at the regional level for DRR can be found in CDEMA's 'Enhanced CDM Strategy and Programming Framework' (CDM strategy). This framework along with the Regional Framework provide governance mechanisms and overarching frameworks for the advancement of the Region's approach to climate change adaptation and disaster risk management. The CDM strategy is the blue-print that is defining disaster risk reduction initiatives in CDEMA Participating States over the period 2007-2012 and reflects the progress within the Caribbean region towards realisation of a programming approach to disaster management.

The purpose of the CDM strategy is to strengthen regional, national and community level capacity for mitigation, management, and coordinated response to natural and technological hazards, and the effects of climate change (see Table 5). The CDM strategy and the Regional Framework provide the regional platforms for the integration of climate change adaptation and DRR.

Disaster Risk Reduction (DRR) is defined by the International Strategy for Disaster Reduction (ISDR) as, "The conceptual framework of elements considered with the possibilities to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention), or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development".

TABLE 6: The CDEMA Comprehensive Management Programming Framework

GOAL REGIONAL SUSTAINABLE DEVELOPMENT ENHANCED TROUGH COMPREHENSIVE DISASTER MANAGEMENT			
PURPOSE To strengthen regional, national and community level capacity for mitigation, management and coordinated response to natural and technological hazards, and the effects of climate change Adaptation.			
OUTCOME 1: Enhanced institutional support for CDM Program implementation at national and regional levels	OUTCOME 2: An effective mechanism and programmed for management of comprehensive disaster management knowledge has been established	OUTCOME 3: Disaster Risk Management has been mainstreamed at national levels and incorporated into key sectors of national economies (including tourism, health, agriculture and nutrition)	OUTCOME 4: Enhanced community resilience in CDERA states and respond to mitigate and respond to the adverse effects of climate change adaptation and disasters
OUTPUTS 1.1. National Disaster Organizations are strengthened for supporting CDM implementation and a CDM program is developed for implementation at the national level 1.2. CDERA CU is strengthened and restructured for effectively supporting the adoption of CDM in member countries 1.3. Governments of participating states/ territories support CDM and have integrated CDM into national policies and strategies 1.4. Donor programming integrates CDM into related environmental, climate change adaptation and disaster management programming in the region. 1.5. Improve coordination at national and regional levels for disaster management. 1.6. System for CDM monitoring, evaluation and reporting being built	OUTPUTS 2.1. Established of a Regional Disaster Risk Reduction Network to include a Disaster Risk Reduction Centre and other centres of excellence for knowledge acquisition sharing and management in the region 2.2. Infrastructure for fact-based policy and decision making is established / strengthened 2.3. Improved understanding and local / community-based knowledge sharing on priority hazards 2.4. Existing educational and training materials for Comprehensive Disaster Management are standardized in the region. 2.5. A Strategy and curriculum for building a culture of safety is established in the region	OUTPUTS 3.1. CDM is recognized as the roadmap for building resilience and Decision-makers in the public and private sectors understand and take action on Disaster Risk Management 3.2. Disaster Risk Management capacity enhanced for lead sector agencies, National and regional insurance entities, and financial institutions. 3.3. Hazard information and Disaster Risk Management is integrated into sectoral policies, laws, development planning and operations, and decision-making in tourism, health, agriculture and nutrition, planning and infrastructure. 3.4. Prevention, Mitigation, Preparedness, Response, recovery and Rehabilitation Procedures developed and Implemented in tourism, health, agriculture and nutrition, planning and infrastructure.	OUTPUTS 4.1. Preparedness, response and mitigation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response. 4.2. Improved coordination and collaboration between community disaster organizations and other research/data partners including climate change adaptation entities for undertaking comprehensive disaster management. 4.3. Communities more aware and knowledgeable on disaster management and related procedures including safer building techniques. 4.4. Standardized holistic and gender-sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected communities. 4.5. Early Warning Systems for disaster risk reduction enhanced at the community and national levels.

Strengthening the linkages between disaster risk reduction and adaptation

There are a number of important linkages between climate adaptation/building resilience and DRR which point to the integration of the two as a means of reducing the potential impacts of climate-related hazards on socio-economic development and livelihood insecurity. These are set out in Table 6.

TABLE 7: Summary of commonalities between adaptation and DRR.

COMMON AREAS	EXPLANATION
Influence of poverty, and vulnerability and its causes	The severity of the conditions caused by climate change and disasters is influenced poverty and by vulnerability and its causes
Vulnerability reduction focused on enhancing capacity, including adaptive capacity, and devising responses in all sectors	Assessing risk vulnerability is fundamental to both subjects Reducing vulnerability requires multi-stakeholder participation
Integration in development	Both must be integrated into development plans and policies
Local level importance	Measures to relieve risk and adapt to climate change must be effective at the local level
Emphasis on present day conditions	Increasingly it is recognized that the starting point is in current conditions of risk and climate variability (i.e. 'no regrets')
Awareness of need to reduce future impacts	Despite a tradition based on historical evidence and present day circumstances, the aim of disaster risk reduction to build resilience means that it cannot ignore current and future climate change risks
Appropriateness of non-structural measures	The benefits of non-structural measures aid both current and less well understood future risk reduction needs
Full range of established and developing tools	For example: early warning systems; seasonal climate forecasts and outlooks; insurance and related financial risk management; building design codes and standards; land-use planning and management; water management including regional flood management, drainage facilities, flood prevention and flood-resistant agricultural practices; and environmental management, such as beach nourishment, mangrove and wetland protection, and forest management
Converging political agendas	At the international level, the two policy agendas are increasingly being discussed together, including through the Bali Action Plan (decision 1/CP.13) and the Hyogo Framework for Action

Source: This was taken from UNFCCC/TP/2008/4. It includes information from United Nations International Strategy for Disaster Reduction. 2003. *Climate and Disaster Risk Reduction*. Briefing document by the United Nations Inter-Agency Task Force on Disaster Reduction, eighth meeting, Geneva, 5-6 November. Geneva: UN/ISDR. p.4.

The CDM strategy and the Regional Framework provide a number of linkages for further integration. For example (see Table 7):

- Climate change is a cross-cutting theme of the CDM strategy: Priority Outcome 4 specifically addresses building resilience to mitigate and respond to the adverse effects of climate change and disasters (see Table 6). The outputs under this outcome directly support the achievement of a number of the goals of the Regional Framework in particular those of Strategic Elements 1, 2 and 3.
- DRR is a cross-cutting theme in the Regional Framework and that Government entities must advance the goals and objectives of the strategy by ensuring that disaster risk reduction is taken into account in designing development programmes and projects.
- DRR is directly supported under Regional Framework Strategic Element 1, goal 2, “Reducing vulnerability to a changing climate”, which aims to “build in-country capacity to formulate and analyse adaptation policy options, and develop and implement multi-sectoral adaptation strategies.
- The Regional Framework also captures DRR under its Strategic Elements 1 and 2, to “Mainstream climate change adaptation strategies into the sustainable development agendas of CARICOM Member States” and; to “Promote the implementation of specific adaptation measures to address the key vulnerabilities in the region” respectively.

It is, however, recognised that these linkages need to be strengthened. There is a major policy initiative underway led by CDEMA, working with key Caribbean stakeholders including the CCCCC, to strengthen these links. The ‘Mainstreaming Climate Change into Disaster Risk Management for the Caribbean Region (CCDM) Project’ acknowledges the extreme vulnerability of the Caribbean to the effects of climate change, and in response to the urgency of the situation, accepts the rationale of integrating adaptation and DRR as a logical and proactive approach.

TABLE 8: Linkages between the CDM and the Regional Framework.

CDM FRAMEWORK-OUTCOME 4			
OUTPUT 4.1, Preparedness, response and mitigation capacity (technical and managerial) is enhanced among public, private and civil sector entities for local level management and response	OUTPUT 4.2, Improved coordination and collaboration between community disaster organizations and other research/ data partners including climate change entities for undertaking comprehensive disaster management	OUTPUT 4.3, Communities more aware and knowledgeable on disaster management and related procedures including safer building techniques	OUTPUT 4.4, Standardized holistic and gender sensitive community methodologies for natural and anthropogenic hazard identification and mapping, vulnerability and risk assessments, and recovery and rehabilitation procedures developed and applied in selected
▼	▼	▼	▼
Goal 1.2, Reduce Vulnerability to Climate	Goal 3.1, Effectively access and utilize resources to reduce vulnerability to a changing climate	Goal 1.4, Build a society that is more informed about and resilient to a changing climate;	Goal 1.1, Assess the vulnerability and risks associated with a changing climate
		Goal 2.2, Promote the implementation of measures to reduce climate impacts on coastal and marine infrastructure	
		GOAL 2.3, Promote the adoption of measures and dissemination of information that would adapt tourism activities to climate impacts	

The CCDM Programme and Plan of Action is intended to provide a model which could be used throughout the region as the blue print for national level integration of climate change adaptation and disaster risk reduction. The initiatives listed in the Action Plan are, therefore, not intended to be prescriptive. They are the result of the gap analysis conducted by the CCDM working group, and the identification of practical and tangible initiatives that could be adapted and tailored to the specific needs of the individual countries. These are in essence the responses that would address the deficiencies and enhance the process of integrating CCA and DRR. The CCDM Programme and Plan of Action focuses on those areas that represent the interface between DRR and CCA. Its implementation will be at the national level by civil society groups and public and private sector agencies, across all sectors, e.g. tourism, agriculture, health, and in a diversity of cross cutting areas.

TABLE 9: Programme areas for integrating CCA and DRR

PROGRAMME CROSS CUTTING COMPONENTS	DESIRED RESULTS
Institutional structure and governance	- Existing structures strengthened by integrating and mainstreaming climate change into the existing disaster management framework. - Improved national climate change adaptation frameworks.
Legislation	- Model Climate Change Legislation- model legislation on Climate Change produced which factors in specific considerations in disaster risk reduction. - Regional Standards - regional standards produced which factor in climate change considerations in disaster risk reduction measures for hazard mapping and risk assessment. - Guidelines - regional guidelines produced which factor in climate change considerations in disaster risk reduction measures for building and infrastructure.
Capacity building	Planning and national/local emergency organizations agencies' have an increased understanding of the impact of not reducing risk on sustainability, and increased in their ability to implement and enforce development standards.
Data sets / database	Improved accessibility of consolidated data related to DM and CC.
Information and targeted communication	- Revised CCCCC Climate Change Public Education and Outreach Strategy and CDEMA Model Education Strategy that includes intersection of CC and DRR. - The implementation of the information and communications strategy.
Research	- Research into best practices and documentation for regional implementation of climate change adaptation and disaster risk reduction. - Research in the use of remote sensing in disaster risk management (case studies and new technology). - The use of existing radars for real time flood forecasting (DRM). - Improvement of existing climate models.
Training and education	- Coordination of training programmes and opportunities to achieve more efficient use of scarce resources and the minimisation of duplication. - Establish standardised training programmes for the region through a suite of DRM & CC courses; as well as the development of a timetable of available courses. - Create and award undergraduate degrees in DRM including climate change. - Sensitise all students, regardless of discipline, to DRM & CC.
Monitoring and evaluation	- Develop a monitoring and evaluation framework by adapting the existing M&D framework that was developed under the CDEMA/IDB Tourism project for use at national level. - Improve information sharing using existing websites to allow interested national actors to have access to project documents, information and outputs from CC & DRM projects. - Establish instrumentation/technology to monitor hazards, including forecasting, early warning system(s) and projections.

Table 8 presents the desired results of the implementation of the Programme at the national level. It should be noted that some regional level actions have been identified as imperative to the success of the process, and CDEMA has indicated that it will work in partnership with other stakeholders to develop the proposals and jointly seek funding for the implementation of these initiatives.

The CCDM has developed a preliminary set of actions based on the sectors listed in Table 8. As noted this action plan offers suggestions of the types of initiatives that should be developed at the national level for the integration of climate change adaptation into the disaster risk reduction agenda. Relevant actions are included in this Implementation Plan in Annex 1.

Clear commitment by governments and stakeholders

The CARICOM Governments through the Heads of Government mechanisms, COTED and the CARICOM Secretariat have historically demonstrated their political commitment to addressing climate change. A number of regional climate change adaptation projects (CPACC, ACCC, MACC and SPACC) have been developed and implemented jointly over the past decade. The Agreement for the establishment of the CCCCC (2002) and the commitment of the national governments to the CCCCC as well as the 2009 Liliendaal Declaration are further manifestations of the political support for climate change adaptation and mitigation in the region.

Governments, regional organisations, the private sector, academic institutions and civil society, and from outside the region, multi-lateral agencies and institutions, and donors and IFIs have participated in and supported climate change adaptation efforts over the years. The Regional Framework and its Implementation Plan have been developed with the participation of governments and stakeholders.

The Role of Regional Stakeholders

CARICOM and its institutions must play an active and vital role in the execution, monitoring, and review of the Implementation Plan at the levels and in the manner described below.

■ CARICOM Heads of Government

There is a clear leadership role for the Heads of Government in accelerating the climate change agenda to deliver transformational change.

The policy information and co-ordination role within CARICOM and reporting role at a regional level should be undertaken by the proposed Coordinating Mechanism.

■ CARICOM Ministerial

The Council of Trade and Economic Development (COTED), COSHOD and COFCOR should ensure that CARICOM initiatives within their remit are consistent with the Regional Framework's strategic elements and goals. They should:

- Conduct periodic reviews of the adequacy of CARICOM policies in the context of a changing climate.
- Strengthen the region's participation and advocacy in climate change negotiations for the timely delivery of resources and transfer of technology to the region.
- Ensure that climate change negotiators work in a more coordinated manner and report on evolving issues pertinent for the region.
- Promote the mainstreaming of climate change into national and regional development policies by ensuring convergence with the Regional Framework.
- Conduct reviews of measures addressing climate change to ensure that they have minimal impact on international trade.

■ CARICOM Mandated Regional Institutions

The scale of the challenges facing CARICOM countries limits the ability of any country acting on its own to build resilience and create low carbon economies. Working collectively through a regional support structure allows countries to maximise their resources and technical expertise to the benefit of all. The regional agencies mandated by CARICOM provide an invaluable technical resource. Acting regionally to deliver nationally can achieve so much more with the limited resources available.

In order to meet the increased need for their support from countries, regional organisations will need additional technical, financial and human resources. Many of the regional organisations are dependent on subventions from CARICOM Member States. Additional funding support will be required. Regional organisations will need to explore other sources of funding if they are to provide the additional support. Access to climate change funds must be explored by regional organisations.

The Regional Framework recognised the pivotal role that regional organisations will play in the execution of the Implementation Plan. To fulfil this role CARICOM governments must continue to acknowledge and sustain the contribution of regional organisations and agencies that they have mandated, including:

- CARICOM Secretariat
- Caribbean Tourism Organisation (CTO)
- Caribbean Development Bank (CDB)
- Caribbean Disaster and Emergency Management Agency (CDEMA)
- Caribbean Environmental Health Institute (CEHI)
- CCCCC
- Caribbean Institute for Meteorology and Hydrology (CIMH)
- Caribbean Agricultural Research and Development Institute (CARDI)
- Caribbean Regional Fisheries Mechanism (CRFM)
- Organisation of Eastern Caribbean States (OECS)
- University of the West Indies (UWI)

The role of these organisations in the delivery of the Implementation Plan is fundamental. They will need to:

- Strengthen national capacities through training, programme support, technical assistance, and resource mobilisation.
- Positively encourage information sharing, documentation, and comparative analyses of issues on a regional and sub-regional basis.
- Coordinate sub-regional or regional disaster risk reduction projects.
- Develop regional or sub-regional policy platforms and advocating regional policy initiatives in global forums.
- Undertake comprehensive, post-disaster damage assessments.
- Coordinate with the Alliance of Small Island States (AOSIS) in developing negotiation strategies to reflect CARICOM's priorities and interests under this Regional Framework.

■ The Role of the Caribbean Development Bank

The CDB can play a pivotal role in delivering transformation by supporting the delivery of the Regional Framework's strategic elements and goals in its lending decisions, climate financing, and in its role as a mechanism for accessing and channelling climate funding. The CDB is developing its internal policies on climate change, in discussions the bank has recognised the following roles:

- Place greater emphasis on mainstreaming climate change in economic and policy work with member countries, especially those that help to define CDB's work programme with Country Strategies and Country Poverty Assessments.
- Resource mobilization from the international development community securing access to and establishing innovative mechanisms for climate change.
- Serve as a direct conduit of resources from specialised funds on behalf of member countries especially those less able to access resources directly.
- Provide financing for capacity building and institutional strengthening for regional, sub-regional mandated institutions and national governments to support plan implementation.
- Financing implementation plans for member countries and the private sector, and capital investment programmes for climate resiliency in key climate sensitive sectors.
- Support the development of risk transfer products.
- Provide support for evaluation and monitoring of outcomes and dissemination of best practices.

■ The Role of the CCCCC

The CCCCC has primary responsibility for coordinating the implementation of the Regional Framework in collaboration with the relevant regional and national institutions, and providing technical support and guidance as required by the respective implementing agencies. In keeping with its mandate (see box 5), the CCCCC will:

- Act as the Secretariat to the Coordinating Mechanism.
- Analyse and disseminate information relevant to climate change.
- Establish a programme of engagement for the regional private sector.
- Facilitate and coordinate the development of Caribbean positions on global climate change, and serve as the authoritative technical source for Caribbean countries to, inter alia, fulfil their responsibilities under the UNFCCC.
- Assist the Member States in accessing benefits deriving from the implementation of financial mechanisms under the UNFCCC and other financial agencies, such as GEF, the IFIs and private financial institutions.
- Support public education and awareness programmes on climate change in Member Countries.
- Promote the sharing of resources, technical cooperation, and information exchanges with other global climate change initiatives, particularly in small island developing states and the Americas.
- Develop a technical support facility to advise regional organisations and national governments on the funding opportunities, matching projects with funds and preparing funding applications.
- Continue to develop partnerships with international organisations; for example the partnership with Instituto de Meteorología de Cuba (INSMET) has significantly advanced the climate modelling capacity in the Caribbean.

Box 5: CCCCC Mandate

The Agreement Establishing the Caribbean Community Climate Change Centre further identifies the following functions for the Centre:

- Collecting, analysing, storing, retrieving and disseminating meteorological and sea-level data relevant to the observation of climate change and facilitating, in collaboration with specialized Caribbean agencies, the collection of information about the impact of climate change on the economic sectors in the Caribbean.
- Facilitating and coordinating the development of Caribbean positions on global climate change and serving as an authoritative technical source for Caribbean countries to, inter alia, fulfil their responsibilities under the United Nations Framework Convention on Climate Change; assisting Members, on request, in realizing the equitable benefits resulting from the implementation of financial mechanisms under the Kyoto Protocol.
- Providing, on request, Members and Associate Members with strategic assistance for public education and awareness campaigns at the national and regional levels to involve all regular stakeholders, both public and private.
- In collaboration with Members and relevant agencies, develop special programmes to address implications in the Region for coastal zone management, disaster management, and potentially vulnerable sectors such as tourism, health, agriculture and insurance.
- Promoting the sharing of resources, technical co-operation and information exchange with other global climate change initiatives, in particular in Small Island Developing States and Latin America.
- Coordinating (and initiating) the development of regional research programmes, including adaptation of global climate and impact modelling efforts and specialized training focused on effective adaptation to global climate change.

The Role of National Governments

The national governments through the line ministries, departments and agencies are the instruments through which many of the national level actions will be executed. The national entities will be particularly responsible for the execution of actions to mainstream climate change working through and with their national co-ordinating mechanism (assuming they adopt the three-ones principle). Their tasks will include:

- National development planning and budgeting processes.

- Adoption of specific adaptation measures in response to identified vulnerabilities.
- Actions to reduce dependence on fossil fuel as a source of energy and the adoption of cleaner and more efficient energy technologies.
- Actions to improve the transparency, governance and financial accountability, regulatory enforcement and governance in public and private institutions are essential.

More specifically the principal task of governments will be to:

- Provide an appropriate political, legal, and administrative environment for the implementation of actions to meet the Regional Framework's strategic elements and goals including monitoring and enforcement.
- Undertake concrete and positive actions to ensure that climate change is mainstreamed into the national development processes including national development plans and budgets.
- Allocate budgetary resources on a routine (annual) basis to support adaptation and mitigation actions identified in the Implementation Plan and in their national development plans.
- Commit the requisite expertise to enable effective regional participation in international climate change negotiations. This will require:
 - Development of regionally coordinated positions and allocation of respective roles and responsibilities;
 - Continuity of national representation;
 - Empowerment of national negotiators to act on behalf of their governments; and
 - Timely reporting on the progress and outcomes of negotiations in which national experts take part.
- Assist in the mobilisation of new and additional financial resources from bi-lateral and multi-lateral sources to support implementation of national level actions within the Implementation Plan.
- Encourage and institutionalize the participation of all government entities in the development of appropriate climate hazard risk mitigation measures.
- Promote sustained partnerships with non-state actors including the private sector and community-based and non-governmental organizations.
- Improve the investment risk profile and remove barriers and impediments to indigenous economic growth. Work with international organisations and adopt international best practices.

A transformational change within governments and at party political levels to respond to the scale and nature of the challenges ahead is required. Climate change is not a party political issue – it is too important to be used as a political football. Building resilience and delivering a low-carbon economy cannot be achieved without embedding climate change into all government and opposition policies.

The Role of the Private Sector

The Caribbean private sector includes the full range from the subsistence farmer selling surplus food in the market to the largest international company. The IP recognises the role to be played by the private sector in building development resilient to climate change in the region. National governments and the private sector, supported by regional organisations, will need to work as investment partners in feasible and marketable projects and activities.

Private sector involvement will, where necessary and feasible, be promoted through agreements that define clear roles and responsibilities. The private sector must play a key role in:

- The identification and development of trade and investment opportunities and initiatives in areas like the Clean Development Mechanism, alternative and renewable energy, adoption and use of cleaner technologies for manufacturing and service delivery.
- Technology transfer partnerships with entrepreneurs and suppliers from outside the region.
- Developing insurance mechanisms and the provision of capital for investment.
- Serving as technical consultants and advisers to national governments and their agencies as well as to regional organizations.

It is proposed that direct working links be established by the CCCCC with the representative organizations in individual CARICOM Member States such as, Insurance Association of the Caribbean (IAC), Caribbean Association of Indigenous Banks (CAIB), Chambers of Commerce and Industries, Manufacturers Associations and umbrella representative groupings such as the Private Sector Organization of Jamaica (PSOJ) and the Private Sector Commission (PSC) of Guyana. The private sector has so far (with the exception of tourism, farming and fisheries) been largely left out of Caribbean climate change engagement processes.

It will be necessary for Member States individually and working through CARICOM organisations such as COTED to actively encourage the private sector to:

- Develop and implement corporate environmental policies that embrace climate hazard risk management principles.
- Make economic investments in the production and promotion/marketing of cleaner and climate friendly technologies.
- Organize for effective involvement and participation in the IP including, through convening regular dialogue with the support of the CCCCC, to build a continuing appreciation of the implications of climate change for business continuity, supply and value chains and sustainability.
- Explore and exploit available business opportunities arising from climate change adaptation and mitigation.
- Undertake climate risk assessments as part of their normal business planning activities and where appropriate share the results with other organisations.¹⁰

¹⁰ It is acknowledged that companies may not wish to share the results of internal risk assessments if there is any question of commercial sensitivity.

The role of the non-governmental and community based organisations and wider civil society

The Non-Governmental Organizations (NGOs) and the Community-Based Organizations (CBOs) have a critical role to play in the successful execution of the IP both at the regional and national levels as well as in communities and villages throughout the CARICOM countries.

The NGO and CBO communities of the CARICOM region have developed specialised skills in areas such as advocacy; community and social development; disaster response and management; protected areas and environmental management; and public awareness and education. The Red Cross Society is the foremost emergency and disaster response agency in most countries. The Program for Belize and Iwokrama in Belize and Guyana respectively, are responsible for the management of significant acreages of standing forests. The Caribbean Natural Resources Institute (CANARI) and PANOS Caribbean have established track records in areas of conservation, advocacy and public education. The IP will utilize the skills and experience of these organizations to develop appropriate mechanisms to deliver the required services and inputs to the constituencies which they serve.

Many communities are dependent on the mutual support systems provided by NGOs and CBOs. CBOs in particular are less likely to have the knowledge and expertise to access donor funds. The CCCCC working with other regional organisations should pay particular attention to this and work with the donors to identify funding mechanisms that will direct funds into local communities.

Citizens are seen as playing a proactive role in articulating their needs in relation to their respective livelihood priorities. Such action will help to inform decisions regarding hazard management, as well as assist in reducing risks and uncertainties.

Citizens are also expected¹¹ to:

- Take full responsibility for arming themselves with appropriate information to guide decisions at the individual, organisational, or community level regarding climate hazard risk management.
- Take all opportunities to participate in decision making processes and hold decision makers accountable for achieving the transformation to more climate resilient economies.
- Monitor the activities of government and the private sector to ensure that government policies and programmes enhance resilience.
- Act in an environmentally responsible manner and contribute to the building of resilience in their communities.
- Engage with decision makers in ensuring that the impacts of a changing climate and the need to develop low carbon economies remain on the national and regional policy agenda.

¹¹ It is recognised that in order for citizens to play a proactive role it will be necessary to scale up the initiatives already being taken by organisations such as CANARI and PANOS, together with the regional institutions to raise awareness and understanding. In order to perform this role, citizens across all ages, social, racial and cultural groups will need to be empowered.

Special emphasis should be placed on engagement with disadvantaged citizens to ensure that their needs are adequately understood and addressed.

It is critical to the future of the Caribbean that during the life of this Implementation Plan young people are fully engaged and mobilised on climate change. The national demographic profiles across the Caribbean show a large population percentage in the 10-25 age group. It is this group that will have to live with the consequences of the actions that we take or, fail to take now. Public outreach and engagement processes must ensure that this group is fully equipped with the knowledge, resources and capacity needed to live in a very different environment from that which we now experience.

Role of the international development community

The role of the international community is also considered in the External funding from donors and IFIs (Chapter 3, page 70). The international community will be asked to fully support and endorse the transformational thrust of the Implementation Plan by:

- Advocacy on behalf of the region, including support for Caribbean positions at UNFCCC negotiations.
- Providing financial and technical resources.
- Harmonising donor and IFI processes for applying, securing, reporting and monitoring project finance.
- Harmonising donor and IFI activity to ensure that the most effective use is made of the available funding opportunities.
- Facilitating technology transfers.
- A commitment to honour obligations, maintain a consistent focus and avoid shifts in funding priorities.
- Ensure that all baseline data collected as part of any funded project should be considered as open access, including data collected in projects undertaken to inform donor and IFI policy.

The international development community must be encouraged to continue their commitment to partner with the Caribbean region to develop and implement policies and measures that will enable it to properly address the threats and impacts caused by a changing climate. The Regional Framework and this IP are intended to facilitate the continuing involvement of the international community in strengthening the capacity of CARICOM states in adapting to a changing climate.

It is intended that the international development community, collectively and individually, will be asked to endorse the Regional Framework and the IP and give formal recognition to its role as a core planning document for the Caribbean to guide their financial and technical assistance programmes.

Introduction

During the earlier stages of preparing this Implementation Plan a desk-top review was undertaken to develop a database of climate change related actions that are currently underway or about to be started in the Caribbean. The database has nearly 300 actions which have been coded against the strategic elements and goals of the Regional Framework. Further details of the database can be found in Annex 4 of this report. This database has been developed as a web-based tool hosted on the CCCCC website and released in summer 2011. It will allow a user to search for projects against sector, country, sponsor, funding, strategic elements and goals. Project descriptions are provided with links to core project documents and websites.

The database can be extended by adding projects that have been completed over the last 10-15 years. This would increase the value of the database as a knowledge management tool.

The delivery of these projects will have great benefits, but we are only just beginning to understand the scale of the challenges ahead and the corresponding actions that we will need to take. During the preparation of this Implementation Plan, stakeholders¹² were asked to identify those actions they believed were required to be undertaken within the next 2 to 5 years. These actions were recorded and further developed at a regional stakeholder workshop held in Saint Lucia in May 2011.

Actions included in this Implementation Plan

The actions identified by stakeholders together with those abstracted from a variety of regional and national strategy documents have been grouped under three broad headings:

- Institutional and governance building blocks.
- Technical and physical impacts.
- Cross-cutting challenges.

¹² Annex 4 provides a list of the stakeholders consulted during the preparation of this Implementation Plan.

Priority actions

These reflect the reality of the challenges ahead, and the need to mobilise and take action now.

The Member States through the Liliendaal Declaration and the Regional Framework have already agreed that building resilience and low carbon economies is no longer an option for further debate.

Action has to take place now if we are to avoid the worst fears that a changing climate will bring to the Caribbean

These are set out in Annex 1.

The table is split into sections covering each of the Regional Framework's strategic elements and goals and also against the key sectors of agriculture and food security, water, health, energy, coastal and marine, forests, and tourism. Cross-sectoral actions are identified in the tables. Lead agencies are identified for each of the actions together with indicative collaborating partners.

A number of priority actions have been identified and these are included in a separate table in Annex 1. **They, together with those actions which could be started in the next 2 years if funding or another capacity constraint can be overcome (early-start actions), provide the immediate focus for delivering the transformational change envisaged by the Liliendaal Declaration.** They provide the building blocks on which progress towards low carbon climate resilient economies can be initiated.

Many of these actions are at concept stage. Formal appraisals have not been undertaken and it is not possible to identify capital and operational costs¹³. It is also not possible to develop performance measures and targets for these conceptual actions. **It is recommended that a formal risk assessment is undertaken before a decision to proceed is made on any of the actions identified in Annex 1. This will ensure that the wider context is understood, that the problem and objectives have been identified, decision-making criteria, thresholds and sensitivities are defined, risks assessed, and alternative options appraised.**

The prioritisation of these actions at a national level is a matter for the national governments and other relevant organisations to undertake, taking into account the specific challenges faced in each country or sector. CCCCC will provide guidance and advice and assist with this process.

Additional actions

This Implementation Plan will be continuously revised in response to the changes that are taking place in the Caribbean, as our knowledge increases, as we learn from the actions taken, and in response to global responses to the climate challenges. It is intended to be a living and iterative process with new actions identified and added to those already included.

Some countries are under represented in terms of the number of actions that have been identified. Country wide risk assessments at sectoral and cross-sectoral levels are required for all CARICOM Member States and these will identify additional actions.

It became clear, during discussions with stakeholders, that the issue of sustainable livelihoods, communities and gender has not been adequately covered in the Regional Framework. It is recommended that this should be undertaken in the next review of the Regional Framework. In the meantime further work is required to ensure that sustainable livelihoods, communities and gender is identified and accounted for as a cross-cutting issue in all relevant actions in this Implementation Plan.

¹³ In discussions with stakeholders at the Saint Lucia workshop it was agreed that providing indicative costs in Annex 1 for projects that were conceptual could be misleading.

Additional research actions

During the in-country dialogues the project team asked Caribbean based research institutions to submit their ideas on research needs. A number of submissions were received.

Additional support has been secured from the Implementation Plan project funders (CDKN and DFID) to develop a research component. This will define the research actions to support the Implementation Plan.

The research component was completed by the end of July 2011. The final research component report will be issued as a separate technical annex to the Implementation Plan and will be circulated to key stakeholders and made available on the CCCCC website. The research report will identify further actions to be incorporated into the Implementation Plan.

MONITORING AND EVALUATION OF THE REGIONAL FRAMEWORK AND THE IMPLEMENTATION PLAN

In order to determine the effectiveness of responses to climate change, there is a requirement to develop indicators of GHG reductions, delivering low carbon economies, resilience building and adaptive capacity. Quantitative indicators are particularly important for monitoring and evaluation (M&E) of climate change initiatives, as allocation of resources will ultimately be targeted and justified on the basis of agreed criteria, including value for money, that are both transparent and robust.

Climate change is a complex and long-term challenge and, although we are still at an early stage in our understanding of what constitutes 'effective' resilience and mitigation action, M&E is clearly vital to assessing progress. There may be long intervals between the time when adaptation or mitigation interventions are implemented, and the measurable impact of these is felt, and this lag will need to be taken into account in the design of indicator frameworks. Recent discussions (UKCIP 2011) have also highlighted the fact that there is no 'end point' to adaptation, and thus 'success' should be defined in terms of continuing progress, rather than achievement of a particular state of adaptation. Finally, there is the challenge (common to M&E frameworks for many issues besides climate change) of quantifying change against a moving (or poorly understood) baseline. Each of these challenges must be addressed in the design of an M&E strategy that builds on previous work and is flexible enough to be applicable for each of the Member States.

Further work is required to develop an M&E strategy for the IP at a regional and national level. It is recommended that this is based on the following principles:

- **Transparency:** In order to share meaningful information and learn by measuring progress, the CCCCC will, through its clearing house, monitor the progress of actions identified in the IP and provide an annual report. The CCCCC will maintain the overall M&E strategy, and will engage in ongoing dialogue with those organisations identified as responsible for carrying out actions. Web-based repositories of information on past, current and planned climate change initiatives will be an integral part of the M&E strategy.
- **Simplicity:** Recognizing the resource constraints associated with climate change initiatives in the region, the M&E strategy will employ a straightforward, simple approach that will aim to minimise the reporting burden for the CCCCC and other relevant stakeholders. The strategy will be based on self-reporting, whereby those organisations identified in the IP will be responsible for notifying the Centre of progress against targets. This notification process will have a low resource requirement.
- **Integration with sustainable development indicators.** In many cases the monitoring and evaluation of progress on adaptation may not be very different from monitoring and evaluation of progress towards development goals (or indeed other areas). The development of adaptation indicators is a new field, and best practice is still emerging. While initial suggestions for adaptation indicators are convenient because they are easily quantified, they do not necessarily provide a robust measure of adaptive capacity. For example, a measure of the 'proportion of staff working on adaptation' does not actually address the underlying problem of climate vulnerability or measure an increase in resilience.

- **Relevant to the regional and national specific challenges.** Although guidance can and will be provided at a regional level, the uniqueness of each of the CARICOM Member States and their own priorities will require that the indicators and measures used in M&E are relevant and specific to each country. National level M&E implementation should be strongly related to M&E programmes for progress towards sustainable development and growth objectives.

A number of recent studies and initiatives have explored the potential for various indicators and M&E frameworks (UKCIP, 2011, GTZ Climate Protection Programme 2010, Horrocks and Hunt, 2009, Adger et al., 2004). In February 2011 a panel of international climate change experts was convened (with support from UK DFID) to contribute to the design of a global monitoring and evaluation framework for climate change adaptation programming. The conceptual framework is still evolving, but it proposes a twin-track approach to measuring adaptation outcomes:

- Measuring development performance under climate challenges – this is aimed at tracking what has changed in terms of real-life outcomes (measured mostly by development indicators, applied to climate vulnerable communities, aggregated from bottom-up). Monitoring comparative performance of Caribbean countries against other similar countries using a range of social, economic and environmental indicators may be beneficial.
- Assessing the extent to which climate risk management is being applied in the development processes, actions, and institutions.

This twin-track approach is of direct relevance to the implementation of the Regional Framework given the recognition that climate change should be considered within a wider sustainable development context, underpinned by risk management.

ACTION: Develop a regional level M&E framework that can be adapted to meet national level needs. Indicators, targets and measures should be chosen that reflect regional and national priorities within a wider sustainable development context, underpinned by risk management.

Guidance on suitable indicators etc. to be developed by CCCCC in consultation with stakeholders.

Timeline: Develop regional framework and guidance within 6 months. National M&E frameworks to be developed once country level risk assessments have been completed.

Lead: CCCCC, Member States, regional organisations

Partners: Donors and IFIs

Execution of the Implementation Plan

Delivery of the Regional Framework is a shared responsibility. Regional organisations have a key role as set out in the Implementation Plan to support, guide and take action. However it is inevitable that the focus for action on transformational change to meet the strategic elements and goals of the Regional Framework has to be at the national level and below. The pace by which transformational change can be achieved at a national level will be a function of the capacity, resources, empowerment of and engagement across and between all sectors and civil society, and the political will to effect change. The adoption of the three-ones approach to resource mobilisation is considered to be the most effective process by which this change can be delivered.

A biannual review is proposed of both the Regional Framework and the Implementation Plan to ensure that they continue to provide the right focus for the required transformational changes. However this review should be undertaken on a 'needs must' basis if the circumstances dictate otherwise.

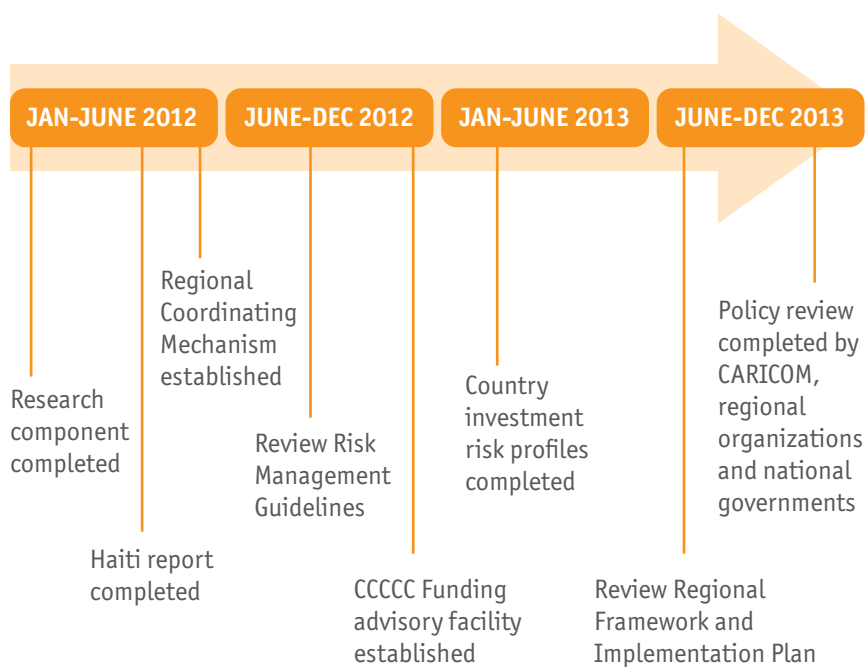
The CCCCC has a co-ordinating and delivery role in this regard and will maintain dialogue with key stakeholders to ensure that the Regional Framework and the Implementation Plan accurately reflect the Caribbean's transformational needs. Any changes that need to be made can be incorporated with the agreement of the Coordinating Mechanism. Changes arising from national level risk assessments and target setting can be incorporated immediately into the IP process. The overall monitoring of progress will be undertaken by the CCCCC, in consultation with all stakeholders, reporting to CARICOM through the Coordinating Mechanism.

This on-going dialogue will ensure that the Regional Framework and the Implementation Plan become a 'live' process rather than time expired documents.

Implementation plan milestones

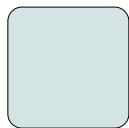
The timeline provided in Figure 13 provides examples of the priority challenges and early-start actions that could be undertaken within the next 2 years. It is intended to be representative and provides examples of milestones to be met mainly by regional organisations.

Each country will have its own early-start actions to meet its specific challenges and its own milestones and timeline. Part of the process for individual countries when adopting the three-ones approach would be to identify their own priorities and timelines. Those countries participating in the PPCR programme should have a clearer view of where their priorities lie based on recent scoping work and could produce their own milestones and targets relatively quickly.

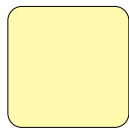
FIGURE 13: Implementation Plan milestones

Proposed actions identified by stakeholders

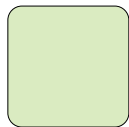
Key to table



Early-start actions that can be started within the next twelve months (funding has been identified).



Early-start actions that could be started within the next twelve months if funding is secured (additional appraisal/risk assessments may be required to assess impact, identify preferred adaptation option and determine resource requirements).



Actions that are ongoing but may require additional funding.



Actions that will require additional appraisal/risk assessments to assess impacts, identify preferred adaptation option and determine resource requirements.

Note: Some actions are repeated in the table as they can be classified under more than one of the strategic element.

Many of these actions are at concept stage. Formal appraisals have not been undertaken and it is not possible to identify capital and operational costs¹⁴. It is also not possible to develop performance measures and targets for these conceptual actions. **It is recommended that a formal risk assessment is undertaken before a decision to proceed is made on any of the actions identified in Annex 1. This will ensure that the wider context is understood, that the problem and objectives have been identified, decision-making criteria, thresholds and sensitivities are defined, risks assessed, and alternative options appraised.**

The prioritisation of these actions at a national level is a matter for the national governments and other relevant organisations to undertake, taking into account the specific challenges faced in each country or sector. CCCCC will provide guidance and advice and assist with this process.

¹⁴ In discussions with stakeholders at the Saint Lucia workshop it was agreed that providing indicative costs in Annex 1 for projects that were conceptual could be misleading.

STRATEGIC ELEMENT 1: Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Goal 1: Assess The Vulnerability and Risks Associated With A Changing Climate

Objective:	Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)	Link to existing actions (lead / funding organisation)
Manage The Adverse Effects of Climate Change on Coastal and Marine Resources Outcomes: • Coral reef research programme institutionalized and providing data to guide scientific research by 2021 • Increased output of peer reviewed and published research for contribution to teaching of climate science and to IPCC use	Establish a functioning network of Coral Reef Early Warning Systems (CREWS) in selected countries. In addition to Jamaica stations, installations should include Belize, Barbados, Tobago and Saint Lucia	Coastal Zone and Marine	Regional	Jamaica Belize Barbados Trinidad St. Lucia	Lead: CCCCC, NOAA, CMS/UWI Collaborators: University of Belize, Coastal Zone Mgt. Agencies, CRMN Belize	2011 to 2021	1,000	Mainstreaming Adaptation to Climate Change (MACC) (CCCCC)
	Monitoring in all countries with coral reef is institutionalized between UWI Centre for Marine Sciences and national agencies	Coastal Zone and Marine	Regional National	All Countries	Lead: CMS/UWI Collaborators: National Res. Agencies, Ministries of Agriculture and Fisheries, CRMN Belize	2011 to 2021		Caribbean Planning for Adaptation to Climate Change (CPACC) (OAS); Special Pilot Adaptation to Climate Change (SPACC) (CCCCC); Resource Assessment and Management (Fisheries Industry) (CRFM); Caribbean Large Marine Ecosystem Project (CLIME) (UWI)
	Implement and institutionalize regional coral reef research programmes at the CMS and CERMES	Coastal Zone and Marine	Regional	Jamaica Barbados	Lead: CMS/UWI, CERMES/UWI	2011 to 2021		Special Pilot Adaptation to Climate Change (SPACC) (CCCCC)
	Continue research in coral nursery to identify species that are adaptive to warming sea temperatures and other parameters in selected countries	Coastal Zone and Marine	Regional National	All Countries	Lead: CCCCC, CERMES, CMS Collaborators: Ministries of Fisheries and NRM, University of Belize, NGOs	2011 to 2016	500	Special Pilot Adaptation to Climate Change (SPACC) (CCCCC); Mainstreaming Adaptation to Climate Change (MACC) (CCCCC); Research And Data Analysis For Policy Formulation And Decision Making within the Fisheries sector (CRFM); Formulation of a Master Plan on Sustainable Use of Fisheries Resources for Coastal Community Development in the Caribbean (CRFM)
	CERMES to be provided with institutional support (building and equipment) to allow for expansion of teaching and research functions	Coastal Zone and Marine	Regional	All countries	Lead: CERMES/ UWI	2011 to 2021	300	
	ERI University of Belize to be provided institutional support (building and equipment) to allow for expansion of teaching and research functions	Coastal Zone and Marine	National	Belize	Lead: ERI/UB	2011 to 2021	1,000	



STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Objective: Manage The Adverse Effects of Climate Change on Coastal and Marine Resources Outcomes: • Coral reef research programme institutionalized and providing data to guide scientific research by 2021 • Increased output of peer reviewed and published research for contribution to teaching of climate science and to IPCC use	Research and development of models to forecast changes in distribution, abundance and production of commercially important fisheries (e.g. lobsters, conch, shrimp, ground fish, tunas, flying fish, groupers, snappers etc) and the social and economic impacts (food security, employment, income etc) based on different climate scenarios (temp, salinity, ph, etc) to facilitate planning, decision-making and disaster risk management	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, UWI Collaborators: CCCCC, OECS, NOAA, UB, FAO, CNFO, CZMAI Belize	2011 to 2021	1,000	Mainstreaming Adaptation to Climate Change (MACC) (CCCCC)
	Establish/strengthen systems to collect and compile fisheries catch and fishing effort data as well as biological, ecological, economic, social, aquaculture and any other relevant data to monitor performance of key commercial and other associated and dependent species in the ecosystem	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, CERMES/ UWI OECS, Ministries of Fisheries Collaborators: FAO, CNFO,	2011 to 2021		Caribbean Planning for Adaptation to Climate Change (CPACC) (OAS); Special Pilot Adaptation to Climate Change (SPACC) (CCCCC); Resource Assessment and Management (Fisheries Industry) (CRFM); Caribbean Large Marine Ecosystem Project (CLME) (UWI)
	Mapping and valuation of coastal ecosystems and habitats, including coral reefs, sea-grass beds, mangrove systems, to document location, state of health and contribution to economic development	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, UWI, CZMAI Belize Collaborators: OECS, Ministries of Environment, Natural Resources, CNFO, CCCCC, University of Suriname	2011 to 2021		
	Formulate, adopt, implement and revise conservation and management measures and, where appropriate, fisheries management and development plans on the basis of the best available information, including climate change to achieve optimum sustainable use and long-term conservation of fisheries resources	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries, CZMAI Belize Collaborators: CNFO, UWI	2011 to 2021		Special Pilot Adaptation to Climate Change (SPACC) (CCCCC)
	Revise and upgrade regional and national fisheries and marine resource management policies, legislation and regulations to incorporate and address climate change and DRM considerations	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI	2011 to 2015		

STRATEGIC ELEMENT 1: Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Objective: Manage The Adverse Effects of Climate Change on Coastal and Marine Resources Outcomes: • Coral reef research programme institutionalized and providing data to guide scientific research by 2021 • Increased output of peer reviewed and published research for contribution to teaching of climate science and to IPCC use	Conduct research to develop methodologies and systems for culture of indigenous marine and brackish water and fresh water species to diversify industry, reduce pressures on the living marine resources and build coastal community resilience	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI, FAO, National Universities	2011 to 2016	3,000	Special Pilot Adaptation to Climate Change (SPACC) (CCCCC); Mainstreaming Adaptation to Climate Change (MACC) (CCCCC); Research And Data Analysis For Policy Formulation And Decision Making within the Fisheries sector (CRFM); Formulation of a Master Plan on Sustainable Use of Fisheries Resources for Coastal Community Development in the Caribbean (CRFM)
	Develop and implement programmes aimed at the protection and rehabilitation of degraded fisheries habitats and ecosystems, and the environment generally	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries, CZMAI Belize Collaborators: CNFO, UWI, NGOs, Private sector			Research And Data Analysis For Policy Formulation And Decision Making within the Fisheries sector (CRFM); Formulation of a Master Plan on Sustainable Use of Fisheries Resources for Coastal Community Development in the Caribbean (CRFM)
	Strengthen the capability of fisher-folk organisations at the regional, national and local levels to enhance community participation in planning and implementing programmes to increase resilience to climate change.	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI, NGOs, Private sector, CZMAI Belize			
	Development of human resource capacity of stakeholders in the fisheries sector to incorporate climate change consideration including DRM in fisheries development and management.	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI, NGOs, Private sector			
	Identify, and where possible develop, alternative livelihood opportunities for fisher-folk and other vulnerable groups in the coastal zone	Coastal Zone and Marine	Regional National	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI, NGOs, Private sector			
	Strengthen institutional capability of the CRFM and related institutions to coordinate, monitor and support the mainstreaming of climate consideration and DRR in fisheries and marine resource management	Coastal Zone and Marine	Regional	All countries	Lead: CRFM, Ministries of Fisheries Collaborators: CNFO, UWI			

STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Objective: Manage The Adverse Effects of Climate Change on Coastal and Marine Resources Outcomes: • Coral reef research programme institutionalized and providing data to guide scientific research by 2021 • Increased output of peer reviewed and published research for contribution to teaching of climate science and to IPCC use	Updating meteorological stations on all CARDI field stations and selected national systems – Automatic Weather Stations	Capacity building	Regional	All countries	Lead: CCCCC, CARDI, CIMH Collaborators: Belize Hydro-Met Service, UNITAR	2011 - 2013	100	
	Rainfall Analysis for On-Farm Applications	Capacity building	Regional	All countries	Lead: CIMH Collaborators: National Meteorological Services, UNITAR,	2011 - 2013	100	
	Support for participation in regional capacity building in area of utilisation of regional climate models.	Capacity building	Regional	All countries	Lead: CIMH Collaborators: National Meteorological Services, UNITAR	2011 - 2013	100	
	Training in agricultural practices which can aid adaptation to climate change	Capacity building	Regional	All countries	Lead: CCCCC, INSMET Collaborators: CARDI, Ministries of Agriculture, UNITAR	2011 - 2013	100	
	Impact assessments in the agriculture sector for agriculture professionals (10 day course developed by CCCCC/ INSMET). Six courses over a two year period.	Capacity building	Regional	All countries	Lead: CCCCC, INSMET Collaborators: CARDI, Ministries of Agriculture,	2011 - 2013	750	
	Impact assessments in the health, water and coastal and marine sectors for professionals (10 day course developed by CCCCC/INSMET). Six courses over a two year period.	Capacity building	Regional	All countries	Lead: CCCCC, INSMET Collaborators: Ministries of Health, Water and Coastal Zone and Marine Affairs	2011 - 2013	750	
	Training for EIA practitioners in the use of the NHIA (Natural Hazard Impact Assessment) tool developed in collaboration with the CDB. (Five day course with 6 workshops over a two year period.	Capacity building	Regional	All countries	Lead: CCCCC, INSMET, CDB Collaborators: Ministries of Environment, NGOs, Private sector	2011 - 2013	750	
	Training in climate risk management using the revised Guideline developed under ACCC including training of trainers at the regional level. (Three TOTs and at least one national workshop)	Capacity building	Regional	All countries	Lead: CCCCC, Collaborators: Line Ministries, NGOs, Private sector	2011 - 2013	400	



STRATEGIC ELEMENT 1: Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Objective: Manage The Adverse Effects of Climate Change on Coastal and Marine Resources	Training for Disaster Managers and Met. Officers in the use of short term forecasts for Disaster Management. The three day workshop will focus on training Disaster and Met personnel to access and use this resource to inform disaster management action during the hurricane season.	Capacity building	Regional	All countries	Lead: CCCCC, INSMET Collaborators: CIMH, National Meteorological Services, NEMOs		
Outcomes: • Coral reef research programme institutionalized and providing data to guide scientific research by 2021 • Increased output of peer reviewed and published research for contribution to teaching of climate science and to IPCC use	Develop training module for carrying out the analysis of the Economic Costs of Adaptation. The manual should be ready by the end of 2011. Undertake six regional training workshops for professionals and technicians over three years. Climate modeling: The partnership with Caribbean institutions will be strengthened and expanded to produce data at greater resolutions. Continued training and upgrading of Caribbean technical expertise will be facilitated through doctoral and post-doctoral programs. More models will be investigated and utilized that are relevant to region and that can provide resolution down to 10 square kilometer grids. International cooperation with technical partners will continue.	Capacity building Multi sector	Regional Regional	All countries All countries	Lead: CCCCC, Collaborators: UWI, ECLAC Lead: CCCCC, CSG/ UWI Collaborators: INSMET (Cuba) University of Surinam		
	Sea level rise: Additional monitors will be installed to strengthen the monitoring network. The Regional Archiving Centre will be further supported at the location in Belize. A routine and permanent maintenance program under the leadership of the CIMH will be in place. Technical coordination and leadership will be the responsibility of the CIMH, NOAA and the DSI of the UWI.	Multi sector	Regional	All countries	Lead: CIMH, CCCCC Collaborators: NOAA, UWI NMS/Belize	2011 to 2021	
Objective: Reduce GHG emissions through the promotion and use of renewable and alternative energy sources	Develop and/or implement new research and teaching areas in alternative energy, waste management, resource economics and GIS/remote sensing.	Coastal Zone and Marine Energy	Regional	All countries	CERMES/ UWI, University of Suriname	2011 to 2021	



STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Goal 2: Reduce Vulnerability To A Changing Climate

Objective: Limit the Effects of Climate Change on Agriculture and Food Security Outcome: Adequate food supplies being produced to meet the region's food and nutrition needs by 2021	Prepare and implement agriculture sector adaptation strategies for selected countries, learning from the Guyana experience.	Agriculture	National	Lead: CCCCC Collaborators: CARDI, Ministries of Agric.	OECs countries Jamaica Belize	2012 to 2017		Mainstreaming Adaptation to Climate Change (GEF); Jagdeo Initiative on Climate Change (Office of the President of Guyana); Food Crops Intensification Project –Haiti (IFAD);
	Vulnerability and capacity assessment of the impacts of climate change on water, agriculture, tourism, coastal and marine and forestry sectors for the years 2020 and 2050 in all CARICOM states.	Multi- sector	National	All countries	Lead: CCCCC, Natl. Water Agencies and Line Ministries for each sector Collaborators: CARDI, CIMH, CTO, GWP Caribbean, Universities, Private sector, Civil society	2012 to 2017	1,500	Review of the Economics of Climate Change (RECC) in the Caribbean project (ECLAC); National Water Sector Adaptation Strategy for Climate Change, Belize (National Meteorological Service of Belize)
	Prepare water sector adaptation strategies for all CARICOM countries by 2017.	Water	Regional National	All countries	Lead: CIMH, CEHI Collaborators: Natl. Water Agencies and Ministries of Agric., Private sector	2012 to 2017	1,500	Adapting to climate change in water resources and water services in Caribbean and Pacific small island countries (SOPAC); Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Rainwater Harvesting (RWH) Project (CEHI)
	Implement water sector adaptation strategies for all CARICOM countries.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	2013 to 2021		Adapting to climate change in water resources and water services in Caribbean and Pacific small island countries (SOPAC); Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Rainwater Harvesting (RWH) Project (CEHI)

STRATEGIC ELEMENT 1: Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States							
	Develop climate resilient IWRM strategies in all countries.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	2011 to 2016	Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEH); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEH); Caribbean Water Initiative (CARWIN) (CIMH)
	Establish water resources management agencies where necessary and provide additional support where agencies exist.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	2012 to 2017	Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEH); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEH); Caribbean Water Initiative (CARWIN) (CIMH)
Goal 3: Effectively Access and Utilize Resources To Reduce Vulnerability To A Changing Climate							
Objective: Use of forests to support sustainable development while reducing GHG emissions Outcomes: Common negotiating position on forest issues at UNFCCC	Information sharing and coordination between countries at COP MOP on CDM, REDD plus and other forest related initiatives.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM Collaborators: Private sector, NGOs, National Universities	2011 to 2012	Forest Carbon Partnership Facility (FCPF) (World Bank);
	Training and capacity building in REDD + negotiations, CDM project development, preparation of NAMAs and development of national low carbon strategies.	Capacity building	Regional National	All countries	Lead: CCCCC and national governments	On-going	
	Coordinated and common negotiation strategy at UNFCCC.	Multi-sector	Regional National	All countries	Lead: CCCCC and national governments	On-going	

STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Goal 4: Promote Sound Conservation Practices In Coastal and Marine Ecosystems To Shelter These Resources From Climate-Induced Damage

Protection, including reforestation, of mangrove swamps in selected coastal areas.	Coastal zone and marine areas	Regional National	All relevant countries	Lead: CRFM Collaborators: NEPA, national agencies, UNDP, University of Surinam	2011 to 2016		Climate change program for the Meso-American Reef (MAR) region (WWF); Trinidad and Tobago: Nariva ecosystem restoration and carbon sequestration (World Bank)
Planning and Policy Development in place for the Coastal and Marine Areas (that includes Climate Change and Disaster Risk Reduction considerations).	Coastal zone and marine areas	Regional National	AI countries		2012 to 2017		
Improve governance arrangements by identifying and facilitating the empowerment and participation of the relevant interest groups (particularly vulnerable groups in coastal areas (e.g. fisher-folk, civil engineers, etc).	Coastal zone and marine areas	Regional National	AI countries		2012 to 2017		
Develop the legislative and regulatory framework to promote/improve management of the marine and coastal areas (include climate change and Disaster Risk management Issues).	Coastal and Marine	Regional National	AI countries		2012 to 2017		
Incorporate Climate Change and the principles of Sustainable Land Management (SLM) into coastal physical planning and development procedures.	Coastal and Marine	Regional National	AI countries		2012 to 2017		
Ensure that tourism policies and plans conform to the principles of sustainable tourism.	Multi-sectoral	Regional National	AI countries		2011 to 2017		

STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

Goal 5: Build The Caribbean Community Climate Change Centre's Capacity To Support The Implementation Of The Strategy

Objective: Realize the objectives set out in the Agreement Establishing the CCCCC Outcome: Climate change mitigation and adaptation responses in the region are coordinated in an efficient and transparent manner	Establish the Natural Hazard Risk Management and Climate Change Fund.	Multi-sectoral	Regional	All countries	Lead: CARICOM Sec., CDB, CCCCC, CDEMA	2012 to 2014	The Agreement Establishing the Caribbean Community Climate Change Centre (2002); The Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)
	Finalize the establishment and operationalization of the CCCCC Trust Fund.	Multi-sectoral	Regional	All countries	Lead: CDB, CCCCC	2011 to 2014	The Agreement Establishing the Caribbean Community Climate Change Centre (2002); The Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)
	The Coordinating Mechanism is established to coordinate and monitor execution of the IP.	Multi-sector	Regional	All countries	Lead: CARICOM Sec., CCCCC, Collaborators: CARICOM Mandate Regional Organizations	2011 to 2012	The Agreement Establishing the Caribbean Community Climate Change Centre (2002); The Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)
	Greek government support for adaptation projects.	Multi-sector	Regional	All countries	Lead: CCCCC, National governments Collaborators: Government of Greece	2011 - 2016	
	Aus AID support	Multi-sector	Regional	All countries	Lead: CCCCC, National governments Collaborators: Government of Australia	2011 - 2016	
	GCCA support for mitigation and adaptation activities.	Multi-sector	Regional	All countries	Lead: CCCCC, National governments Collaborators: European Commission	2011 - 2016	

Goal 6: Reduce The Region's Carbon Footprint Through The Promotion Of Energy Efficiency Measures

	Develop and implement the world's first regional carbon neutral tourism programme to reduce the carbon footprint of the tourism sector and to create a new destination marketing platform.	Tourism	Regional	All countries			
	Develop EE/RE model policy framework for the tourism sector with appropriate guidelines re legislation, regulation, and incentives.	Tourism Energy	Regional	All countries			

STRATEGIC ELEMENT 1:

Mainstream CC Adaptation Strategies into Sustainable Development / Agendas of CARICOM Member States

	Tourism	Regional	All countries			
Cooperate with carbon offset programmes and event organizers to offer travellers to/ within the region the opportunity to offset the carbon emissions from their flight to the region e.g. providing a carbon offset option on web-based regional/national marketing sites.						
Ensure that carbon offset funding from visitors is earmarked for community and RE/EE projects in the region e.g. distribution of EE light bulbs, or (re) a-forestation. Communicate at relevant fora the steps that have been taken to reduce the so-called "carbon footprint" of the national tourism sector, as well as the importance of tourism and air transport to the economic sustainability of the Caribbean region.	Tourism	Regional	All countries			
Develop and implement climate change and DRM awareness/education/info programme (including relevant fora, websites, databases publications, toolkits, guidelines) targeted to key tourism-sector sub-sectors and stakeholders (public/private sector organizations, civil society/NGO, communities).	Tourism	Regional	All countries	Lead: CTO, PANOS, CDEMA, CANARI Collaborators: National Tourism Organizations and Ministries, NEMOs, CCCCC, CaribSave, CIMS/UWI, CERMES/ UWI	2011 to 2021	Special Pilot Adaptation to Climate Change (SPACC) (CCCCC)
Encourage public and private sector tourism stakeholders and civil society to apply a mix of technology and behavioural change to address the issue of climate change.	Tourism	Regional National	All countries	Lead: CTO, CHTA Collaborators: National Tourism Organizations and Ministries, NEMOs, CaribSave,		

STRATEGIC ELEMENT 2: Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

Goal 1: Promote The Adoption Of Measures And The Disseminate Information That Would Make Water Supply Systems Resilient To Climate-Induced Damage

Objective: Manage The Adverse Effects of Climate Change on Water Resources	Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)	Link to existing actions (lead / funding organisation)
Outcomes: - Integrated Water Resources Management policies and strategies in place for prudent management of water resources - Appropriate distribution and storage infrastructure in place to satisfy water quality and demand across all sectors - Measures are in place to facilitate installation of resilient infrastructure to cope with extreme events (floods & droughts)	Assessment, quantification and mapping of ground water resources in CARICOM Member States.	Water	Regional National	All countries	Lead: CEHI, Natl. Water Agencies and Ministries Collaborators: CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector	2012 to 2017	5,000	Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Caribbean Water Initiative (CARIWIN) (CIMH); Caribbean Water Monitor (CWM); Small island states, water resources and climate change (CIMH); Regional Evaluation of Saltwater Intrusion of Coastal Aquifers on Caribbean Islands (OAS), CARICOM Consortium; Carib-HYCOS
	Assessment, quantification and mapping of surface water resources in CARICOM Member States.	Water	Regional National	All Countries	Lead: CEHI, Natl. Water Agencies and Ministries Collaborators: CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector	2012 to 2017		Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Caribbean Water Initiative (CARIWIN) (CIMH); Caribbean Water Monitor (CWM); Small island states, water resources and climate change (CIMH); Regional Evaluation of Saltwater Intrusion of Coastal Aquifers on Caribbean Islands (OAS), CARICOM
	Vulnerability and capacity assessment of the impacts of climate change on water in all countries.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Universities, Private sector, Civil society	2011 to 2017	1,500	Review of the Economics of Climate Change (RECC) in the Caribbean project (ECLAC); National Water Sector Adaptation Strategy for Climate Change, Belize (National Meteorological Service of Belize)
	Assessment, quantification and evaluation of water demand and consumption patterns.	Water	National	All Countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Universities,	2011 to 2015		Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Caribbean Water Initiative (CARIWIN) (CIMH); Caribbean Water Monitor (CWM); Small island states, water resources and climate change (CIMH); Regional Evaluation of Saltwater Intrusion of Coastal Aquifers on Caribbean Islands (OAS), CARICOM



STRATEGIC ELEMENT 2:

Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

Objective: Manage The Adverse Effects of Climate Change on Water Resources Outcomes: - Integrated Water Resources Management policies and strategies in place for prudent management of water resources - Appropriate distribution and storage infrastructure in place to satisfy water quality and demand across all sectors - Measures are in place to facilitate installation of resilient infrastructure to cope with extreme events (floods & droughts)	Prepare water sector adaptation strategies for all CARICOM countries by 2015.	Water	Regional National	All countries	Lead: CIMH, CEHI Collaborators: Natl. Water Agencies and Ministries, Ministries of Agric., Private sector	2012 to 2016	1,500	Adapting to climate change in water resources and water services in Caribbean and Pacific small island countries (SOPAC); Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Rainwater Harvesting (RWH) Project (CEHI)
	Implement water sector adaptation strategies for all CARICOM countries.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Universities, Private sector, Civil society	2013 to 2021		Adapting to climate change in water resources and water services in Caribbean and Pacific small island countries (SOPAC); Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Rainwater Harvesting (RWH) Project (CEHI)
	Develop climate resilient IWRM strategies in all countries.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	2011 to 2016		Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Caribbean Water Initiative (CARWIN) (CIMH)
	Establish water resources management agencies where necessary and provide additional support to agencies already.	Water	National	All countries	Lead: Natl. Water Agencies and Ministries Collaborators: Ministries of Agric., CIMH, GWP Caribbean, Ministries of Agric., Universities, Private sector, Civil society	2012 to 2016		Climate change adaptation in water management (OECD); Sustainable Land Management (SLM) Project (CEHI); Adapting to Climate Change in the Caribbean (World Bank); Mainstreaming Adaptation to Climate Change (GEF); Small Island Countries Dialogue on Water and Climate (CEHI); Caribbean Water Initiative (CARWIN) (CIMH)

STRATEGIC ELEMENT 2:

Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

	Install water distribution infrastructure in selected countries.	Water	National	Jamaica St. Kitts Dominica Antigua	Lead: Natl. Water Agencies and Ministries, Water utilities Collaborators: Ministries of Agric., Private sector, Civil society	2012 to 2021	>5,000,000	Caribbean Water Initiative (CARWIN) (CIMH); Small-scale Irrigation Development Project – Haiti (IFAD); Drinking Water Supply Programme – Haiti (AFD); Irrigation and rural entrepreneurship – Haiti (AFD)
	Strengthening the resilience of water infrastructure to extreme events/natural hazards.	Water	National	Jamaica St. Kitts Dominica Belize Antigua	Lead: Natl. Water Agencies and Ministries, Water utilities Collaborators: Ministries of Agric., Private sector, Civil society.	2012 to 2021		

Goal 2: Promote The Implementation Of Measures To Reduce Climate Impacts On Coastal And Marine Infrastructure

Objective: Manage the Effects of Climate Change on Coastal and Marine Area Outcomes: - Reduced vulnerability and increased resilience of coastal communities and infrastructure - Reduced vulnerability and increased resilience of coastal and marine ecosystems. - Strengthen food security, availability and distribution infrastructure and mechanisms to meet the requirements during normal times and during disasters	Mangrove reforestation in selected coastal areas of Jamaica (GCCA), Guyana and Suriname.	Coastal Zone and Marine	National	Jamaica, Guyana, Suriname	Lead: NEPA, University of Suriname Collaborators: UNDP	2011 to 2016		Climate change program for the Meso-American Reef (MAR) region (WWF); Trinidad and Tobago: Nariva ecosystem restoration and carbon sequestration (World Bank)
	Expansion of commercial fish processing and storage facilities and infrastructure (canneries) and value added products.	Coastal Zone and Marine	National	All countries	Lead: Ministries of Fisheries, Private sector Collaborators: Ministries of Agric., Econ. and Trade, CBOs	2012 to 2021		Mainstreaming Adaptation to Climate Change (MACC) (CCCCC); Formulation of a Master Plan on Sustainable Use of Fisheries Resources for Coastal Community Development in the Caribbean (CRFM)
	Planning and policy development for the coastal and marine areas (including CCA and DDR considerations).	Coastal Zone and Marine	Regional National	All countries		2012 to 2016		
	Improve governance arrangements by identifying and facilitating the empowerment and participation of the relevant interest groups (particularly vulnerable groups in coastal areas).	Coastal Zone and Marine	Regional National	All countries				
	Develop the legislative and regulatory framework to promote/improve management of the marine and coastal areas (include climate change and Disaster Risk management Issues).	Coastal Zone and Marine	Regional National	All countries		2012 - 2017		

STRATEGIC ELEMENT 2:

Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

	Incorporate Climate Change and the principles of Sustainable Land Management (SLM) into coastal physical planning and development procedures.	Coastal Zone and Marine	Regional National	All countries					
	Ensure that tourism policies and plans conform to the principles of sustainable tourism.	Coastal Zone and Marine	Regional National	All countries					
Goal 3: Promote The Adoption Of Measures And The Dissemination Of Information That Adapt Tourism Activities To Climate Impacts									
Objective: Reduced vulnerability and increased resilience of the tourism sector to the adverse impacts of climate change.	Develop, implement and institutionalize a research and knowledge management programme to address identified climate change vulnerability and resilience issues affecting the tourism sector at regional and national institutions.	Tourism	Regional National	All countries	Lead :Ministries of Tourism, CTO Collaborators: CCCCC, CDEMA, UWI (CERMES), CIMH, Universities of Belize, Guyana, T&T, Relevant govt. Agencies, CCRIF, CTO, CHTA, NTOs	2011 - 2021			Regional Sustainable Tourism Policy Framework; DRM for Tourism Projects; Standards for Hazard Mapping, Vulnerability Assessments, Economic Valuation; Regional DRM Strategy and Action Plan for the Caribbean Tourism Sector; OAS Multi Hazard Contingency Plan for the Tourism Sector.
	Conduct hazard mapping, vulnerability/ risk assessments and economic valuation based on existing standards (assets, resources, communities etc.).	Tourism							
	Assess the socio-economic impacts of climate change on tourism.	Tourism							
	Develop/enhance tourism-related policies, strategies and plans to incorporate sustainable tourism principles and mainstream climate change adaptation and mitigation and DRM issues and recommendations.	Tourism							
	Fiscal regime to encourage sustainable construction in less vulnerable coastal zones	Tourism							
Outcomes: • Enhance the integration of the CCA and DRM strategies and response measures into the tourism sector • Policy and decision makers are provided with research findings for planning and decision making • Appropriate adaptation and mitigation policies, strategies and plans implemented	Fiscal incentives for changes to built infrastructure (e.g. retrofitting to comply with adjusted building codes).	Tourism							
	Identify, prioritize & implement key adaptation strategies for the tourism sector.	Tourism							

STRATEGIC ELEMENT 2:

Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

Goal 4: Promote Sound Conservation Practices In Coastal And Marine Ecosystems To Shelter These Resources From Climate-Induced Damage

CRFM to continue work in technical research priority areas and provide technical assistance to national government.	Coastal Zone and Marine	Regional National	All Countries	Lead: CRFM Collaborators: Ministries of Fisheries, Private sector, CBOs, NGOs	2011 to 2021		Research And Data Analysis For Policy Formulation And Decision Making within the Fisheries sector (CRFM).
Protection, including reforestation, of Mangrove swamps in selected coastal areas.	Coastal Zone and Marine	Regional National	All Countries	Lead: National agencies, NEPA Collaborators: UNDP	2011 to 2016		Climate change program for the Meso-American Reef (MAR) region (WWF); Trinidad and Tobago: Nariva ecosystem restoration and carbon sequestration (World Bank); GCCA UNDP Project, Jamaica.
Planning and Policy Development for the Coastal and Marine Areas (that includes Climate Change and Disaster Risk Reduction considerations).	Coastal Zone and Marine	Regional National	All Countries		2012 to 2016		
Improve governance arrangements by Identifying and facilitating the empowerment of the relevant interest groups (vulnerable groups) in coastal areas (e.g. fisher-folk, civil engineers, etc).	Coastal Zone and Marine						
Develop the legislative and regulatory framework to promote management of the marine and coastal areas (include climate change and Disaster Risk Management issues)	Coastal Zone and Marine						
Incorporate Climate Change and the principles of Sustainable Land Management (SLM) into coastal physical planning and development procedures.	Coastal Zone and Marine						
Ensure that tourism policies and plans conform to the principles of sustainable tourism.	Coastal Zone and Marine						

STRATEGIC ELEMENT 2:

Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

Goal 5: Promote The Adoption Of Sound Practices And Measures To Prevent and/or Reduce Climate-Induced Health Impacts In The Community

Objective: Limit the Effects of Climate Change on Human Health Outcomes: - Measures are in place to prevent or reduce the incidence of diseases and health related issues exacerbated by climate change. - Monitoring and early warning systems are in place to enable effective first response and management during and after events/episodes.	Assess and implement options for adapting to the projected increased incidences of endemic diseases already common in the region(water-borne, vector-borne, respiratory and stress related).	Health	Regional National	All countries	Lead: PAHO, UWI, CAREC, CEHI Collaborators: Ministries of Health and Water, Private sector	2011 to 2017	250 to 500	Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Regional Framework for Action for Children 2002-2015 ; Adapting to Climate Change in the Caribbean (ACCC); Mainstreaming Adaptation to Climate Change (MACC)
	Develop and implement early warning systems and strengthen existing systems including collection and collation of health data.	Health	National	All countries	Lead: Ministries of Health and Environment Collaborators: Universities, Private sector: Health insurers, Health, professional Associations, CODEMA		1,000 to 2,000	Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Regional Framework for Action for Children 2002-2015 (COHSOD); Adapting to Climate Change in the Caribbean (ACCC) (World Bank); Mainstreaming Adaptation to Climate Change (MACC) (CCCCC)
	Conduct research on linkages between climate and health, with emphasis on diseases and impacts.	Health	National	All countries	Lead: UWI, CAREC, CEHI Collaborators: Ministries of Health and Water, PAHO, Private sector	2012 to 2017	1 to 5,000	Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Adapting to Climate Change in the Caribbean (ACCC); Mainstreaming Adaptation to Climate Change (MACC)
	Establish information sharing protocols between regional research bodies, meteorological offices, health ministries, water agencies, disaster management units, and relevant agencies.	Health	National	All countries	Lead: PAHO, UWI, CAREC Collaborators: Ministries of Water, Health, Private sector	2012 to 2021	250	Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Adapting to Climate Change in the Caribbean (ACCC)
	Improve collaborations between regional research bodies, meteorological offices, health ministries, water agencies, disaster management units, and other relevant agencies.	Health	National	All countries	Lead: UWI, CAREC, CEHI Collaborators: Ministries of Health, Water, Private sector	2012 to 2021		Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Adapting to Climate Change in the Caribbean (ACCC) (World Bank)
	Sensitize stakeholders, including the general public and health professionals, to the role and threat of climate change in determining wellbeing and health.	Health	National	All countries	Lead: Ministries of Health, Water Collaborators: Private sector, CBOs and NGOs	2012 to 2016		Caribbean Disaster Risk Management Program (CDRMP) (CDERA); Environmental Health Impact Assessment (CEHI)



STRATEGIC ELEMENT 2:
Promote The Implementation of Specific Adaptation Measures To Address Key Vulnerabilities In The Region

	Build and or strengthen capacity at the national level to develop contingency plans and conduct rapid needs assessments for the health impacts of weather-related disasters.	Health	National	All countries	Lead: Ministries of Health, PAHO Collaborators: NEMO's, NGOs, CBOs, Private sector	2012 to 2016		Caribbean Disaster Risk Management Program (CDRMP) (CDERA); Health Sector Disaster Preparedness for Floods (CEHI)
	Countries to integrate "no-regrets" strategy into their public health programs and infrastructure development plans.	Health	National	All countries	Lead: Ministries of Planning, Health, Finance Collaborators: Private sector, PAHO/WHO, Ministries of Public Works, Utilities	2012 to 2021		

STRATEGIC ELEMENT 3: Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Goal 1: Promote The Use Of Renewable Energy Resources

Objective: Adopt energy efficiency and conservation methods. Outcomes: • Policies and legislation in place to remove barriers and promote investment in renewable and alternative energy. • Energy reduction target in place at the CARICOM level. • Demand side power management institutionalized in the region.	Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)	Link to existing actions (lead / funding organisation)
	Finalize and adopt the CARICOM Energy Policy.	Energy	Regional	All countries	Lead: CARICOM Sec. Collaborators: National Governments	2012 to 2017		Caribbean Renewable Energy Development Programme (CREDP) (GEF);
	Review update develop and approve national policies (energy audits, building codes, standards for appliances and transportation etc) focused on energy efficiency and conservation.	Energy	Regional National	All Countries	Lead: CARICOM Sec. Collaborators: National Governments	2011-2012		
	Review current legislation, policies and agreements that limit or restrict investment in or the use of renewable energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec. OECS Sec., Collaborators: Line Ministries, Private sector, CBOs, NGOs	2011 to 2013		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission); Scaling-Up Renewable Energy Program (World Bank); Energy Sector Management Assistance Program (ESMAP); Caribbean Renewable Energy Development Programme (CREDP) (GEF); Accelerating Renewable Energy in Central America (ARECA) (CABEI)
	Review/update/develop and approve national policies focused on increased energy efficiency and increased use of renewable and alternative energy technologies.	Energy	National	All Countries	Lead: Ministries of Energy, Finance, Econ D. Collaborators: Private sector, Regulators, CCCCC, CCS – Energy Unit	2011 to 2013		Caribbean Renewable Energy Development Programme (CREDP) (GEF); Energy for Sustainable Development in the Caribbean (ESD-Caraibes) (GEF)
	Define the concept of low carbon community.	Energy	Regional National	All Countries	Lead: CARICOM Sec. Collaborators: National Governments	2011-2012		
	Implement policies to establish low carbon communities based on common concept and policy.	Energy	National	All Countries	Lead: National Governments Collaborators: CARICOM Sec.	2013-2021		



STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources. Outcome: Renewable energy provides up to xx percent of energy supply in CARICOM countries as group by 2021.	Create a central agency (independent or within an existing agency) providing support for the access of donor and/or investor funding for renewable and alternative energy technologies.	Energy	Regional National	All Countries	Lead: CARICOM Sec., OECS Sec., CDB Collaborators: Line Ministries, Private sector, CBOs, NGOs, CCCCC, CAIC, CEDA	2011-2012		Other similar Agencies already set up in other regions in the world.
	Evaluation of electricity project in The Bahamas (IDB funded).	Energy	National	The Bahamas	Government of The Bahamas	2008-2012	750	IDB funded project seeking to determine the sustainability of the electricity corporation, its distribution system and the integration of RE sources to the energy mix.
	Promotion of energy efficiency.	Energy	National	The Bahamas	Lead: Government of The Bahamas	2008-2012		IDB funded project the provision of solar water heaters and solar PVs for pilot study; GEF funding for the purchase of CFLs for distribution
	Renewable Energy Study	Energy	National	Jamaica	Lead: PCJ, UWI Collaborators: IDB, WWFL, UTech	2009-2012	1,000	
	Build the 154 MW hydro power plant at Amaila Falls in Guyana to provide electricity for economic development.	Energy	National	Guyana	Lead: Govt. of Guyana, Sithe Global LLP Collaborators: IDB, China Dev. Bank, Private sector	2012-2017	650,000	Jagdeo Initiative on Climate Change (Office of the President of Guyana); Amaila Falls Hydroelectric Project Preparation Studies (IADB)
	Production of bio-fuels from sugar cane to supplement fuel for transport and electricity generation.	Energy	National	Guyana	Lead: Guyana Energy Agency			Guyana Bagasse Cogeneration Project (World Bank)
	Production of bio-fuels from bananas to supplement fuel for transportation.	Energy	National	Saint Lucia	Lead: Government of St. Lucia, Private Sector	2012 to 2017		
	Expansion of plant which is generating bio-fuel from bagasse.	Energy	National	Haiti	Lead: Government of Haiti			Possible link to generating bio-fuel from Jatropha trees. A project had been previously funded by the EU
	Production of bio-fuel from bagasse.	Energy	National	Suriname	Lead: Suriname Staatsolie Company			
	Co-generation: Production of energy from rice husk (Nickerie).	Energy	National	Suriname	Lead: Government of Suriname and University of Suriname	2011 to 2017	1,000	Reducing use of diesel for electricity in Nickerie

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources.	Installing solar panels and wind energy systems in Galibi (eastern Suriname).	Energy	National	Suriname	Lead: Government of Suriname and University of Suriname	2011 to 2017	500	Reducing use of diesel for electricity in Nickerie
	Use of bio-fuels in equipment.	Energy	National	The Bahamas	Private sector	On-going		Bio fuels produced from used cooking oil is converted for use in heavy equipment at a private firm
	Build hydro power plant in Haiti (4C Artibonite) (32 MW).	Energy	National	Haiti	Lead: Government of Brazil and Government of Haiti	2011-2014	191,000	Brazil is providing co-funding to the tune of 2.5 million USD of construction costs
	Improvement of efficiency of Peligre hydro-power plant (Mirebalais).	Energy	National	Haiti	Lead: Government of Haiti			Study has been done but no details at this time
	Build hydro power plant in Suriname to provide electricity for economic development. (Bakhuys Project (west) and Tapagai Project (east)).	Energy	National	Suriname	Lead: Government of Suriname	2012 to 2017		
Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources	Sustainable energy project in Barbados (IDB funded).	Energy	National	Barbados	Lead: Govt. of Barbados Collaborators: IDB	2011 to 2021		
	Solar for government building in Belize.	Energy	National	Belize	Lead: Govt. of Belize			
	Develop new research and teaching areas in alternative energy, waste management, resource economics and GIS/remote sensing by CERMES.	Multi-sector	Regional	All countries	Lead: CERMES/ UWI, University of Suriname	2011 to 2021		
	Regional and national universities mandated by CARICOM and national governments to conduct research and development programmes in renewable and alternative energy.	Energy	Regional National	Regional Jamaica, Belize , Guyana, Trinidad Suriname, Haiti	Lead: UWI Faculty of Eng. Collaborators: University of Technology, Universities of Belize, Guyana, Suriname, UTT, State University of Haiti	2011 to 2021		Caribbean Renewable Energy Development Programme (CREDP) (GEF)

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Goal 2: Support The Assessment Of Wind Potential To Supply Electric Power In CARICOM Countries

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources.	Finalize and adopt the CARICOM Energy Policy.	Energy	Regional	All countries	Lead: CARICOM Sec. Collaborators: National Governments	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF);
	Review current legislation, policies and agreements that limit or restrict investment in or the use of renewable energy technologies.	Energy	Regional National	Regional All countries	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs	2011 to 2012		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission); Scaling-Up Renewable Energy Program (World Bank); Energy Sector Management Assistance Program (ESMAP); Caribbean Renewable Energy Development Programme (CREDP) (GEF); Accelerating Renewable Energy in Central America (ARECA) (CABEI)
	Review/update/develop and approve national policies focused on increased energy efficiency and increased use of renewable and alternative energy technologies.	Energy	Regional and National	All countries	Lead: Ministries of Energy, Finance, Econ D Collaborators: Private sector, Regulators, CCCCC, CCS Energy Unit	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF); Energy for Sustainable Development in the Caribbean (ESD-Carabes) (GEF)
	Create a central agency (independent or within an existing agency) providing support for the access of donor and/ or investor funding for renewable and alternative energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec., OECS Sec., CDB Collaborators: Line Ministries, Private sector, CBOs, NGOs, CCCCC, CAIC, CEDA	2011 to 2012		Other similar Agencies already set up in other regions in the world.
	Installing wind energy systems in Galibi (eastern Suriname).	Energy	Regional National	Suriname	Lead: Government of Suriname and University of Suriname	2012-2017	500	Reducing use of diesel for electricity in Nickerie
	Expansion of wind energy generation in Jamaica (Munro (repair and construction) and Wigtou (expansion) Wind Farm).	Energy	National	Jamaica	Lead: PCJ and JPS Co., Private sector Collaborators: UWI and UTech	2011 to 2021		
	Wind Farm (Lambert's 14MW)	Energy	National	Barbados	Lead: BLPC Collaborators: IDB			
	Development of a wind farm.		National	St. Lucia	Lead: LUCELEC, CREDP, Govt of St. Lucia	2011 to 2015		(land acquisition challenges)

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources.	Evaluation of RE technologies.	Energy	National	The Bahamas	Lead: Government of The Bahamas Collaborators: IDB	2008 -2012	700	IDB funded project to evaluate RE technologies across The Bahamas. Best suited technology for the various islands to be identified.
	Renewable energy project (Extended Research on Wind and Solar Energy).	Energy	National	Suriname	Lead: University of Suriname, Ministry of Natural Resources	2011-2016	175	
	Regional and national universities mandated by CARICOM and national governments to conduct research and development programmes in renewable and alternative energy.	Energy	Regional National	Regional Jamaica, Belize , Guyana, Trinidad Suriname, Haiti	Lead: UWI Faculty of Eng. Collaborators: University of Technology, Guyana, Suriname, Haiti, UTT	2011 to 2021		Caribbean Renewable Energy Development Programme (CREDP) (GEF)
Goal 3: Support The Development Of Innovative Financing Mechanisms For The Deployment Of Solar Energy (Water Heaters, etc)								
Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources.	Finalize and adopt the CARICOM Energy Policy.	Energy	Regional	All countries	Lead: CARICOM Sec. Collaborators: National Governments	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF);
	Review current legislation, policies and agreements that limit or restrict investment in or the use of renewable energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs	2011 to 2012		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission); Scaling-Up Renewable Energy Program (World Bank); Energy Sector Management Assistance Program (ESMAP); Caribbean Renewable Energy Development Programme (CREDP) (GEF); Accelerating Renewable Energy in Central America (ARECA) (CABEI)
	Review/update/develop and approve national policies focused on increased energy efficiency and increased use of renewable and alternative energy technologies.	Energy	Regional and National	All countries	Lead: Ministries of Energy, Finance, Econ D Collaborators: Private sector, Regulators, CCCCC, CCS Energy Unit	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF); Energy for Sustainable Development in the Caribbean (ESD-Caraibes) (GEF)

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Create a central agency (independent or within an existing agency) providing support for the access of donor and/or investor funding for renewable and alternative energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec., OECS Sec., CDB Collaborators: Line Ministries, Private sector, CBOs, NGOs, CCCCC, CAIC, CEDA	2011 to 2012		Other similar Agencies already set up in other regions in the world.
Solar (public, private and residential entities to install PVs to do net metering and possible power purchase).	Energy	National	Barbados	Lead: BLPC and Govt of Barbados	2010 to 2013		
Explore the feasibility of the production of solar panels for various purposes in the region (Production of solar panels and solar stove).	Energy	Regional	Jamaica, Barbados, Trinidad, Haiti	Lead: UWI Collaborators: CARICOM Sec., SITek, CCCCC, State University of Haiti	2011 to 2013		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission)
Implementation of solar thermal and PVs (a pilot study).	Energy	National	The Bahamas	Lead: Government of The Bahamas	2008-2012		IDB funded project provided solar water heaters and PVs to gather data and pilot the practical side of installing panels and grid tie-in; evaluation of reduction of electricity use to be made
Promotion of Solar (Photovoltaic, Solar Cooling and Thermal) Technologies.	Energy	National	Jamaica	Lead: PC-J, CERE Collaborators: UTech, UWI	2009 - 2014	1500	
Replacement of street lights with solar PV (planned expansion).	Energy	National	Antigua and Barbuda	Lead: Govt of Antigua	2011 - 2014	100	
Regional and national universities mandated by CARICOM and national governments to conduct research and development programmes in renewable and alternative energy.	Energy	Regional National	Regional Jamaica, Belize, Guyana, Trinidad, Suriname, Haiti	Lead: UWI Faculty of Eng. Collaborators: University of Technology, Universities of Belize, Guyana, Suriname, UTT, State University of Haiti	2011 to 2021		Caribbean Renewable Energy Development Programme (CREDP) (GEF)

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Goal 4: Assess The Feasibility Of Converting Waste To Energy In CARICOM Countries

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources.	Finalize and adopt the CARICOM Energy Policy.	Energy	Regional	All countries	Lead: CARICOM Sec. Collaborators: National Governments	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF);
	Create a central agency (independent or within an existing agency) providing support for the access of donor and/ or investor funding for renewable and alternative energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec., OECS Sec., CDB Collaborators: Line Ministries, Private sector, CBOs, NGOs, CCCCC, CAIC, CEDA	2011 to 2012		Other similar Agencies already set up in other regions in the world.
	Conduct feasibility studies for waste to energy in selected countries.	Energy	Regional	All countries	Lead: CARICOM Sec.	2011 to 2016		
	Waste to energy in Belize	Energy	National	Belize	Lead: NSWMA Collaborators: UNDP	On-going		
	Review current legislation, policies and agreements that limit or restrict investment in or the use of renewable energy technologies.	Energy	Regional National	Regional All countries	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs	2011 to 2012		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission); Scaling-Up Renewable Energy Program (World Bank); Energy Sector Management Assistance Program (ESMAP); Caribbean Renewable Energy Development Programme (CREDP) (GEF); Accelerating Renewable Energy in Central America (ARECA) (CABEI)
	Review/update/develop and approve national policies focused on increased energy efficiency and increased use of renewable and alternative energy technologies.	Energy	Regional and National	All countries	Lead: Ministries of Energy, Finance, Econ D Collaborators: Private sector, Regulators, CCCCC, CCS Energy Unit	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF); Energy for Sustainable Development in the Caribbean (ESD-Caribes) (GEF)
	Waste to energy in St. Lucia	Energy	National	St. Lucia	Lead: Government of SLU			
	Waste-to-energy project (Construction of two waste-to-energy plants)	Energy	National	Jamaica	Lead: PCJ, CPDI, NSWMA, OPM Collaborators: JPSCo, OUR, MEPS, NEPA, UTech, UWI	2009 - 2013		
	Waste to Energy Project (14.5MW)	Energy	National	Jamaica	Lead: Garbage Disposal and Sanitation Systems	2013		Private Sector

STRATEGIC ELEMENT 3:

Promote Actions To Reduce Greenhouse Gas Emissions Through Fossil Fuel Reduction And Conservation, And Switching To Renewable And Cleaner Energy Sources

Goal 5: Assess The Economic Viability And Environmental Impact Of Shore-Based Ocean Thermal Energy Conversion (OTEC) Plants

Objective: Reduce GHG emissions through the promotion and use of renewable energy and alternative energy sources	Finalize and adopt the CARICOM Energy Policy.	Energy	Regional	All countries	Lead: CARICOM Sec. Collaborators: National Governments	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF);
	Review current legislation, policies and agreements that limit or restrict investment in or the use of renewable energy technologies.	Energy	Regional National	Regional All countries	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs	2011 to 2012		Global Energy Efficiency and Renewable Energy Fund (GEEREF) (European Commission); Scaling-Up Renewable Energy Program (World Bank); Energy Sector Management Assistance Program (ESMAP); Caribbean Renewable Energy Development Programme (CREDP) (GEF); Accelerating Renewable Energy in Central America (ARECA) (CABEI)
	Review/update/develop and approve national policies focused on increased energy efficiency and increased use of renewable and alternative energy technologies.	Energy	Regional and National	All countries	Lead: Ministries of Energy, Finance, Econ D Collaborators: Private sector, Regulators, CCCCC, CCS Energy Unit	2011 to 2012		Caribbean Renewable Energy Development Programme (CREDP) (GEF); Energy for Sustainable Development in the Caribbean (ESD-Caraibes) (GEF)
	Create a central agency (independent or within an existing agency) providing support for the access of donor and/or investor funding for renewable and alternative energy technologies.	Energy	Regional National	All countries	Lead: CARICOM Sec., OECS Sec., CDB Collaborators: Line Ministries, Private sector, CBOs, NGOs, CCCCC, CAIC, CEDA	2011 to 2012		Other similar Agencies already set up in other regions in the world.
	Regional and national universities mandated by CARICOM and national governments to conduct research and development programmes in renewable and alternative energy.	Energy	Regional National	Regional Jamaica, Belize, Guyana, Trinidad Suriname, Haiti	Lead: UWI Faculty of Eng. Collaborators: University of Technology, Universities of Belize, Guyana, Suriname, UTT, State University of Haiti	2011 to 2021		Caribbean Renewable Energy Development Programme (CREDP) (GEF)

STRATEGIC ELEMENT 4:

Promote Actions To Reduce The Vulnerability of Natural And Human Systems In CARICOM Member States To The Impacts Of A Changing Climate

Objective:	Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)	Link to existing actions (lead / funding organisation)
Limit the effects of Climate Change on Agriculture and Food Security. Outcomes: - Enhanced food security through adequate food supplies being produced to meet the region's food and nutrition needs by 2021. - Enhanced and secured livelihoods in the agriculture sector.	Develop and identify drought and flood-resistant and salt and temperature-tolerant varieties of staple and commercial crops drawing upon local and indigenous knowledge for commercial use by 2017.	Agriculture	Regional	All countries	Lead: CARDI, UWI Collaborators: Natl. Res. Agencies, Ministries of Agric. Private sector	2012 to 2016		Mainstreaming Adaptation to Climate Change (GEF) Jagdeo Initiative
	Expanded extension and support services for farmers.	Agriculture	National	All countries	Lead: Ministries of Agriculture Collaborators: CAFAN, CBOs and NGOs	2011 to 2016		Jagdeo Initiative
	Research and introduce indigenous and other breeds of cattle, pigs, goats and poultry that are heat tolerant and more feed efficient for commercial meat, milk and egg production by 2020.	Agriculture	Regional National	All countries	Lead: CARDI, UWI Collaborators: Natl. Res. Agencies, Ministries of Agric. Private sector	2011 to 2017		Jagdeo Initiative
	Develop and make available to farmers grass, grain and forage legume species to support the production of meat, milk and eggs.	Agriculture	Regional National	All countries	Lead: CARDI, UWI Collaborators: Natl. Res. Agencies, Ministries of Agric. Private sector	2011 to 2016		Jagdeo Initiative
	Develop and promote new and alternative food supplies and/or sustainable production systems including sustainable land management.	Agriculture	National	All countries	Lead: CARDI, UWI Collaborators: Natl. Res. Agencies, OECS Sec., Ministries of Agric. Private sector, UNPD, IICA	2011 to 2021		
	Implement fiscal and other policies and incentives to allow farmers and the private sector to invest in agriculture and food production in the region, without infringement of international trade regulations.	Agriculture	Regional National	All countries	Lead: CARICOM Sec. Collaborators: Ministries of Agric. Ministries of Fin. Ministries of Econ. Ministries of Trade, CAIC, Farmers organs	2011 to 2016		Global Environmental Change and Food Systems Caribbean project (GECAFS-Caribbean); Trade, Climate Change and Sustainable Development (Commonwealth Secretariat)



STRATEGIC ELEMENT 4:

Promote Actions To Reduce The Vulnerability of Natural And Human Systems In CARICOM Member States To The Impacts Of A Changing Climate

	Regional public education, awareness and outreach on food, nutrition and health in the context of climate change Create an enabling environment to facilitate behavioural change via fiscal incentives etc.	Agriculture	Regional National	All countries	Lead: CARDI, CANARI, PANOS Collaborators: Ministries of Agric. Private sector, CBOs, NGOs, Media Educational Institutions	2011 to 2021	Small Island Countries Dialogue on Water and Climate (CEHI); Formulating Adaptation Strategies to Protect Human Health (CEHI); Regional Framework for Action for Children 2002-2015 (COHSOD)
	Develop and implement strategies to secure, store and distribute food supplies and germplasm, particularly for use during low production periods and at times of natural and other disasters.	Agriculture	Regional National	All countries	Lead: CARICOM Sec. OECS Sec., CARDI Collaborators: Line Ministries, Private sector, CBOs, NGOs, CDEMA, NEMOs	2011 to 2016	Mainstreaming Adaptation to Climate Change (GEF); Global Environmental Change and Food Systems Caribbean project (GECAFS-Caribbean); Food Security – Haiti (CIDA); Pro Huerta Trilateral Cooperation Project – Haiti (Inter-American Institute for Cooperation on Agriculture)
	Develop and institutionalize infrastructure and logistics to support post-harvest handling, transportation, distribution and marketing of food within and amongst individual countries, based on needs and local conditions.	Agriculture	Regional National	All countries	Lead: Ministries of Agric. Ministries of Fin. and Works, OECS Sec. Collaborators: Ministries of Trade and Transport, Private sector, NEMOs, CBOs, NGOs	2011 to 2021	
	Regional and national emergency preparedness institutions to become an integral part of the climate change adaptation response strategy.	Agriculture Coastal Zone	Regional National	All countries	Lead: CDEMA, NEMOs Collaborators: CARDI, Ministries of Agric., Ministries of Works, Private sector, CBOs, NGOs	2011 to 2021	Mainstreaming Climate Change into Disaster Risk Management (CCDM) for the Caribbean Region (CDEMA); Caribbean Disaster Management (CADM) Project (CDERA); Enhancing Disaster Preparedness in the Caribbean (UNDP)
	Develop and implement policies and other measures to promote investment in the processing of agricultural products, to add value and variety to output for food and other uses.	Agriculture	National	Antigua, St. Lucia, Belize, Guyana, Trinidad, Jamaica	Lead: Ministries of Agric. Ministries of Fin. and Trade Collaborators: Private sector, SPC	2011 to 2021	
Objective: Limit the Effects of Climate Change on Agriculture and Food Security. Outcomes: Add value to agriculture production through processing							

STRATEGIC ELEMENT 5:

Promote Actions To Derive Social, Economic And Environmental Benefits From The Prudent Management Of Standing Forests In CARICOM Countries

Goal 1: Promote The Adoption Of Best Practices For Sustainable Forest Management

Objective: Use of forests to support sustainable development while reducing GHG emissions. Outcomes: • Policies and legislation are based on scientific assessments. • Protocols and manuals as part of management plans to guide operations within forests and protected areas. • Value added to timber through production and processing of wood products in-country.	Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)	Link to existing actions (lead / funding organisation)
	Complete assessments of vegetation cover and other resources, using remote sensing among other technologies and methodologies.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2012 to 2015		
	Economic valuation of forest resources (timber and non-timber products and services) in selected countries.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2012 to 2015		Forest Investment Program (World Bank);
	Develop/review/update national forest and protected areas policies and legislation (uniform or harmonize).	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2012 to 2015		Participatory Forest Management: Improving policy and institutional capacity for development (CANARI); Jagdeo Initiative on Climate Change (Office of the President of Guyana)
	Develop and utilize management plans to guide protection, conservation, harvesting, processing and marketing of goods and services produced by forests and protected areas.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., NRM, Private sector NGOs, Universities	2012 to 2021		Integrating Watershed and Coastal Area Management in Small Island Developing States of the Caribbean (GEF-IWCAM); Dry Forest Biodiversity Conservation (GEF-MSP)
	Map and demarcate protected areas, with boundaries gazetted and made permanent, through GPS aided surveys.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2012 to 2021		



STRATEGIC ELEMENT 5:

Promote Actions To Derive Social, Economic And Environmental Benefits From The Prudent Management Of Standing Forests In CARICOM Countries

	Enact legislation to support implementation of management plans.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2012 to 2021		Participatory Forest Management: Improving policy and institutional capacity for development (CANARI);
	Enact policies and legislation to prevent or reduce the export of logs.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of NRM, Finance and Trade, Private sector	2012 to 2021		
	Investments made in transformation of logs into wood, furniture and other products.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of NRM, Finance and Trade, Private sector	2012 to 2021		

Goal 2: Engage In Negotiations With International Partners To Mobilise Resources For The Protection Of Standing Forests

Objective: Use of forests to support sustainable development while reducing GHG emissions.	Information sharing and coordination between countries at COP/MOP on CDM, REDD plus and other forest-related initiatives.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric., and NRM, Private sector, NGOs, Universities	2011 to 2021		Forest Carbon Partnership Facility (FCPF) (World Bank);
	Develop country-specific positions to support a joint platform for negotiations on the forest agenda.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric. And NRM, Private sector, NGOs, Universities	2011 to 2016		Jagdeo Initiative on Climate Change (Office of the President of Guyana); Conservation of Globally Significant Forest Ecosystems in Suriname's Guyana Shield (UNDP)
	Pursue common resource mobilization strategy based on an integrated REDD plus program for the Caribbean.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Agric. and NRM, Private sector, NGOs, Universities	2011 to 2021		Forest Carbon Partnership Facility (FCPF) (World Bank)

Outcomes:

- Common negotiating position on forest issues at UNFCCC.
- Significant resources mobilized to support national sustainable development initiatives.

STRATEGIC ELEMENT 5:

Promote Actions To Derive Social, Economic And Environmental Benefits From The Prudent Management Of Standing Forests In CARICOM Countries

	Participate in the carbon trade market through the development and implementation of CDM forest projects.	Forestry	Regional National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of Finance and NRM, Private sector, NGOs	2011 to 2021		Forest Investment Program (World Bank); Forest Carbon Partnership Facility (FCPF) (World Bank)
Goal 3: Undertake Research Aimed At Improving The Current Methodologies For Estimating Carbon Sequestration Rates In Tropical Forests								
Objective: Use of forests to support sustainable development while reducing GHG emissions. Outcomes: Research programs in place to support forest and protected areas management.	Quantitative determinations of carbon stocks and their economic valuation, to support carbon trading and other investment opportunities.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of NRM, Finance and Trade, Private sector	2012 to 2021		Jagdeo Initiative on Climate Change (Office of the President of Guyana)
	Assessment of non-timber forest products, including establishment of inventories for medicinal plant and animal species.	Forestry	National	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: Natl. Forest Agencies Collaborators: Ministries of NRM, Finance and Trade, Private sector	2011 to 2021		
	Expand laboratory research into medicinal plants for pharmaceutical and other purposes.	Forestry	Regional	Guyana, Suriname, Belize, Dominica, Jamaica	Lead: UWI Collaborators: National Universities	2011 to 2021		

PRIORITY ACTIONS (highlighted in IP Executive Summary)

Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)
It is recommended that the 'three ones' principle should be adopted at a regional level by CARICOM and at a national level by each government.		National and Regional	All countries and at a regional level		Within 2 years	
The CARICOM Secretariat, national governments and regional organisations to review all their existing strategies, policies and actions to: - ensure they align, are consistent with, and make a positive contribution to building resilience and delivering a low-carbon economy (and specifically the strategic elements and goals in the Regional Framework), and - will continue to meet their wider development and growth objectives over time within the context of a changing climate.				CARICOM Secretariat, national governments, and regional organisations with regard to their respective strategies and policies. Partners: ECLAC, all regional organisations, CCRIF, critical infrastructure operators.	Within 2 years	
CARICOM Member States should develop a region-wide position on the most effective and equitable funding mechanisms and engage with donors and IFIs on the basis of country-led needs assessments and processes. The Caribbean Development Bank can play an instrumental role working with the donors and IFIs to develop a regional funding mechanism.				CARICOM Secretariat, national governments, regional organisations and CDB. Partners: Donors and IFIs	Within 12 months	
Assess and review the risk profiles for each CARICOM member state in partnership with the private sector (operating at national, regional and international levels). Identify and implement a 5 year transformational programme to deliver the actions needed to improve the risk balance and attract private sector investment.				CARICOM Secretariat, CDB, national government ministries with responsibilities for finance and economic development, CICA Partners: Caribbean financial services sector, international financial services sector.	Within 12 months, implement within 5 years	
A detailed financial, technical and human resource capacity assessment followed by action planning and implementation must be undertaken for each of the regional organisations (including CARICOM).				CARICOM and all regional organisations. Partners: CARICOM, national governments, and donors.	Capacity assessments to be undertaken within 12 months. Sustainable financial positions to be secured within 2 years.	



PRIORITY ACTIONS (highlighted in IP Executive Summary)

Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)
Mapping-out the pathways to reduce the dependency on fossil fuels is an imperative and should be completed as a national priority in each country within 2 years. This exercise must include a full supply/demand assessment, an economic appraisal, cost benefit analysis and an environmental and social impact assessment (ESIA). It must also identify the existing legislative and regulatory constraints, the incentives (for example, feed in tariffs) and identify the required enabling legislative and regulatory framework.				National governments, CARICOM. Partners: The private sector, regional organisations, donors and IFIs	Pathways to be mapped out within 2 years, with Fast Start financing programme projects identified within 12 months	
The CARICOM Climate Risk Management Framework should be revised to take into account the latest developments in climate risk management techniques. An on-line version should be developed with full guidance and links to other tools and techniques. The revised risk management framework must be supported by a comprehensive training programme for decision-makers across all stakeholders. The training programme must be repeatable on request and adapted to reflect stakeholder needs (including the private sector).				CCCCC. Partners: National government ministries, CDB, regional organisations, the private sector and donors.	Release revised risk management framework and 'stress-test' process within 6 months including on-line training tool. Undertake stakeholder training over the following 12 month period starting with government finance and planning ministries.	
The impact of Hurricane Tomas on Saint Lucia's water infrastructure was significant. Shortfalls in data and knowledge of the location, age, condition and types of water utility assets may have been a contributory factor in not being able to have foreseen the devastating consequences. A full asset inventory of Saint Lucia's water utility assets should be undertaken, followed by a risk assessment of their vulnerability to climate variability and climate change. This could, for example, also include assessing potential changes in precipitation, impacts on ground conditions and identify assets at risk. A template programme for other utilities and countries should also be developed and discussed with donors for funding.				Saint Lucia Water Utility Partners: Donors and IFIs, CWWA/CAWASA, University of West Indies Department of Engineering, CCCCC	Complete asset inventory within 18 months	
Governments and other regional organisations should develop their own 'clearing house' facilities with free access to data and information. This should extend to information supporting development proposals, for example, base data and analysis provided in ESIA's. Donors/IFIs and project sponsors must always release all data and information (within established protocols that recognise some information may be sensitive). All governments and regional organisations will need financial, technical, and human resource support, including, for example, the development of alternative funding mechanisms. Institutional legislative challenges may need to be addressed.				National governments, regional organisations. Partners: Donors and IFIs	Within 2 years	

PRIORITY ACTIONS (highlighted in IP Executive Summary)

Action	Sector or Area	Activity Level	Country or Location	Lead Agency/ Collaborators	Timeframe	Estimated Cost (US\$)
Undertake a skills and expertise audit to identify the additional training and knowledge that technicians, professionals, the private sector, politicians, and those across the wider civil society (including, for example, farmers and fisher people) will require to access and use the information that exists. A sustainable programme of training, communications and ongoing support will be required.				Universities, professional institutions and sector support groups, regional organisations,. Partners: Donors and IFIs	Develop audit and training packages within 12 months including pilot projects. Roll out across the Caribbean over a 2 year period.	
Assess the research needs in the Caribbean to deliver the strategic elements and goals in the Regional Framework. Identify actions to fill research gaps and to develop decision-making tools. Develop a co-ordinated programme across the Caribbean's research institutions.				CCCCC Partners: Caribbean universities, the Institute of Meteorology (INSMET) of Cuba, regional organisations, international research community, and technical users	Assessment to be completed within 6 months	
The CDEMA Regional Programme and Plan of Action for Climate Change Adaptation and Disaster Risk Reduction identifies a series of actions linked to the Regional Framework's strategic elements and goals. All of the actions identified will directly contribute to the Regional Framework and to disaster risk reduction. These actions have been included in the Implementation Plan.				CDEMA, CARICOM Secretariat, Partners: National governments, international donors and IFIs, CCCCC	Continuous	
Strengthen the Caribbean's international negotiating position and its long-term capacity to plan through an enhanced, resourced, comprehensive programme of evidence- based peer-reviewed research on the science of climate change and the social, environmental and economic impacts.				CARICOM Secretariat, Caribbean Universities, Ministries of Foreign Affairs, regional organisations Partners: International research institutions, CCCCC	Continuous	

Capacity assessments

Annex 2 provides a summary of the main capacity limitations (and enabling mechanisms, coloured in grey) as presented in the individual country UNDP “National Capacity Self-Assessment” (NCSA) reports. It is important to stress the issues presented in the table may not be limited to those countries that have identified the issue; in other words, a number of these issues may be applicable across all the Caribbean states, to a greater or lesser degree.

TABLE 4. Capacity assessment for individual Caribbean countries that would prevent (and enable, as coloured in grey), them from meeting their obligations under the three United Nations conventions (UNCBD; UNFCCC; and UNCCD).

Level of capacity issue	Capacity issue description	Cross-cutting	UNCBD	UNFCCC	UNCCD	Countries identifying this capacity issue
Systematic	Absence of a central coordinating agency within Government for all aspects of environmental management (e.g. Department of the Environment and Ministry of the Environment). Administrative structures inhibit executive level coordination and policy development.	X				Bahamas; Antigua and Barbuda; Grenada; Guyana; Jamaica; St Lucia; St Vincent and the Grenadines
Systematic	Lack of cross-sectoral coordination, collaboration and cooperation among all stakeholders, with a lack of overall mechanism or multi-stakeholder networks to co-ordinate efforts (e.g. “central laboratory facility to collectively serve all sectors, institutions, departments”)	X				All
Systematic	Private sectors, non-government and community-based organizations not engaged in the process and need to be given meaningful roles to fulfill	X				All
Systematic	No environmental and sustainable development ethic that permeates through all decisions and actions (both within institutions and wider society)	X				All



Level of capacity issue	Capacity issue description	Cross-cutting	UNCBD	UNFCCC	UNCCD	Countries identifying this capacity issue
Systematic	Obligations to many, but often interrelated global and regional treaties	X				Belize
Systematic	Issues of climate change adaptation and mitigation not factored into development actions and priorities	X		X		All
Systematic	Processes outlined in national strategies are driven by international agendas rather than national needs	X				All
Systematic	Weak legislative and policy basis for environmental management	X				Dominica
Systematic	Complex legislative process, with numerous pieces of legislation in place – need to rationalize, harmonize and coordinate	X				Dominica; Jamaica; St Lucia; St Vincent and the Grenadines
Systematic	Few existing environmental laws and regulations that are relevant to the implementation of the requirements under the international environmental Conventions	X	Less applicable here	X	X	Bahamas; Antigua and Barbuda; St Vincent and the Grenadines; Suriname
Systematic	Lack of enforcement of existing laws and regulations to improve environmental conservation and protection	X				All
Systematic	Lack of standardization and application of an assessment, monitoring and reporting process	X	X			Belize; Bahamas; Jamaica; St Lucia; St Kitts and Nevis
Systematic	Lack of / not fully articulated climate change strategy / programme			X		Belize; Antigua and Barbuda; Jamaica
Systematic	National Environmental Management Strategy (NEMS) and Action Plan	X				Antigua and Barbuda; St Lucia
Systematic	National Policy for Adaptation to Global Climate Change drafted / National Climate Change Committee			X		Belize; Bahamas; Dominica; Grenada
Systematic	National Communications on Climate Change			X		Bahamas; Antigua and Barbuda; Dominica; Grenada; Jamaica; Vincent and the Grenadines; St Kitts and Nevis
Systematic	National programmes containing measures to mitigate and adapt to climate change, as in the National Hazard Mitigation Policy			X		Belize;





Level of capacity issue	Capacity issue description	Cross-cutting	UNCBD	UNFCCC	UNCCD	Countries identifying this capacity issue
Systematic	Lack of long-term stable funding (particularly for climate change adaptation)	X		X		All
Systematic	External funding (e.g. GEF/UNDP) has enabled countries to recruit international, regional and local consultants to conduct assessments, train personnel, implement public awareness campaigns and also complete national reports.	X				Dominica; Grenada; St Lucia
Systematic	Levels of government funding are insufficient to adequately support the implementation of the environmental Conventions.	X				All
Systematic	Broad public consultations in the decision-making process are rare.	X				Bahamas; Dominica; Jamaica
Systematic	Private sector and civil society mistrust of the public sector.	X				Dominica
Systematic	Local good practice projects are not being given national attention and are therefore not being replicated nationally.	X				Jamaica
Institutional	Structure of public administration that emphasizes vertical communication within ministries and organizations rather than horizontal flows of information between ministries and agencies. Fragmented executive administrative system	X				Antigua and Barbuda; Grenada; St Vincent and the Grenadines
Institutional	Inadequate coordination at institutional level, with the possibility for overlap / competition among agencies. Alternatively, various institutions pursue separate goals.	X				Antigua and Barbuda; Grenada; Guyana; Jamaica; Suriname
Institutional	Lack of clear accountabilities (roles and responsibilities and reporting structures) for Ministries and Departments and partners.	X				Bahamas; Antigua and Barbuda; Grenada; Jamaica; St Lucia; St Kitts and Nevis; Suriname
Institutional	National Focal points assigned		X	X		Belize; Grenada; Jamaica
Institutional	Government's severe balance of payments deficit, and its present public service reform programme (austerity measures)	X				Dominica; St Lucia; St Vincent and the Grenadines
Institutional	Government agencies have too many responsibilities and insufficient numbers of staff.	X				All





Level of capacity issue	Capacity issue description	Cross-cutting	UNCBD	UNFCCC	UNCCD	Countries identifying this capacity issue
Institutional	Lack of management audit to determine effectiveness of structure and competencies.	X				St Kitts and Nevis
Institutional	Information gaps – need for research and systematic observation (e.g. hazard/vulnerability maps). Shortage and inaccessibility to scientific data	X		X		All
Institutional	Lack of comprehensive database – climate, environmental, ecological, social and economic. Information databases are generally sectoral in nature and not readily accessible by all stakeholders. Information systems in isolation of each other – compatibility issues between existing databases. Many institutions do not have libraries, or systems for documenting and filing important information.	X				All
Institutional	No central clearing house for data			X		Antigua and Barbuda; St Lucia
Institutional	Established Clearing House Mechanism			X		Belize
Institutional	Lack of appropriate equipment and constrained transportation, operational and equipment budgets.	X				All
Institutional	Lack of climate change adaptation tools and techniques			X		Antigua and Barbuda;
Institutional	Capacity to conceptualize, formulate and implement policies, strategies and programmes.			X		Belize
Institutional	Capacity to engage and build consensus and to monitor, evaluate and report (e.g. through national meteorological services).			X	X	Belize; Antigua and Barbuda
Individual	Limited awareness of environmental issues and concerns, including inter-linkages between environmental conventions. A high degree of ignorance or disregard for the convention, notably by prominent stakeholders such as statutory bodies, large private enterprises, etc.	X	X	X	Less applicable here	Belize; Antigua and Barbuda; Grenada; Jamaica; Dominica
Individual	Lack of technical expertise (e.g. integrated ecosystem management)	X				All
Individual	Staff training is inadequate due to limited financial resources.	X				All





Level of capacity issue	Capacity issue description	Cross-cutting	UNCBD	UNFCCC	UNCCD	Countries identifying this capacity issue
Individual	Technical and management people are often overloaded with responsibilities, some of which ultimately must be neglected or partially addressed.	X				All
Individual	Trained individuals are not retained; high staff turnover	X				Grenada, Guyana; St Vincent and the Grenadines; St Kitts and Nevis; Suriname
Individual	Full complement of academic skills generally confined to Trinidad and Tobago, Barbados and Jamaica (associated with the University of the West Indies).	X				Dominica; St Vincent and the Grenadines
Individual	Dedicated people, with high rate of staff retention in civil service	X				Belize; Bahamas;
Individual	Lack of engagement in sustainable development and awareness of costs associated with unsustainable management policies. Communities are not effectively engaged.	X				All
Individual	Low awareness of country's vulnerability to climate change and potential negative impacts of climate change			X		Belize; Bahamas; Antigua and Barbuda; Grenada; St Vincent and the Grenadines
Individual	Need to incorporate environmental elements into the school curriculum and engage youth.	X				Belize; St Lucia
Individual	Public awareness programmes are very well organized (radio, television, press). The success of this communication strategy has, however, become its greatest weakness. The volume of information bombarding the general public is now causing some persons to avoid sections of the media at specific times.	X				St Vincent
Individual	Focus on negative news which affects the national psyche	X				Jamaica
Individual	Popular awareness of many of the issues and concerns relating to land degradation				X	Antigua and Barbuda
Individual	Public attitudes are generally favorable towards conservation and sustainable use of water.				X	Antigua and Barbuda

Climate Change Adaptation and Mitigation Funding Opportunities

Dedicated climate change funds

The following list provides details of possible sources of investment in the form of grants or loans to support adaptation and mitigation to climate change. For further details on any of these funds, please refer to the stated websites for information on eligibility.

Adaptation Funding Option	Rain Forest Trust Fund (RFT)
Nature of Disbursement	Grants
Regions	South and Central America
Sectoral Focus	Food security, agriculture, forestry and fisheries. Population & human settlements
Funding Source	Multilateral banks
Description	The Rain Forest Trust Fund (RFT) was established in 1992 by the World Bank's Executive Directors and associated bilateral donors. All funds are grant funds directed toward a set of integrated projects aimed at slowing down the deforestation/conversion of the Amazon rainforest, protecting biodiversity, reducing carbon emissions, and promoting sustainable use and development in the Amazon region. The projects share similar objectives of: (i) strengthening the capacity of public sector institutions responsible for managing and protecting the rainforest, its inhabitants, and natural resources; (ii) improving management of protected areas; (iii) strengthening the information base on Amazonian natural resources; and (iv) promoting sustainable and environmentally friendly technologies and practices for use and development by the inhabitants.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4568.php

Adaptation Funding Option	The Inter-American Development Bank-Netherlands Water Partnership Program (INWAP)
Nature of Disbursement	Grants
Regions	South and Central America, Small Island Developing States
Sectoral Focus	Water
Funding Source	Multilateral banks
Description	INWAP is a joint effort between the Inter-American Development Bank (IDB) and the government of the Netherlands to promote the international principles of Integrated Water Resources Management (IWRM) and support implementation of these principles in IDB operations throughout Latin America and the Caribbean. Projects submitted for funding must support the implementation of the internationally recognized principles of IWRM, placing significant emphasis on finding ways to expand and improve social and productive water-related services. Projects must also aim to improve the range of political, social, economic, and administrative systems that allocate, develop and manage water resources. INWAP resources can be used to hire specialized consulting services and conduct the necessary activities to create innovative knowledge products; prepare best practices and lessons learned; support water sector planning and reforms; and organize dissemination, capacity building, training and outreach activities.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4573.php ; http://www.iadb.org/inwap/index.cfm?language=EN&parid=1

Adaptation Funding Option	Adaptation Fund (AF)
Nature of Disbursement	Grants
Regions	Small Island Developing States, South and Central America, Africa, Asia-Pacific, Least Developed Countries
Sectoral Focus	Science, assessment, monitoring and early warning. Tourism. Water. Terrestrial ecosystems. Population & human settlements. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas
Eligibility Requirements	Eligible Parties to receive funding from the Adaptation Fund are understood as developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change including low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems. Decisions on the allocation of resources of the Fund shall take into account the criteria outlined in the UNFCCC Strategic Priorities, Policies and Guidelines of the Adaptation Fund document, specifically: (a) Level of vulnerability; (b) Level of urgency and risks arising from delay; (c) Ensuring access to the fund in a balanced and equitable manner; (d) Lessons learned in project and programme design and implementation to be captured; (e) Securing regional co-benefits to the extent possible, where applicable; (f) Maximizing multi-sectoral or cross-sectoral benefits; (g) Adaptive capacity to the adverse effects of climate change.
Funding Source	UNFCCC and KP
Description	The Adaptation Fund was established to finance concrete adaptation projects and programmes in developing countries that are Parties to the Kyoto Protocol. The Fund is to be financed with a share of proceeds from clean development mechanism (CDM) project activities and receive funds from other sources. The share of proceeds amounts to 2% of certified emission reductions (CERs) issued for a CDM project activity. The developing country Parties to the KP that are particularly vulnerable to the adverse effects of climate change are eligible for funding to assist them in meeting the costs of adaptation. The fund shall finance concrete adaptation projects and programmes that are country driven and are based on the needs, views and priorities of eligible Parties.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4566.php ; http://www.adaptation-fund.org/

Adaptation Funding Option	Small Activities Scheme (SAS)
Nature of Disbursement	Grants
Regions	Small Island Developing States. Least Developed Countries
Sectoral Focus	Terrestrial ecosystems. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Bilateral banks
Description	The Small Activities Scheme aims to contribute to poverty reduction through small-scale interventions at community level, especially in nationally recognised poverty stricken areas. It is a flexible grants program enabling quick and effective disbursement in rural and poorer areas. The SAS is normally administered by the resident AusAID officer at the Australian Embassy or High Commission.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4637.phpdf http://www.usaid.gov/keywords/adaptation.cfm

Adaptation Funding Option	Least Developed Countries Fund (LDCF)
Nature of Disbursement	Grants
Regions	Least Developed Countries
Sectoral Focus	Water. Food security, agriculture, forestry and fisheries. Oceans and coastal areas. Health. Disaster risk reduction
Funding Source	Multilateral banks. Other UN organizations
Description	The LDCF was established to assist Least Developed Country Parties (LDCs) in carrying out the preparation and implementation of national adaptation programmes of action (NAPAs).
Links to further information	The rationale for establishing the LDCF rests on the low capacity and high vulnerability of LDCs, which renders them in need of immediate and urgent support to start adapting to current and projected adverse effects of climate change. The projects are focused on short-term, urgent and priority needs; and projects are derived from the completed NAPAs.
	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4564.php ; http://gefonline.org/

Adaptation Funding Option	Global Climate Change Alliance (GCCA)
Nature of Disbursement	Grants
Regions	Least Developed Countries. Small Island Developing States
Sectoral Focus	Disaster risk reduction. Terrestrial ecosystems. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Multilateral banks
Description	The Alliance will help to ensure that poor developing countries most vulnerable to climate change, in particular the LDCs and SIDS, increase their capacities to adapt to the effects of climate change by fostering effective dialogue and cooperation on climate change. On the climate change adaptation front, the alliance aims to help developing countries improve their knowledge base on the effects of climate change and to develop and implement adaptation strategies. Proposed areas of intervention include: • Supporting the development of adaptation action plans in vulnerable countries other than LDCs, through technical assistance, capacity support and facilitation of cooperation between stakeholders • Supporting the implementation of adaptation action plans in LDCs and SIDS effectively committed to taking measures to respond to climate change • Financing pilot adaptation projects focussing on the water and agricultural sectors, as well as on sustainable management of natural resources • Supporting international collaborative research on the impacts of climate change in developing countries and regions, as well as on the identification and design of innovative adaptation solutions.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4633.php ; http://www.gcca.eu/pages/1_2-Home.html

Adaptation Funding Option	Nordic Development Fund (NDF)
Nature of Disbursement	Grants
Regions	Least Developed Countries
Sectoral Focus	N/A
Funding Source	Multilateral banks
Description	The Nordic Development Fund (NDF) is funded by development cooperation budgets in Denmark, Finland, Iceland, Norway and Sweden. The fund has received a new mandate. The Helsinki-based institution will in the future provide grant financing for climate-related interventions in poor developing countries. Over the last 20 years the Fund has provided soft credits to developing countries. Starting in 2009 NDF will provide grant financing for climate-related interventions in the poorest countries in the world.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4881.php ; http://www.ndf.fi/home.shtml

Adaptation Funding Option	Special Climate Change Fund (SCCF)
Nature of Disbursement	Grants
Regions	Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America. Africa.
Sectoral Focus	Food security, agriculture, forestry and fisheries. Terrestrial ecosystems. Oceans and coastal areas. Health.
Funding Source	Other UN organizations. Multilateral banks
Description	The SCCF under the Convention was established in 2001 to finance projects relating to adaptation; technology transfer and capacity-building; energy, transport, industry, agriculture, forestry and waste management; and economic diversification. GEF is entrusted to operate this fund. With respect to adaptation, the SCCF assists developing countries, particularly the most vulnerable to the impacts of climate change, in implementing adaptation measures that reduce the vulnerability and increase the adaptive capacity of countries. As of October 2008, 13 contributing participants (Canada, Denmark, Finland, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland) had pledged contributions to the SCCF. The total amount pledged to date is the equivalent of USD 91 million. Adaptation activities funded under the SCCF will be based on national communications, NAPAs (in the case of LDCs only), national and regional relevant studies, and available information. The SCCF will support capacity-building for preventive measures, planning, preparedness and management of disasters relating to climate change, including contingency planning for droughts and floods in areas prone to extreme weather events. Activities funded under the SCCF will also include improving the monitoring of diseases and vectors affected by climate change, improving disease control and prevention, forecasting and early warning systems, and strengthening and establishing national and regional centers and information networks for rapid response to extreme weather events. There are 15 approved SCCF Adaptation Programme projects totalling USD 67.5 million and 14 projects in the pipeline that are expected to request approximately USD 46 million.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4565.php ; http://www.thegef.org/interior.aspx?id=192&ekmense=c57dfa7b_48_60_btnlink

Adaptation Funding Option	Strategic Climate Fund (SCF)
Nature of Disbursement	Grants. Loans.
Regions	Asia-Pacific. Africa. South and Central America.
Sectoral Focus	Terrestrial ecosystems. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Multilateral banks
Description	The Strategic Climate Fund (SCF) will provide financing to pilot new development approaches or to scale-up activities aimed at a specific climate change challenges through targeted programs. The SCF is part of the Climate Investment Funds (CIF), being established by the Bank jointly with the Regional Development Banks (AfDB, AsDB, EBRD, and IDB) in July 2008 to promote international cooperation on climate change and support progress towards the future of the climate change regime. The first program to be included in the SCF would pilot national level actions for enhancing climate resilience in a few highly vulnerable countries.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4635.php ; http://www.climateinvestmentfunds.org/cif/node/3

Adaptation Funding Option	Program on Forests (PROFOR)
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Food security, agriculture, forestry and fisheries
Funding Source	Multilateral banks
Description	PROFOR is a multi-donor partnership formed to pursue a shared goal of enhancing forests' contribution to poverty alleviation and sustainable development through improved knowledge and approaches for sustainable forest management. PROFOR's portfolio is diverse, comprising activities related to the four thematic areas at the international, regional or country level. The thematic areas are: livelihoods approach to poverty reduction; promoting good forest governance; innovative approaches to financing sustainable forest management; and cross-sectoral cooperation (agriculture, energy, mining, and transportation). Projects are demand-driven by governments and other stakeholders, and to the greatest extent possible take the form of multi-partner, larger-scale initiatives rather than stand-alone activities. PROFOR typically funds activities that can be completed in under two years.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4567.php ; http://www.profor.info/index.html

Adaptation Funding Option	International Development Association (IDA)
Nature of Disbursement	Grants. Loans.
Regions	Africa. Asia-Pacific. South and Central America. Small Island Developing States. Least Developed Countries.
Sectoral Focus	Terrestrial ecosystems. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Multilateral banks
Description	IDA aims to reduce poverty by providing interest-free credits and grants for programs that boost economic growth, reduce inequalities and improve people's living conditions. IDA lends money (known as credits) on concessional terms. This means that IDA credits have no interest charge and repayments are stretched over 35 to 40 years, including a 10-year grace period. IDA also provides grants to countries at risk of debt distress. IDA's response to the challenge of climate change has been developed as part of the Bank's Clean Energy Investment Framework (CEIF). The main elements of the CEIF are: improving access to clean energy, supporting the transition to a low carbon development trajectory, and supporting adaptation to climate change.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4569.php

Adaptation Funding Option	Small Grants Programme (SGP)
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Terrestrial ecosystems. Water. Population & human settlements. Food security, agriculture, forestry and fisheries.
Funding Source	Other UN organizations
Description	The Global Environment Facility's Small Grants Programme aims to deliver global environmental benefits in the GEF Focal Areas of biodiversity conservation, climate change mitigation, protection of international waters, prevention of land degradation (primarily desertification and deforestation), and elimination of persistent organic pollutants through community-based approaches. Grants are made directly to community-based organizations (CBOs) and non-governmental organizations (NGOs) in recognition of the key role they play as a resource and constituency for environment and development concerns. The maximum grant amount per project is USD 50,000, but averages around USD 20,000. Grants are channelled directly to CBOs and NGOs.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4629.php ; http://sgp.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=AboutSGP

Adaptation Funding Option	Global Facility for Disaster Reduction and Recovery (GFDRR)
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. South and Central America. Small Island Developing States.
Sectoral Focus	Terrestrial ecosystems. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Multilateral banks
Description	The Global Facility for Disaster Reduction and Recovery (GFDRR) is a partnership of the International Strategy for Disaster Reduction (ISDR) system to support the implementation of the Hyogo Framework for Action (HFA). The partnership is managed by the World Bank on behalf of the participating donor partners and other partnering stakeholders. GFDRR provides technical and financial assistance to high risk low- and middle-income countries to mainstream disaster reduction in national development strategies and plans to achieve the Millennium Development Goals (MDGs). GFDRR's Mainstreaming Disaster Risk Reduction in Development (Track-II) provides technical and financial assistance to low and middle income countries to mainstream disaster risk reduction into their country assistance and poverty reduction strategies. Climate Change adaptation is one of the key areas of intervention under this track. GFDRR currently finances 20 projects that help countries better adapt to the challenges that climate change poses. These projects support activities such as the development of probabilistic risk assessment platforms, the creation of disaster risk atlases, and the establishment / improvement of loss model tools.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4632.php ; http://gfdr.org/gfdr/index.php?Page=About%20GFDRR&ItemID=2

Adaptation Funding Option	Development Market Place (DM)
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Disaster risk reduction. Education and training.
Funding Source	Multilateral banks
Description	The 2009 global competition for Development Market Place is funded by the Global Environment Facility (GEF) and additional DM partners. It aims to identify 20 to 25 innovative, early-stage projects addressing climate adaptation. The selected project could receive up to US\$200,000 in grant funding for implementation over two years. The competition on climate adaptation focuses on three sub-themes: Resilience of Indigenous Peoples Communities to Climate Risks; Climate Risk Management with Multiple Benefits and Climate Adaptation and Disaster Risk Management.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4919.php ; http://siteresources.worldbank.org/DEVMARKETPLACE/4416738-1196093766795/21583185/DM.htm

Adaptation Funding Option	Cool Earth Partnership
Nature of Disbursement	Grants. Technical Assistance.
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Food security, agriculture, forestry and fisheries. Water. Population & human settlements.
Funding Source	Bilateral banks
Description	The Cool Earth Partnership is funded by the Government of Japan. Starting in 2009, Japan will provide funds amounting approximately to US\$ 10 billion (JPYen 1,250 billion) in aggregate over the next five years. Assistance will be provided to developing countries, which are vulnerable to the adverse effects of climate change (e.g. African and Pacific island countries), to take adaptive measures (e.g. measures against disasters related to climate change (including disaster prevention) such as droughts and floods, planning of adaptation measures). Grant aid, technical assistance and aid through international organizations will be provided to address the needs in developing countries. A new scheme of grant aid, "Program Grant Aid for Environment and Climate Change", will be created as a component of this package. In the context of improved access to clean energy, feasibility study on rural electrification projects with geothermal energy and "co-benefit" projects that address climate change will be conducted.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4884.php ; http://www.mofa.go.jp/policy/economy/wef/2008/mechanism.html

Adaptation Funding Option	International Climate Initiative
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Small Island Developing States. South and Central America. Least Developed Countries.
Sectoral Focus	Water. Food security, agriculture, forestry and fisheries. Disaster risk reduction. Health. Population & human settlements. Terrestrial ecosystems.
Funding Source	Bilateral banks
Description	The International Climate Initiative is funded by part of the auctioning revenues from emissions trading through the Federal Environment Ministry in Germany. It supports climate projects worldwide in developing and newly industrialising countries and in transition countries in Central and Eastern Europe. In the field of adaptation to climate change, parts of appropriate national programmes for such adaptation are being implemented in selected partner countries that are especially vulnerable to climate change (on the basis of national or regional strategies, NAPAs). Through an integrated approach several aspects of adaptation can be incorporated, e.g. water resource management, optimal land use / sustainable biomass production (resource management, restoration of damaged areas), preventive health care, disaster prevention and migration management. In the field of adaptation to climate change, projects on a scale of up to 60 million euro were to be implemented in 2008. The funds from the International Climate Initiative will primarily flow into bilateral projects, but projects by multilateral organisations will also be supported.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4885.php ; http://www.bmu.de/english/climate_initiative/general_information/doc/42000.php

Adaptation Funding Option	MDG Achievement Fund (MDG-F)
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Food security, agriculture, forestry and fisheries. Water. Terrestrial ecosystems. Disaster risk reduction. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Education and training. Tourism.
Funding Source	Bilateral banks
Description	The MDG Achievement Fund (MDG-F) is funded by the Spanish government and is implemented through UN agencies such as UNDP, UNICEF and FAO. One of the thematic windows for the funding is environment and climate change; with special attention to the organization and management of natural resources and the environment in the context of local rural development and food security. Through this window, the MDG Achievement Fund seeks to support interventions that improve environmental management and service delivery at the national and local level, increase access to new financing mechanisms and enhance capacity to adapt to climate change. Of the 57 eligible UN Country Teams, 51 have submitted a proposal under this thematic window amounting to some \$377 million.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/4886.php ; http://www.mdgfund.org/

Adaptation Funding Option	Benefit-sharing Fund of the International Treaty on Plant Genetic Resources for Food and Agriculture
Nature of Disbursement	Grants
Regions	Africa. Asia-Pacific. Least Developed Countries. Small Island Developing States. South and Central America.
Sectoral Focus	Food security, agriculture, forestry and fisheries
Funding Source	Other UN organizations
Description	The benefit-sharing fund provides two funding windows. One will provide financial support for the development of strategic action plans to adapt plant genetic resources for food and agriculture to climate change. The second window will provide financial support for the implementation of immediate action projects. The projects could be of any value but would not exceed US\$300,000. The immediate action projects will run for a maximum of two years.
Links to further information	http://unfccc.int/adaptation/implementing_adaptation/adaptation_funding_interface/items/5736.php ; http://www.planttreaty.org/funding_en.htm

Adaptation Funding Option	Amazon Fund
Nature of Disbursement	Grants.
Regions	South America.
Sectoral Focus	Forestry. Sustainability.
Funding Source	Brazilian Development Bank
Description	The Amazon Fund is aimed at raising donations for non-reimbursable investments in efforts to prevent, monitor and combat deforestation, as well as to promote the preservation and sustainable use of forests in the Amazon Biome. USD 1 billion has been pledged by the Norwegian government throughout the period of 2009-2015.
Links to further information	http://www.amazonfund.gov.br/

Adaptation Funding Option	Clean Technology Fund
Nature of Disbursement	Grants, Loans.
Regions	Asia-Pacific. Africa. South and Central America.
Sectoral Focus	Terrestrial ecosystems. Disaster risk reduction. Education and training. Food security, agriculture, forestry and fisheries. Health. Oceans and coastal areas. Population & human settlements. Science, assessment, monitoring and early warning. Tourism. Water.
Funding Source	Multilateral Banks. The World Bank.
Description	The Clean Technology Fund (CTF) is one of the two (along with the Strategic Climate Fund) multi-donor Trust Funds within the Climate Investment Funds (CIFs). The CIFs have been designed to support low-carbon and climate-resilient development through scaled-up financing channelled through the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank Group. The CTF aims to support the rapid deployment of low-carbon technologies on a significant scale, with the objective of cost-effective reductions in the growth of greenhouse gas emissions.
Links to further information	http://www.climateinvestmentfunds.org/cif/node/2

Adaptation Funding Option	GEF Trust Fund - Climate Change
Nature of Disbursement	Grants.
Regions	Developing nations.
Sectoral Focus	Climate Change adaptation for developing nations.
Funding Source	UNFCCC, Multilateral Banks.
Description	The GEF Trust Fund is the common funding resource of the Global Environment Facility (GEF). Climate Change is one of the six focal areas supported by the GEF Trust Fund. The objective of this part of the fund is to help developing countries and economies in transition to contribute to the overall objective of the United Nations Framework Convention on Climate Change (UNFCCC). The projects support measures that minimize climate change damage by reducing the risk, or the adverse effects, of climate change.
Links to further information	http://www.gefcountrysupport.org/report_detail.cfm?projectId=140

Adaptation Funding Option	Global Energy Efficiency and Renewable Energy Fund (GEEREF)
Nature of Disbursement	The GEEREF doesn't make loans or grants but it invests its funds in projects' equity capital.
Regions	Developing countries and economies in transition.
Sectoral Focus	Energy efficiency and renewable energy.
Funding Source	European Commission
Description	The Global Energy Efficiency and Renewable Energy Fund (GEEREF) was proposed in 2006 by the European Commission. It is a Public-Private Partnership (PPP) designed to maximise the leverage of public funds. Structured as a Fund-of-Funds, GEEREF invests in private equity funds (sub-funds) that specialise in providing equity finance to small and medium-sized project developers and enterprises (SMEs). Energy efficiency and renewable energy projects will be implemented in developing countries and economies in transition.
Links to further information	http://www.geeref.eu

Adaptation Funding Option	Pilot Program for Climate Resilience
Nature of Disbursement	Grants. Loans.
Regions	Developing nations.
Sectoral Focus	Climate resilience in national development planning, Poverty reduction and Sustainable development.
Funding Source	Multilateral Banks. The World Bank.
Description	The Pilot Program for Climate Resilience (PPCR) is part of the Strategic Climate Fund (SCF), a multi-donor Trust Fund within the Climate Investment Funds (CIFs). The overall objective of the program is to provide incentives for scaled-up action and transformational change in integrating consideration of climate resilience in national development planning consistent with poverty reduction and sustainable development goals.
Links to further information	http://www.climateinvestmentfunds.org/cif/ppcr

Adaptation Funding Option	UN-REDD Programme Fund
Nature of Disbursement	Grants.
Regions	Developing nations.
Sectoral Focus	Forestry, Sustainable development, Sustainable management, Social benefits.
Funding Source	Multilateral Banks
Description	Three UN Agencies – UNEP, UNDP and the FAO – have collaborated in the establishment of the UN-REDD programme, a multi-donor trust fund that allows donors to pool resources and provide funding with the aim of significantly reducing global emissions from deforestation and forest degradation in developing countries. Through its nine initial country programme activities in Africa, Asia and Latin America, the UN-REDD Programme supports the capacity of national governments to prepare and implement national REDD strategies with the involvement of all stakeholders.
Links to further information	http://www.un-redd.org/

Source: Overseas Development Institute, *Climate Funds Update*, available at <http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges> (accessed 22/03/2011).

Fast-start funding opportunities

The following table provides a summary of how developed countries are meeting their pledges for providing fast-start climate finance to developing countries between 2010 and 2012 following the 15th Conference of the Parties of the UNFCCC.

Party	Fast-Start Pledge (2010-2012)***	Funding Objectives	New 1 and Additional 2*	Channeling Institution(s)
European Commission	\$69.0 million/year, \$206.9 million total (\$50 million/year, €150 million total) pledged. €50 million in 2010 is already committed.	Half of the €50 million mobilized in 2010 is for capacity-building related to low-emission development and technology cooperation, and half for adaptation (under GCCA) with a focus on LDCs and SIDS.	This is on top of existing programmed support for climate-relevant actions in developing countries in the period 2010-12 in the order of €900 million.	Not Specified
EU Member State Individual Pledges				
Denmark	\$221.3 million (DKK 1.2 billion total) pledged with (DKK 308 million) committed	Expected for 2010: Mitigation (52%) Adaptation and Capacity Building (48%)	All of the financial resources will be labeled as ODA. However, Denmark argues that everything above 0.8% of BNI is additional since Denmark has already lived up to its ODA target.	Expected channels for 2010: - Mitigation: Technology Needs Assessment, SREP, UN-REDD and FIP-Adaptation, LDCF, PPCR, capacity-building through civil society support, and bilateral programmes (to be identified)
Finland	\$110 million total	Not Specified	Not Specified	Not Specified
France	\$1.74 billion (€1.26 billion total) pledged and committed	€246 million or 20% for REDD + for 2010-2012. A substantial amount will also be dedicated to adaptation. Other objectives not specified	Not specified	1/3 of the funds will go through multilateral channels such as the GEF and the CIFs. The remaining funds will go through bilateral channels such as the French Development Agency (AFD). 2/3 of the REDD + money will go through the AFD.
Germany	€1.26 billion total 2010 (allocated): \$420.5 million (€350 million) 2011 (proposed): \$527.2 million (€410 million) 2012 (proposed): \$689.6 million (€500 million)	~1/3 for adaptation. At least €350 million for REDD. The remainder for energy-related mitigation.	Only €70 million of the 2010 climate finance is new. The rest is reallocated from funds that were already committed to the environmental and development budget. In 2011, the amount of new money is likely to be less. All will be counted towards Germany's 0.7% ODA commitment.	The funds will be administered by the German Bilateral Development Cooperation, multilateral funds and the German Environment Ministry's International Climate Initiative. In 2010, ~€150 million will flow through multilateral funds (€10 million will go to the Adaptation Fund, €72 million to the CIFs, and an amount to the FCPF), otherwise the split between multilateral and bilateral is 35% to 65%.
Ireland	Up to \$137.9 million total (Up to €100 million total)	Not Specified	Not Specified	Not Specified



Party	Fast-Start Pledge (2010-2012)***	Funding Objectives	New 1 and Additional 2*	Channeling Institution(s)
Netherlands	\$427.5 million (£310 million total) pledged and committed	At least €280 million for mitigation	This funding is new and additional to the existing ODA percentage of 0.8% of Unpin addition to the €310 million in additional climate finance for fast start, €350 million of the regular Dutch ODA budget will also will also be supporting climate activities.	€89 million for multilateral cooperation, including €54 million for SREP in Ethiopia, Honduras and Kenya. €147 million for bilateral cooperation. Breakdown: - €68 million for Energising Development (Bangladesh, Benin and Bolivia)- €50 million for Regional Programme on renewable energy in the Great Lakes (Burundi, Congo, Rwanda)- €40 million for the National Programme on Renewable Energy in Rwanda- €40 million for the National Programme on Renewable Energy in Indonesia- €30 million for the Africa Biogas Partnership Programme (Brazil, Colombia, Indonesia)- €28 million for the Dutch fund for sustainable production of biomass for energy purposes (Brazil, Colombia, Indonesia).€74 million for public-private partnerships & partnerships with NGOs.
Spain	\$517.2 million (£375 million total), \$172.4 million/year (£125 million/year)	\$60 million (£45 million) to the Adaptation Fund.	Not Specified	Adaptation Fund: €45 million
Sweden	\$1.10 billion (£800 million total)	Not Specified	Not Specified	Bilateral, regional and multilateral channels
United Kingdom	\$800 million/year (£1.5 million total) pledged with £511 committed to specific programmes and £190 million delivered	50% for mitigation and 50% for adaptation. £300 million will go towards REDD +.	Portions of the pledge were previously pledged by Prime Minister Gordon Brown in 2007, including £430 million to the World Bank (World Development Movement 2009).All the funding comes from the UK's existing commitment to reach an ODA contribution of 0.7% GNI by 2013 (The Guardian 2010).	DFID: £19 million. PPCR: £202 million. CTF: £155 million FIP: £88 million SREP: £35 million Congo Basin Forest Fund: £35 million GEF (climate change element): £11 million FCPF: £10 million
Total of EU Member State & European Commission Pledges***				
EU aggregate pledge (includes 27 Member States and the European Commission)	A confirmed 2010 pledge of \$3.30 billion (£2.39 billion out of a €2.4 billion commitment) and \$10.41 billion (£7.55 billion total out of a €7.23 billion) total commitment	19 EU Member States and the European Commission (representing 64% of EU confirmed pledges) have decided for 2010 that 63% of funds will go towards mitigation and 37% towards adaptation. US\$1.21 billion (£1 billion) will go to the Paris Oslo/REDD+ initiative.	A substantial part of EU fast-start funds will be implemented through existing initiatives. ODA will continue to play a role in support for mitigation and especially for adaptation. The EU fast-start funds will not reduce the amount of funding provided to fight poverty and continue progress towards achievement of the MDGs.	The channeling institution is known for 65% of the confirmed EU pledges for 2010: - ~61% will go through bilateral channels (63% of which will go to African countries) and ~39% through multilateral channels. - The main multilateral channels: the CIFs (£208 million), GEF (£108 million), Adaptation Fund (£56 million), IADB (£28 million), Consultative Group on International Agricultural Research (€20 million), and the FCPF (€20 million).

Party	Fast-Start Pledge (2010-2012)***	Funding Objectives	New 1 and Additional 2*	Channeling Institution(s)
Australia	\$582.3 million (AUD\$599 million) total for the 2010-2011 fiscal year	AUD\$248 million for the "International Climate Change Adaptation Initiative" AUD\$146 million for the "International Forest Carbon Initiative" AUD\$131 for multilateral agencies helping developing countries transition to low-carbon growth pathways & adapt to climate change. AUD\$36 million for "Climate Change Partnerships for Development" AUD\$38 million as the climate change component of Australia's funds to GEF5	Australia's 2010-11 Budget measures totaling AUD\$355 are defined as 'new and additional' and the remainder of Australia's fast-start package (totaling AUD\$244) as 'existing' (i.e., announced in previous budgets).	- LDCF: AUD\$9 million - CTF: AUD\$25 million- GEF-5 (2010-2014): AUD\$38 million to climate change (out of the total Australian GEF-5 contribution of AUD\$105)
Canada	\$392.0 million (CAD\$400 million) in 2010 (nab. for 2011 and 2012)	CAD\$45 million for adaptation CAD\$291.5 million for clean energy CAD\$40 million for REDD CAD\$18.5 million for climate projects in the GEF CAD\$ 5 million for 'small scale projects and activities'	Not Specified	- GEF: CAD\$18.5 million - LDCF: CAD\$20 million- International Development Research Centre: CAD\$10 million to build upon their innovative Climate Change Adaptation in Africa Program- CAD\$5 million for climate change adaptation initiatives in Haiti through existing partners- World food program for adaptation and food security in Ethiopia: CAD\$7 million- CAD\$3 million to support Vietnam's National Target Program on Climate Change- IFC: CAD\$285.7 million in concessional financing and \$5.8 in grant financing (the latter is specifically for the IFC's Advisory Services)- FCPF: CAD\$40 million
Japan	Pledged \$15 billion total: \$7.2 billion in ODA and \$7.8 billion in other official financing in collaboration with the private sector. \$5.32 billion in existing funds is already being implemented as of April 30, 2010.	Mitigation: \$5.1 billion (\$3.74 public, \$1.36 private) REDD+: \$165 million Adaptation: \$225 million	In 2008, Japan began providing support to developing countries to deal with climate change through the Cool Earth Partnership, which pledged to give developing countries \$10 billion in climate finance over 5 years. In September 2009, they announced the "Hatoyama Initiative" which built on the Cool Earth Partnership (Ministry of Foreign Affairs of Japan 2010).	\$7.2 billion ODA includes \$6 billion of ODA and \$1.2 billion CTFs (CTF: \$992 million, PCR: \$99 million; FIP: \$60 million; SREP: \$40 million) \$7.8 billion in other official financing will be channeled through:- Japan Bank of International Cooperation (JBIC)- Nippon Export and Investment Insurance support for counter-risk measures- Unknown private sources, but will likely include Japanese private sector

Party	Fast-Start Pledge (2010-2012) ^{***}	Funding Objectives	New 1 and Additional 2*	Channeling Institution(s)
Norway	\$357 million committed in FY2010	The Norwegian fast-start pledge is thus far supporting their activities on reduced emissions from deforestation and forest degradation (REDD+). The rest of the climate budget is not yet classified.	Not Specified	2010 allocations for REDD+: Brazil - Amazon Fund: \$142 million - FIP: \$48 million- Civil Society Funding Scheme (through NORAD) \$29 million- UN-REDD Programme (multilateral): \$29 million- Congo Basin Forest Fund: \$28 million- Other (Including Indonesia, FCPF, overhead, conferences etc): \$20 million- Tanzania (bilateral): \$17 million- FCPF Readiness Fund: \$11 million- ITTO REDDES: \$4 million- Indonesia (bilateral): amounts TBD
Switzerland	\$143.8 million (140 million francs total) -requested by the Federal Council	Not Specified	A significant portion of the funds will contribute to Switzerland's decision to increase ODA from 0.47% of GNI in 2009 to 0.5% in 2015 (i.e., an increase of 404 million Swiss francs). Switzerland's total contribution to the 5th replenishment of the GEF (2010-2014)--124,930 million francs--represents a 42% increase over their contribution in the 4th replenishment.	GEF: 15 million francs. The remainder will be an increase in ODA provided by the Swiss Federal Council.
US	FY 2010\$1.304 billion(Congressional appropriation)FY2011Total: \$1.725 billion State, USAID & Treasury (SUT): \$1.235 billion (interim appropriations) Other: \$490 million (budget request) FY2012NA	Clean Energy:\$595 million in FY2010\$751 million in FY 2011(SUT: \$657 million; Other: \$94 million) Adaptation:\$448 million in FY 2010\$577 million in FY 2011(SUT: \$287 million; Other: \$290 million) Sustainable landscapes (including forests):\$261 million in FY 2010\$397 million in FY 2011(SUT: \$292 million; Other: \$105 million)	FY2010 showed more than a tripling of climate-related appropriations from \$315 million in FY 2009 to \$1.304 billion in FY 2010 and an additional increase of \$421 million for FY 2011. The US is increasing investments in other international assistance programs that deliver significant climate co-benefits. In FY 2010, \$226 million is estimated to support climate co-benefits, and in FY 2011 \$386 million is estimated to support climate co-benefits.	Roughly 60% of the funds will flow through multilateral channels, and the rest bilaterally- CIFs: \$375 million in FY 2010; estimated appropriation of \$575 million in FY 2011.- CTF: \$300 million in FY 2010; \$370 million in FY 2011.- PPCR: \$55 million in FY10; \$65 million for FY2011.- FIP: \$20 million in FY2010; \$95 million in FY 2011.- SREP: \$45 million in FY 2011.- FCPF: \$10 million in FY 2010, \$15 million in FY 2011.- LDCF and the SCCF: \$50 million in FY 2010; \$70 million in FY 2011.- GEF: \$26 million in FY2010; \$90 million in FY2011 (\$49 million for clean energy & \$27 million for sustainable landscapes).
Total Pledges**			\$10.10 billion in 2010 \$9.88 billion in 2011 \$8.02 billion in 2012 TOTAL: \$28.00 billion	

¹ 'New': refers to the fact the climate funds should represent an increase over past and existing climate-related funds.

² 'Additional': refers to the idea that financial resources raised for one objective such as climate change should not substitute or divert funding from other important objectives, in particular economic and social development.

^{***}In instances where countries only gave its individual pledge as a total over the period 2010-2012, its yearly pledge was estimated as an average.

^{***}All currencies are converted to USD at the time the table is updated.

Source: World Resources Institute, updated 2 October 2010. Available at <http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges> (accessed 22/03/2011).

Official Development Assistance (ODA)

Outside of dedicated climate change funds, donor countries allocate money towards climate change mitigation and adaptation through a share of traditional ODA flows. These flows are tracked through the Development Assistance Committee of the Organisation for Economic Co-operation and Development's 'Rio Markers'. Two specific markers for climate change mitigation and adaptation aim to collect data on public financial flows for activities where climate change is the 'principal' or 'significant' objective.

The table below lists the available information on the committed financial flows in 2009 for three bilateral financing institutions from donor countries: namely, France, Germany and Japan.

	Agence Française de Développement (France)	Japan International Cooperation Agency (Japan)	KfW (Germany)	European Investment Bank (EU)	Percent increase between 2008 and 2009
Mitigation	USD 2,807m	USD 2,200m	USD 1,304m	USD 1,515m	23%
Adaptation	USD 615m	USD 3,118m	USD 230m	-	31%
Total	USD 3,422m	USD 6,418m	USD 1,534m	USD 1,515m	25%

Source: Kehler Sibert, C. et al. (2010) *Bilateral Finance Institutions and Climate Change. A Mapping of 2009 Climate Financial Flows to Developing Countries*. UNEP and Stockholm Environment Institute. Note that these amounts may include money allocated through dedicated climate change funds (covered in a previous section). Further, climate change-related financial flows for general budget support cannot be tracked, though they may become more prominent in the future. For more information, see http://www.climatefundsupdate.org/resources/capturing-flows-outside-dedicated-funds#_ftn2 (accessed 22/03/2011).

Resources Generated by Multilateral Development Banks (MDBs)

Outside of the money allocated through dedicated climate change funds, MDBs also contribute to climate change mitigation and adaptation through several instruments outlined below. In 2009, the multilateral development banks committed approximately USD 15 billion¹⁵ (Kehler Sibert et al., 2010).

MDBs generate resources for climate change through the money they raise on the capital markets based on their current balance sheet headroom. Money is disbursed via loans, guarantees and equity, as well as technical assistance (UN AGF, 2010).

¹⁵ If contributions from the European Investment Bank (classified by a number of authors as the EU bilateral finance institution) and those channelled through the Climate Investment Fund of USD 1.5 and 0.5 billion respectively are subtracted.

MDBs have also issued 'green bonds' earmarked for climate change projects: for instance, the World Bank issued fixed income green bonds of around USD 1.5 billion as part of its 'Strategic Framework for Development and Climate Change'¹⁶ (UN AGF, 2010). Country replenishments and paid-in contributions to MDBs can also increase MDBs' available resources for climate change.

MDBs also channel funds for climate change-related activities through trust funds established by public or private donors and making funds available for co-financing or co-investment with MDB lending.

The MDBs have projected a collective climate finance volume of USD 20 billion in 2012 and the UN High-Level Advisory Group on Climate Change Financing estimates that the potential cumulative and additional contribution of MDBs to climate change finance could amount to approximately USD 278 billion by 2020¹⁷ (UN AGF, 2010).

¹⁶ For further information, see http://treasury.worldbank.org/cmd/pdf/WorldBank_GreenBondFactsheet.pdf (accessed 22/03/2011).

¹⁷ Excluding the European Investment Bank and assuming a basic rate of increase for demand of non-climate related 'development-related expenditure' of 3% per annum.

Current actions database

Acclimatise has completed a comprehensive desk review stock-take, based on existing information and data, on the various climate change related adaptation and mitigation strategies, policies, programmes and actions being carried out within the CARICOM member countries, as well as regionally and internationally. Each initiative identified has been coded against the Regional Framework strategic elements and goals, providing a review of the actions already underway and enabling identification of gaps. The initiatives include programmes and policies being carried out by governments, development banks, regional organisations, multilateral climate funds, and the private sector. A full list of the lead organisations identified is provided at the end of this section.

The desk review stock-take is compiled as a database, designed with query functionality in mind. Once implemented as a web-based tool on the CCCCC website, it is intended that the database will be searchable by:

- Regional Framework strategic elements and goals.
- Lead organisation or funding body.
- Date.
- Sector.
- Operating level (e.g. regional, national or international).
- Type of climate change action (e.g. adaptation, mitigation or both).

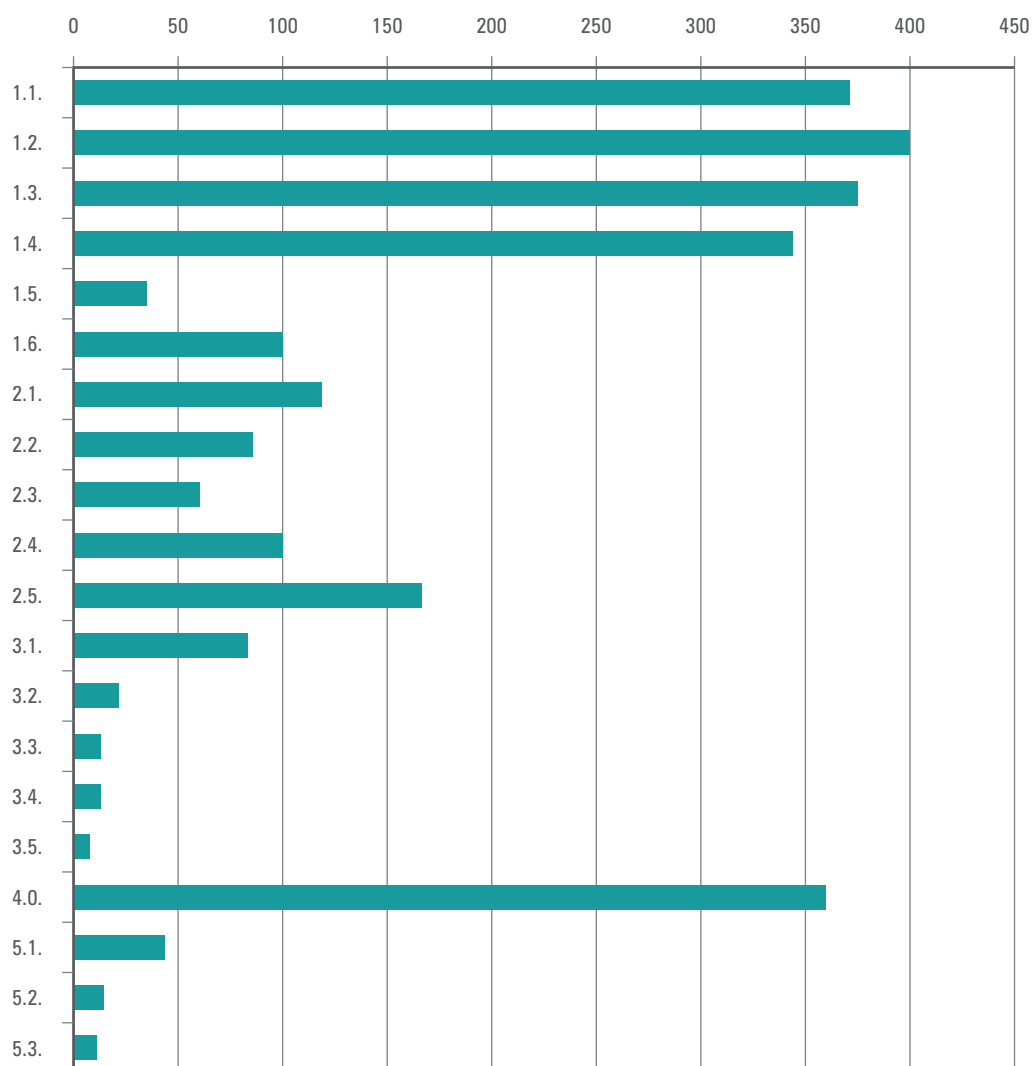
FIGURE 4 shows the distribution of these existing climate change-related adaptation and mitigation initiatives, grouped by Regional Framework elements and goals (a description of each element and goal is provided below).

It is clear that much of Strategic Element 1, which deals with assessing and reducing vulnerability, as well as mobilising resources and raising awareness about adaptation, is already being covered by organisations inside and outside the region.

Strategic Element 4, which deals with “actions to reduce the vulnerability of natural and human systems in CARICOM countries”, is also well represented by existing initiatives. Because there is much common ground between Strategic Element 1 and Strategic Element 4, many initiatives were identified as responding to both elements, as evidenced by the overlapping high numbers of actions in each of these elements.

Other elements, particularly Strategic Element 3 (which deals with individual renewable energy sources) and Strategic Element 5 (which deals with forest management) are not well represented by current initiatives. This is partly due to the fact that Strategic Elements 3 and 5 describe very specific climate change responses which preclude many existing initiatives, whereas descriptions of Strategic Elements 1 and 4 are less precise, making them relevant to a large number of existing initiatives.

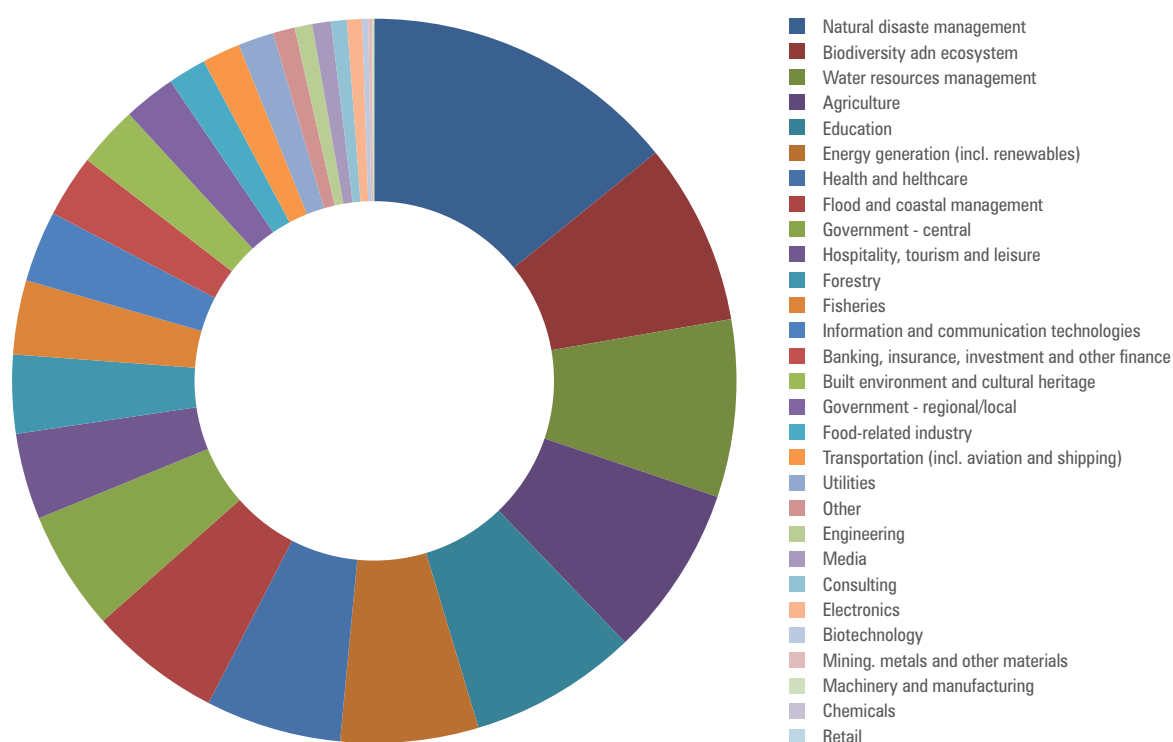
FIGURE 4: Existing climate change initiatives, grouped by Regional Framework strategic element and goal



STRATEGIC FRAMEWORK ELEMENTS AND GOALS	
1.1	Assess the vulnerability and risks associated with a changing climate
1.2	Reduce vulnerability to a changing climate
1.3	Effectively access and utilise resources to reduce vulnerability to a changing climate
1.4	Build a society that is more informed about and resilient to a changing climate
1.5	Build the Caribbean Community Climate Change Centre's capacity to support the implementation of the strategy
1.6	Reduce the region's carbon footprint through the promotion of energy efficiency measures
2.1	Promote the adoption of measures and disseminate information that would make water supply systems resilient to climate-induced damage
2.2	Promote the implementation of measures to reduce climate impacts on coastal and marine infrastructure
2.3	Promote the adoption of measures and dissemination of information that would adapt tourism activities to climate impacts
2.4	Promote sound conservation practices in coastal and marine ecosystems to shelter these resources from climate-induced damage
2.5	Promote the adoption of sound practices and measures to prevent and/or reduce climate-induced health impacts in the community
3.1	Promote the use of renewable energy resources
3.2	Support the assessment of wind potential to supply electric power in CARICOM countries
3.3	Support the development of innovative financing mechanisms for the deployment of solar water heaters
3.4	Assess the feasibility of converting waste to energy in CARICOM countries
3.5	Assess the economic viability of environmental impact of shore-based ocean thermal energy conversion (OTEC) plants
4.0	Promote actions to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate
5.1	Promote the adoption of best practices for sustainable forest management
5.2	Engage in negotiations with international partners to mobilise resources for the protection of standing forests
5.3	Undertake research aimed at improving current methodologies for estimating carbon sequestration rates in tropical forests

FIGURE 5: shows a breakdown of existing climate change initiatives grouped by sector(s), with the best-represented sectors shown at the top of the list. Clearly, there is an uneven distribution, with over 50% of existing initiatives pertaining to the top six (of a total of 29) sectors: natural disaster management, biodiversity and ecosystems, water resources management, agriculture, education and energy generation. Adding health, flood and coastal management, central government, tourism and forestry sectors covers over 75% of existing initiatives. Most of these sectors are climate-sensitive and therefore heavily exposed to climate risks, and it is not difficult to see why they are well represented among existing initiatives. As agriculture, tourism and forestry are economically important sectors, it is prudent to focus on these sectors in responding to climate change. There are, however, several climate-sensitive sectors which are underrepresented in our desk review stock-take, despite being either economically important or critical to normal life. These include transportation, mining, and utilities. The lack of climate change strategies, policies, programmes and actions in these sectors should be considered a significant gap, and initiatives in these areas should be pursued as a matter of priority.

FIGURE 5: Existing climate change initiatives, grouped by sector



List of lead organisations recorded in the desk review stock-take

- Agence Francaise de Developpement (ADF)
- Alliance of Small Island States (AOSIS)
- Almond Resorts
- American Airlines
- Association of Caribbean States (ACS)
- Atlantic LNG
- Bahamas Electricity Company
- Banco BhD
- Banks Holdings Ltd
- Belize Social Investment Fund
- BG Group
- BP Trinidad and Tobago
- British Airways
- Canadian Meteorological Centre (CMC)
- Caribbean Agricultural Research and Development Institute (CARDI)
- Caribbean Airlines
- Caribbean Catastrophe Risk Insurance Facility (CCRIF)
- Caribbean Community Climate Change Centre (CCCCC)
- Caribbean Development Bank (CDB)
- Caribbean Disaster Emergency Management Agency (CDEMA)
- Caribbean Disaster Emergency Response Agency (CDERA)
- Caribbean Environmental Health Institute (CEHI)
- Caribbean Institute for Meteorology and Hydrology (CIMH)
- Caribbean Meteorological Organization (CMO)
- Caribbean Natural Resources Institute (CANARI)
- Caribbean Regional Fisheries Mechanism (CRFM)
- Caribbean Risk Management Initiative (CRMI)
- Caribbean Tourism Organization (CTO)
- CARIBSAVE
- CARICOM
- Cayman Islands Airport Authority (CIAA)
- CCCCC
- Central American Bank for Economic Integration (CABEI)
- Centre for Resource Management and Environmental Studies, The University of the West Indies
- Christian Aid Caribbean
- Canadian International Development Agency (CIDA)
- Coastal Zone Management Unit, Barbados
- Commonwealth Secretariat
- Council for Human and Social Development (COHSOD)
- Digicel
- Economic Commission for Latin America and the Caribbean (ECLAC)
- Energy Sector Management Assistance Program (ESMAP)
- Environmental Defense Fund (EDF)
- Environmental Management Authority (EMA)
- European Commission
- Global Climate Change Alliance
- Global Environment Facility (GEF)
- Global Environmental Change and Food Systems (GECAFS)
- Earth System Science Partnership (ESSP)
- Government of Belize
- Government of Dominica
- Government of Grenada
- Government of Guyana
- Government of Haiti
- Government of Jamaica
- Government of St. Lucia
- Government of St. Vincent and the Grenadines
- Government of Trinidad and Tobago
- Grenada Chocolate Company
- Guyana Sugar Corporation
- IBRD
- IDB/ SECCI
- IEA (International Energy Agency)

- Institute of Earth Sciences-University of Applied Sciences of Southern Switzerland (SUPSI-IST)
- Inter-American Development Bank (IDB)
- Inter-American Institute for Global Change Research (IAI)
- Intergovernmental Panel on Climate Change (IPCC)
- International Development Research Centre (IDRC)
- International Finance Corporation (IFC)
- International Fund for Agricultural Development (IFAD)
- International Transport Forum (ITF)
- International Union for Conservation of Nature (IUCN)
- Iwokrama
- Jamaica Public Service Company (JPSCO)
- Least Developed Countries Fund (LDC Fund)
- LIME
- McGill University
- Ministry of Foreign Affairs of Japan
- National Environmental Education Committee (NEEC) and Panos Caribbean
- Natural Resources Canada
- Organisation for Economic Co-operation and Development (OECD)
- Organisation of Eastern Caribbean States (OECS)
- Organization of American States (OAS)
- Pacific Islands Applied Geoscience Commission (SOPAC)
- Pan American Health Organisation (PAHO)
- Petrotrin
- Rezidor
- Royal Caribbean Cruises
- Scotiabank Trinidad and Tobago
- UK Met Office
- UK Overseas Territories Conservation Forum (UKOTCF)
- UK Joint Nature Conservation Committee (JNCC)
- UN World Tourism Organization (UNWTO)
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- USAID
- WIRSPA Rum Programme
- World Bank
- World Wildlife Fund (WWF)

In-country discussions with key stakeholders

A comprehensive series of in-country dialogues has been undertaken with the following stakeholders during the preparation of the Implementation Plan.

TABLE 5: Stakeholders consulted

STAKEHOLDER	LOCATION
Department of Environment	Antigua and Barbuda
Ministry of Agriculture, Lands and Housing	Antigua and Barbuda
Office of the Prime Minister	Antigua and Barbuda
Coordinating Mechanism of Standards	Antigua and Barbuda
Department of Fisheries	Antigua and Barbuda
Department of Tourism	Antigua and Barbuda
Meteorological Office	Antigua and Barbuda
National Office of Disaster Services	Antigua and Barbuda
Sustainable Island Resource Management Mechanism	Antigua and Barbuda
BEST	The Bahamas
Department of Meteorology	The Bahamas
Water Services Commission	The Bahamas
College of The Bahamas	The Bahamas
Central Bank of the Bahamas	The Bahamas
The Bahamas Chamber of Commerce	The Bahamas
Coastal Zone Management Authority	Barbados
Department of Environment	Barbados
Ministry of Natural Resources and the Environment	Belize
Ministry of Economic Development	Belize
National Climate Change Committee	Belize
Department of Environment	Belize
Department of Fisheries	Belize

STAKEHOLDER	LOCATION
Office of the Prime Minister	Belize
National Meteorology Services	Belize
Solid Waste Management Authority	Belize
Programme for Belize	Belize
World Wildlife Fund	Belize
Horizon 2030, Ministry of Economic Development	Belize
Instituto de Meteorología de Cuba INSMET	Cuba
Ministry of Tourism & Legal Affairs	Dominica
Ministry of Agriculture	Dominica
Forestry Division	Dominica
Fisheries Division	Dominica
Dominica Meteorological Service	Dominica
Ministry of Finance	Dominica
National Office of Disaster Services	Grenada
Ministry of Environment	Grenada
Ministry of Agriculture	Grenada
Land Use Division	Grenada
Ministry of Finance, Planning, Economy, Energy	Grenada
Department of Fisheries	Grenada
National Water and Sewerage Authority	Grenada
Private Sector Commission of Guyana	Guyana
Guyana Energy Agency	Guyana
Office of Climate Change	Guyana
Iwokrama	Guyana
Department of Agriculture	Guyana
Guyana Forestry Commission	Guyana
Private Sector Commission	Guyana
Directorate of Climate Change and Disaster Risk Reduction	Haiti
Ministry of Environment	Haiti
Planning Institute of Jamaica	Jamaica
Water Resources Authority	Jamaica

STAKEHOLDER	LOCATION
Ministry of Agriculture, Lands, Housing and the Environment	Jamaica
Forestry Department	Jamaica
Water Services Department	St Kitts and Nevis
Department of Meteorology	St Kitts and Nevis
Ministry of Agriculture	St Kitts and Nevis
Department of Tourism	St Kitts and Nevis
Sustainable Development and Environment Division	St Lucia
Ministry of Finance	St Lucia
National Emergency Management Organisation	St Lucia
Forestry Department	St Lucia
St Lucia Air and Sea Authority	St Lucia
Ministry of Tourism and Civil Aviation	St Lucia
Vintec	St Vincent and the Grenadines
Environmental Management Unit	St Vincent and the Grenadines
National Parks, Rivers and Beaches Authority	St Vincent and the Grenadines
Ministry of Finance, Planning & Development	St Vincent and the Grenadines
Ministry of Labour, Technological Development and Environment	Suriname
Cabinet Vice President	Suriname
Parliament and State Council	Suriname
Climate Change Committee	Suriname
CDM Committee	Suriname
Ministry of Spatial Planning and Forestry	Suriname
Ministry of Natural Resources	Suriname
Ministry of Agriculture	Suriname
Ministry of Public Works	Suriname
Ministry of Finance	Suriname
Ministry of Foreign Affairs	Suriname
National Committee for Disaster Management	Suriname

STAKEHOLDER	LOCATION
Suriname Conservation Foundation	Suriname
Suriname Chamber of Commerce and Industry	Suriname
Foundation for Forest Management and Production Control	Suriname
LAMGOLD	Suriname
Ministry of Housing and the Environment	Trinidad and Tobago
The Green Fund	Trinidad and Tobago
Ministry of Public Utilities	Trinidad and Tobago
Water and Sewerage Authority	Trinidad and Tobago
Forestry Division	Trinidad and Tobago
National Forestry and Watershed Rehabilitation Programme	Trinidad and Tobago
Ministry of Planning	Trinidad and Tobago
Fisheries Division	Trinidad and Tobago
Multilateral Environmental Agreement Unit	Trinidad and Tobago
Institute of Marine Affairs	Trinidad and Tobago
Ministry of Energy and Energy Industries	Trinidad and Tobago
Environmental Management Authority	Trinidad and Tobago
Regional organisations (including NGOs)	CTO (Caribbean Tourism Organisation)
	CDEMA (Caribbean Disaster and Emergency Management Agency)
	CCRIF (Caribbean Catastrophic Risk Insurance Facility)
	Caribsav
	CRFM (Caribbean Regional Fisheries Mechanism)
	CEHI (Caribbean Environmental Health Institute)
	CARDI (Caribbean Agricultural Research and Development Institute)
	CARDI (Caribbean Agricultural Research and Development Institute)
	CIMH (Caribbean Institute of Meteorology and Hydrology)
	CDB (Caribbean Development Bank)
	Regional Agriculture Development Agency
	Caribbean Academy of Sciences
	Barbados
	Barbados
	Barbados
	Barbados
	Belize
	Saint Lucia
	Trinidad and Tobago
	Jamaica
	Barbados
	Barbados
	Jamaica
	Antigua and Barbuda

STAKEHOLDER	LOCATION
PANOS	Trinidad and Tobago
CANARI (Caribbean Natural Resources Institute)	Trinidad and Tobago
CA IC and (Caribbean Association of Industry and Commerce)	Trinidad and Tobago
CNIRD (Caribbean Network for Integrated Rural Development)	Trinidad and Tobago
Private sector environmental consultant	Trinidad and Tobago
CERMES UWI(Centre for Resource Management and Environmental Studies	Barbados
Climate Studies Group UWI	Jamaica
Centre for Marine Studies UWI	Jamaica
University of West Indies	Trinidad and Tobago
University of Trinidad and Tobago	Trinidad and Tobago
University of Suriname	Suriname
University of Belize	Belize
CROSQ (CARICOM Regional Organization for Standards and Quality)	Antigua/Barbados
University of Guyana	Guyana
CARICOM Secretariat Departmental Heads	Guyana
CARICOM ASGs	Guyana
International	
IDB (Inter-American Development Bank)	Barbados
IDB (Inter-American Development Bank)	Suriname
Organisation of Eastern Caribbean States	St Lucia
Inter-American Institute for Cooperation on Agriculture	St Lucia
International Finance Corporation	Trinidad and Tobago
UNDP(United Nations Development Programme)	Barbados
UNDP(United Nations Development Programme)	Jamaica
UNDP(United Nations Development Programme)	Trinidad and Tobago
UNDP (United Nations Development Programme)	Suriname
ECLAC (Economic Commission for Latin America and the Caribbean)	Trinidad and Tobago
OAS (Organization of American States)	Trinidad and Tobago
Conservation International	Suriname

STAKEHOLDER	LOCATION
Eastern Caribbean Donors Group	Barbados
DFID (Department for International Development)	Barbados
USAID (United States Agency for International Development)	Barbados
UNICEF (United Nations Children's Education Fund)	Barbados
Red Cross	Barbados
AusAid (Australian Agency for International Development)	Barbados
CIDA (Canadian International Development Agency)	Barbados
EU (European Union)	Barbados
IICA (Inter-American Institute for Cooperation in Agriculture)	Barbados
WWF (World Wildlife Fund)	Belize
Commonwealth Secretariat	UK
British High Commission	Barbados

Liliendaal Declaration on Climate Change and Development

We, the Heads of State and Government of the Caribbean Community, at our Thirtieth Meeting of the Conference in Liliendaal, Guyana from 2–5 July 2009, affirm our commitment to the principles and objectives of the Caribbean Community as embodied in the Revised Treaty of Chaguaramas establishing the Caribbean Community including the CARICOM Single Market and Economy –

1. **Recalling** the objective, principles and commitments of the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol;
2. **Gravely concerned** that our efforts to promote sustainable development and to achieve the internationally agreed development goals including the Millennium Development Goals (MDGs) are under severe threat from the devastating effects of climate change and sea level rise which has led to increasingly frequent and intense extreme weather events, damage to bio diversity, coral bleaching, coastal erosion, changing precipitation patterns.
3. **Emphasising** that dangerous climate change is already occurring in all SIDS (Small Islands and Low-lying Coastal Developing States (SIDS) regions including the Caribbean and that many SIDS will cease to exist without urgent, ambitious and decisive action by the international community to reduce global greenhouse gas emissions significantly and to support SIDS in their efforts to adapt to the adverse impacts of climate change, including through the provision of increased levels of financial and technical resources.
4. **Very concerned** that the estimated total annual impact of potential climate change on all CARICOM countries is estimated at US\$9.9 billion in the total Gross Domestic Product (GDP) in 2007 US\$ prices or about 11.3% of the total annual GDP of all 20 CARICOM countries (Member States and Associate Member States) according to the World Bank estimates;

We Affirm:

1. **Our belief** that the global response to climate change should be undertaken on the basis of common but differentiated as well as historical responsibility and that it should not compromise the ability of SIDS to pursue Sustainable Development and the sharing of the cost of addressing climate change should be equitable and should not perpetuate poverty.
2. **Our continued commitment** to the work of the Intergovernmental Panel on Climate Change (IPCC) and call on all Parties to ensure that UNFCCC decisions are guided by that work;

3. **Our Endorsement** for the Caribbean Challenge in its efforts to protect the Region's Marine Resources and in its work towards fulfilling the UNFCCC ecosystem-based management and adaptation recommendations and implementing the Millennium Development Goals related to reducing biodiversity loss;
4. **Support** for the co-ordinating role of the CARICOM Task Force for Climate Change and Development established by the Conference of Heads of State and Government and the implementing role of the Caribbean Community Climate Change Centre (CCCCC) and the roles of the CARICOM Secretariat, the Alliance of Small Island Developing States (AOSIS) chaired by the Government of Grenada and the CARICOM Representatives in the international climate change negotiations; and
5. **The importance** of a common Regional approach to address the threats and challenges of climate change and of the full and effective participation of the Region in the upcoming United Nations Climate Change Conference in Copenhagen, Denmark (COP15), the UN Secretary-General's Climate Change Summit in September 2009 and their preparatory processes.

We Declare:

1. **That all Parties to the UNFCCC should** work with an increased sense of urgency and purpose towards arriving at an ambitious and comprehensive agreement at the COP 15 in Copenhagen in 2009 which provides for: long-term stabilisation of atmospheric greenhouse gas concentrations at levels which will ensure that global average surface temperature increases will be limited to well below 1.5 °C of pre-industrial levels; that global greenhouse gas emissions should peak by 2015; global CO₂ reductions of at least 45 percent by 2020 and reducing greenhouse gas emissions by more than 95 per cent of 1990 CO₂ levels by 2050;
2. **Adaptation** and capacity-building must be prioritised and a formal and well financed framework established within and outside of the Convention, including the multi-window insurance facility, to address the immediate and urgent, as well as long-term, adaptation needs of vulnerable countries, particularly the SIDS and the LDCs;
3. **The need** for financial support to SIDS to enhance their capacities to respond to the challenges brought on by climate change and to access the technologies that will be required to undertake needed mitigation actions and to adapt to the adverse impacts of climate change;
4. **Our full support** for the location of the Headquarters of the UNFCCC Adaptation Fund Board in Barbados;
5. **Support** for climate change negotiations to be fully cognisant of the requirement for improved land use management;
6. **Our recognition** of the value and potential of standing forest, including pristine rainforest, and our affirmation of its potential contribution to Reduced Emissions from Deforestation and Degradation (REDD). Forest conservation or avoided deforestation and sustainable management of forests are important mitigation tools against climate change in a post 2012 Agreement. We also support the approach to harmonizing climate change mitigation and economic development as proposed by Guyana in its Low Carbon Development Strategy;

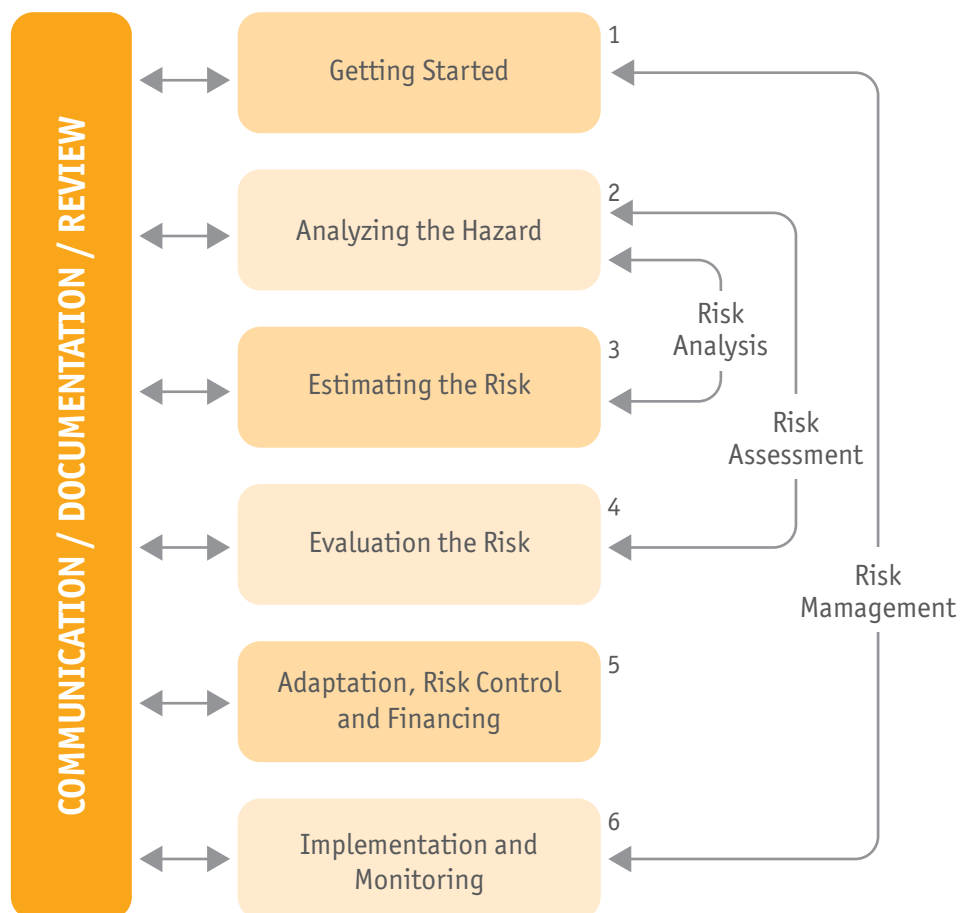
7. **Strong determination** to overcome technical, economic and policy barriers to facilitate the development, diffusion and deployment of appropriate and affordable low- and zero-emission technologies and renewable energy services; We also recognise the need for energy efficiency and conservation and the need for increased technical and financial support for the development of renewable energy in the Caribbean;
8. **Our commitment** to providing more effective preparedness for response to natural disasters through the development of better risk assessment and material coordination along with the streamlining of risk reduction initiatives. In pursuing this task, we call on the Parties negotiating the new Climate Change Agreement to endorse the Alliance for Small Island Developing States (AOSIS) proposal on risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;
9. **Strong support** for the streamlining of all climate change funding mechanisms including the Global Environment Facility to include the vulnerability index in their formulae in order to better facilitate SIDS' access to financial resources; and to explore mechanisms to support the Caribbean Community adaptation programmes;
10. **Our commitment** to ensuring that the Caribbean Community and its supporting institutions will play their full part in implementing our shared vision, goals and actions, working in strategic partnerships with others;
11. **Our resolve** to strengthen our educational institutions to provide training , education, research and development programmes in climate change and disaster risk management particularly in renewable and other forms of alternative energy, forestry, agriculture, tourism, health, coastal zone management and water resources management to increase the Region's capacity to build resilience and adapt to climate change; and
12. **Our further resolve** to institute a comprehensive programme of public awareness and education and hereby invite all, partners, organisations and stakeholders to play a full part in promoting a better understanding of climate change and its impacts and in addressing adaptation and mitigation.

4 July 2009

Implementation Plan toolkit to institutionalise resilience building

This section outlines the tools and resources available to enable stakeholders to undertake the actions in each of the steps of the “Risk Management Process” (as outlined in Figure 3). These are sourced from the CCCCC, regional agencies and other international organizations. Links to websites and reports are provided.

FIGURE 3: Steps in the Risk Management Process (Caribbean Community Secretariat, 2003). Tools and resources applicable at each of the 7 steps are discussed below.



Step 1: “Getting started”

This step captures the administrative process and identifies the specific problem(s)/hazard(s) and the associated risks. It would also identify the stakeholders and the project team, especially those with the relevant expertise, and list the responsibilities of each member of the project team and the resources needed to complete the risk management framework.

- **CCCCC**
<http://www.caribbeanclimate.bz/>
 The CCCCC is the official archive and clearing house for regional climate change data in the Caribbean. The Centre coordinates the Caribbean region’s response to climate change, working on effective solutions and projects to combat the environmental impacts of climate change and global warming. The Centre also provides climate change-related policy advice and guidelines to the Caribbean Community (CARICOM) Member States through the CARICOM Secretariat.
- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 1 - Identify and engage key national institutions**
<http://climatechange.worldbank.org/climatechange/content/note-1-identify-and-engage-key-national-institutions>
 Developed by the World Bank, this note illustrates ways to identify institutional counterparts that, depending on the circumstances, are most likely to effectively take the lead on mainstreaming adaptation to climate variability and climate change in national planning or on implementing adaptation measures. It also provides a range of specific suggestions and information to help engage counterparts in the adaptation agenda.
- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 2 – Engage local communities**
<http://climatechange.worldbank.org/climatechange/content/note-2-engage-local-communities>
 Developed by the World Bank, this guidance note specifically focuses on interventions to enhance engagement and adaptive capacity at the community level. It provides support on how to: a) strengthen community awareness of adaptation to climate change; b) guide in the assessment of communities’ adaptive capacity; and c) promote community participation in identifying and adopting sustainable adaptation strategies.
- **World Bank**
 For experts on stakeholder engagement, contact the climate change team at: climatehelp@worldbank.org.
- **United Nations Environment Programme (UNEP)**
www.unep.org/Documents.Multilingual/Default.asp?DocumentID=296
 Country information and focal points.
- **United Nations Development Programme (UNDP)**
www.undp.org/countries/
 Country information and focal points.

- **Global Environment Facility (GEF)**
www.gef-ngo.net/ & www.gefonline.org/Country/CountryProfile.cfm
Regional / country focal points.
- **International Fund for Agricultural Development (IFAD)**
www.ifad.org/operations/projects/regions/country.htm
Details of country programme managers.
- Other **development agencies** interested in climate change (e.g. Red Cross / Red Crescent Climate Change Focal Points).
- **CARE Project Design Handbook**
www.careclimatechange.org/files/toolkit/CARE_Project_Design.pdf
This very practical handbook is a guide to translating CARE's vision, principles and values into action through logical design of projects and programmes. The Handbook introduces a conceptual framework, or roadmap, to programme and project planning. Chapter 4 is particularly helpful in the initial steps as it focuses on developing a focused strategy for the project to address the issues identified through the development steps.

Steps 2-4: “Risk Assessment”

Step 2 (“Analyzing the Hazard”) seeks to define the climate variability / climate change hazard and the potential risks to the community. Step 3 (“Estimating the Risks”) involves estimating the frequency (or probability) and severity of the impact of climate variability and climate change risk scenarios developed in step 2. It will also include a consideration of the uncertainty of the estimates. Step 4 (“Evaluating the Risk”) involves the process by which risks are examined in terms of costs, benefits and acceptability, considering the needs, issues and concerns of stakeholders.

- **The Coastal Resources Inventory System (CRIS)**
<http://www.un.org/esa/sustdev/natlinfo/indicators/idsd/infosyst/cris.htm>
This system was developed as a tool to enable countries to compile the necessary baseline data for the execution of project activities related to the sustainable management of coastal resources. The CRIS manages several types of coastal resources data, including coastal physical characteristics, natural environments, and information on the use of coastal areas and resources. The idea behind the CRIS is to assist in moving the agencies in each country beyond simple data collection, and to facilitate their cooperation in establishing GIS-based coastal resource data management and analysis for policy and decision making. The CRIS is an interactive system based on a web-GIS concept, capable of combining data with spatial applications such as remote sensing and satellite imagery. It is addressed to planning agencies and ministries of environment, and has the potential for being used as a multi-layered multi-scenario decision-making support tool.
- **UNDP Climate Change Country Profiles**
<http://country-profiles.geog.ox.ac.uk/>
These country-level climate data summaries were prepared with funding from the UNDP National

Communication Support Programme (NSCP) and the UK government Department for International Development (DfID) in order to address the climate change information gap for developing countries by making use of existing climate data to generate a series of country-level studies of climate observations and the multi-model projections.

- **National Communications to the United Nations Framework Convention on Climate Change (UNFCCC)**

http://unfccc.int/national_reports/non-annex_i_natcom/submitted_natcom/items/653.php

These country reports document national circumstances, climate change impacts and vulnerability assessments by sector. They also list priority climate change mitigation and adaptation projects identified by respective countries.

- **IPCC (Inter-Governmental Panel on Climate Change)**

<http://www.ipcc.ch/index.htm>

Summaries of scientific information on climate change according to region, and the impacts on ecosystems and societies.

- **Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change**

http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

This report presents the current scientific understanding of the impacts of climate change on natural, managed and human systems, the capacity of these systems to adapt and their vulnerability.

- **Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change**

http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html

This report highlights impacts of climate change in different parts of the world, on sectors and resources such as water, agriculture, human health and settlements among others. It describes factors that exacerbate vulnerability to climate change and provides adaptation options.

- **World Bank Climate Change Data Portal**

<http://sdwebx.worldbank.org/climateportal/>

This Data Portal provides readily accessible country-level climate-related data to policy makers and development practitioners. Using a map interface, users can select their country of interest and access information on climate projections, climate change impacts on different crops and sectors, socio-economic data, and other relevant studies and resources for the selected country. The portal also provides access to a screening tool called ADAPT (Assessment and Design for Adaptation to Climate Change: A Planning Tool), which assists in the identification of activities sensitive to the effects of climate change.

- **The Nature Conservancy's Climate Wizard**

<http://www.climatewizard.org/>

The Climate Wizard is a visual tool that allows users to view historic temperature and rainfall maps for anywhere in the world, as well as future predictions of temperature and rainfall in a given area. With this information, users can assess how climate has changed over time and project what future changes may occur.

- **Guide to the integration of climate change adaptation into the Environmental Impact Assessment (EIA)**
<http://www.caribbeanclimate.bz/accc/accc.html>
 Developed by the Caribbean Development Bank and the Caribbean Community (CARICOM), this is a sourcebook focused on the integration of natural hazards into environmental impact assessment.
- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 3 - Assessing climate risk**
<http://climatechange.worldbank.org/climatechange/content/note-3-assessing-climate-risk>
 Developed by the World Bank, the objectives of this guidance note are to introduce basic concepts and describe the main steps to carry out a climate risk assessment, and to present existing tools that can be used to screen for climate risk in developing projects. Tools are analyzed according to their suitability to support development practitioners in different undertakings. Guidance on how to choose among different tools and how to interpret their results is also provided.
- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 7 - Evaluating Adaptation via Economic Analysis**
<http://climatechange.worldbank.org/climatechange/content/note-7-evaluate-adaptation-economic-analysis>
 Developed by the World Bank, the main objective of this guidance note is to present various methodologies aimed at carrying out an economic evaluation of adaptation investments in agriculture and natural resource management, and provide some guidance in selecting the most suitable approach for the project under consideration.
- **PADR – Participatory Assessment of Disaster Risk**
<http://tilz.tearfund.org/webdocs/Tilz/Roots/English/Disaster/Disaster%20risk%20reduction%20-%20Section%203.pdf>
 PADR is Tearfund’s community-level tool for assessing the hazards, vulnerabilities and capacities (HVCs) of a community. PADR helps communities see cause-effect relationships, prioritise risks and develop community methods for reducing them. PADR applies to climatic and environmental disasters and also to geophysical disasters including earthquakes, landslides, tsunamis and volcanoes.
- **Community Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)**
www.cristaltool.org
 Module 1 of CRiSTAL provides a framework for organising information on climate change and livelihoods. Module 2 of CRiSTAL focuses on planning and managing projects for adaptation. It identifies resources that are vulnerable to climate change, and those that are important to short-term coping. It also takes users through a process of adjusting project activities to increase longer-term resilience to climate change.
 Download the tool: www.cristaltool.org/content/download.aspx
- **Climate Vulnerability and Capacity Analysis (CVCA) Handbook**
www.careclimatechange.org/cvca
 The CVCA Handbook provides guiding questions, tools and resources for analysis of climate vulnerability and adaptive capacity at national, community and household/individual levels.
 Download the tool: www.careclimatechange.org/files/adaptation/CARE_CVCAHandbook.pdf

- **Climate Change and Environmental Degradation Risk and Adaptation Assessment (CEDRA) Field Tool Checklist**

<http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm>

Tearfund has developed CEDRA to help development workers to access and understand the science of climate change and environmental degradation and to compare this with local community experiences of climate change, providing a basis for planning adaptation measures. The Field Tool Checklist provides a broad list of possible impacts of climate change and environmental degradation, and suggests possible adaptation options. The Policy and investment roadmaps (Chapter 3, page 62) provide guidance on how to choose between different adaptation options.

Download the tool: <http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm>

Step 5: “Adaptation, Risk Control and Financing”

This step aims to produce strategies that will result in all risk issues and concerns considered in the process, becoming acceptable.

- **National Adaptation Programmes of Action (NAPAs)**
http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php

National adaptation programmes of action (NAPAs) provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage. The NAPAs document climatic trends, and key vulnerabilities to climate change for relevant sectors. They list existing, as well as potential adaptation activities for each sector. The NAPAs also list and profile priority adaptation projects identified by the respective Least Developed Countries.

- **National Adaptive Capacity Framework**
www.wri.org/project/vulnerability-and-adaptation/nac-framework

The World Resources Institute (WRI) is leading the development of a new way of thinking about adaptation planning, using a framework called the National Adaptive Capacity (NAC). This framework was developed to assist in identifying strengths and gaps in adaptation capacities at the national level in different countries. This can act as a basis for identifying indicators of adaptive capacity at the national level.

Download the tool: http://pdf.wri.org/working_papers/NAC_framework_2009-12.pdf

- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 4 - Strengthen institutional capacity and the policy framework**
<http://climatechange.worldbank.org/climatechange/content/note-4-strengthen-institutional-capacity-and-policy-framework>

Developed by the World Bank, this note guides the development practitioners through the main steps, approaches and tools to: (a) assess institutional capacity and needs; (b) assess and foster an adaptation-friendly policy, legal and public spending framework.

- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 5 - Furthering an enabling institutional environment**

<http://climatechange.worldbank.org/climatechange/content/note-5-furthering-enabling-institutional-environment>

Developed by the World Bank, this note provides some guidance on how to deal with typical institutional challenges: (i) adaptation is largely a context specific and locally driven process, requiring local communities to efficiently manage common resources; (ii) effective adaptation requires enabling policies and systems at the national level, as well as effective central-local coordinating mechanisms; and (iii) the multi-sectoral nature of impacts and adaptation to climate change calls for tackling impacts from different angles in a synergistic and coordinated way at various institutional levels. This note includes examples from ongoing adaptation projects.

- **Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 6 - Identify appropriate adaptation measures to climate change**

<http://climatechange.worldbank.org/climatechange/content/note-6-identify-appropriate-adaptation-measures-climate-change>

Developed by the World Bank, the objective of this note is to provide guidance on the choice of adaptation responses in the agricultural/natural resource management (NRM) sector. It includes a discussion of key aspects that should be considered in project preparation (including different types of adaptation and levels of “regret” associated with uncertainty of future impacts) and provides resources, such as a menu of sector-specific adaptation options, a discussion of related institutional and technical issues, and project examples.

- **UNFCCC local coping strategies database**

<http://maindb.unfccc.int/public/adaptation/>

This database is intended to facilitate the transfer of long-standing coping strategies/mechanisms, knowledge and experience from communities that have had to adapt to specific hazards or climatic conditions to communities that may just be starting to experience such conditions, as a result of climate change. The database can be searched by climate hazard, impact or coping strategy, or a combination thereof, by selecting from the scroll-down menus.

Step 6: “Implementation and Monitoring”

By the time this step is reached, the adaptation plans or strategies have been chosen and approved for implementation and the key stakeholders have reached a consensus on the actions to be taken. They must now be put into action, monitored and evaluated.

- The Basics of Project Implementation: A Guide for Project Managers**
www.careclimatechange.org/files/toolkit/CARE_Project_Implementation.pdf
 This manual by CARE International provides guidelines to project managers on managing relationships and risks, as well as ensuring flexibility.
- Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 8 - Monitor and evaluate adaptation activities**
<http://climatechange.worldbank.org/climatechange/content/note-8-monitor-and-evaluate-adaptation-activities>
 Developed by the World Bank, the objective of this guidance note is to provide clarification of issues relating to the monitoring and evaluation (M&E) of development projects regarding adaptation to climate change. Specifically, this note will provide guidance on issues related to the: (a) identification of key aspects and issues for successful M&E in agriculture and natural resource management (NRM) adaptation projects; (b) selection of specific M&E indicators relevant to adaptation projects; and (c) adoption of suggested best practices for establishing a good M&E system within adaptation.
- Climate Context Monitoring Tool**
 The Climate Context Monitoring Tool is a simple set of questions which can be used to track changes in the climate context over the life of the project, and to plan adjustments to the project in light of these changes. It can be used as part of regular progress reviews, and the resulting information can be integrated into project progress reports. Please note that this is CARE’s first version in developing such a monitoring tool. CARE will continue to strengthen the tool during 2010 and 2011.
 Download the tool:
www.careclimatechange.org/files/toolkit/Climate_Context_Monitoring_Tool.pdf
- Framework of Milestones and Indicators for Community-Based Adaptation (CBA)**
 CARE’s Framework of Milestones and Indicators for CBA builds on the CBA framework, which presents a range of “enabling factors” which must be in place at household/individual, community/local and national levels in order for effective community-based adaptation to take place. The tool includes milestones and indicators that can be used in tracking progress towards the achievement of the enabling factors.
 Download the tool: www.careclimatechange.org/files/toolkit/CBA_Framework.pdf
- Tools for Mainstreaming Disaster Risk Reduction: Evaluating Disaster Risk Reduction Initiatives**
www.proventionconsortium.org/themes/default/pdfs/tools_for_mainstreaming_GN13.pdf
 Guidance note from ProVention Consortium providing a summary of the monitoring and evaluation of risk reduction initiatives. This note gives a clear step-by-step summary with clear examples and tables to aid understanding.

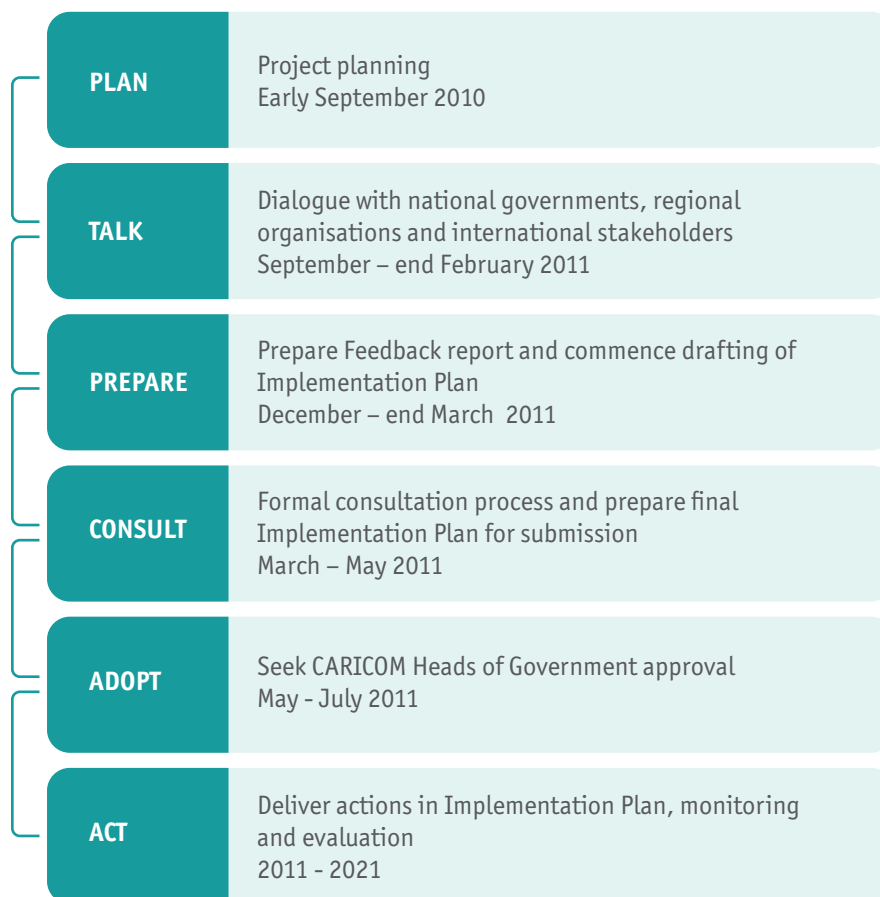
Step 7: “Communication / Documentation / Review”

- CANARI – Communicating climate change
<http://www.canari.org/documents/CommunicatingclimatechangeAtoolboxforlocalorgansationspdf.pdf>
 This toolbox has been developed to help local (non-governmental, community-based, and grassroots) organisations become more effective in telling their climate change stories and making their voices heard in lobbying and advocating for the policies, laws and other actions necessary to mitigate and adapt to climate change at the international, regional, national and local levels. It sets out a range of tools and approaches for effective communication about issues relating to climate change. The focus is on tools and approaches that are low-cost and easy to put into practice.
- Mainstreaming Adaptation to Climate Change (MACC) – Climate Change Handbook for Caribbean Journalists**
 The purpose of the handbook is to inform, to educate and to warn Caribbean society of the clear and present danger posed by the extreme weather events currently being experienced, and the long-term impact of climate change on sustainable development goals. It provides media experts with the background to go beyond the mere narration of events, to providing a context or frame-of-reference for their readers and audience.

Implementation Plan Preparation Methodology

The IP project components and time line are set out on Figure 1.

FIGURE 1: IP Project components and timeline



The stages in the IP project are as follows:

Plan	Preparation of a Work Plan for the IP development including: timeframes and responsibilities of milestones and deliverables, a consultations schedule, a reporting schedule, a project risk analysis and a management plan to ensure outcomes are achieved as outlined. It, however, became apparent at an early stage in the project that a rigid work plan was inappropriate, not least in dealing with the logistical challenges in arranging visits to each of the countries, the pressure on stakeholder time in the period leading up to the Cancun COP, and the disruptions caused by the tropical storm season in the Caribbean together with the aftermath of the earthquake in Haiti.
Talk	In-country dialogue with national, regional and international stakeholders and beneficiaries to determine, inter alia, their willingness and ability to participate at the national, regional and international levels. During this stage stakeholders were asked to provide information about their strategies, programmes, plans and actions. They were also asked to identify capacity and governance challenges. These discussions were intended to be the main vehicle via which information will be gathered for the IP. Production of a comprehensive stock-take based on existing information and data on: the various climate change-related adaptation and mitigation strategies, policies, programmes, initiatives and projects being carried out in the various countries and regionally. This was completed and the information collated into a MSAccess database (which is now available on the CCCCC website). Each database entry has been categorised against the Regional Framework's strategic elements and goals. An overview of the database can be found in Annex 5.
Prepare	A Feedback Report was drafted by the CCCCC supported by the project team. During the course of the drafting stakeholders were contacted for clarification on issues raised during the in-country dialogues.
Consult	The Feedback Report was released for consultation to key stakeholders in April. This was followed by a regional workshop in Saint Lucia in May. This brought together the national climate change focal points and key stakeholders from the participating countries to assist in preparing the final draft prior to submission for approval to the Heads of Government.
Adopt	The IP was to have been submitted to the CARICOM Heads of Government for approval at their meeting in July 2011. Approval is to be followed by a programme of dissemination and awareness-raising with key stakeholders.
Act	A web-based knowledge product will be created and hosted on the CCCCC regional 'Clearing House' knowledge platform following completion of the Talk stage. This will be based on the information collected in the database. The web-tool has been designed with query functionality, and will be a key component of the monitoring and evaluation component of the IP, tracking actions and deliverables.

REFERENCES

- Adger, N., Brooks, N., Bentham, G., Agnew, M. and Eriksen, S. (2004) New indicators of vulnerability and adaptive capacity. Tyndall Centre Technical Report 7, Tyndall Centre for Climate Change Research.
- Arctic Monitoring and Assessment Programme (AMAP) (2011). Snow, Water, Ice and Permafrost in the Arctic (SWIPA) Executive Summary. 16pp.
- Brown, A., Gawith, M., Lonsdale, K. & Pringle, P. (2011) Managing adaptation: linking theory and practice. UK Climate Impacts Programme, Oxford, UK.
- Caribbean Community Secretariat, (2003). Adapting to Climate Change in the Caribbean (ACCC) Project. Caribbean Risk Management Guidelines for Climate Change Adaptation Decision Making. 86p.
- Caribbean Renewable Energy Development Programme.
- CARICOM, (January 2007), CARICOM Energy Policy.
- Climate Action Network International (2010). A Review of Public Sources for Financing Climate Adaptation and Mitigation.
- Donner, S.D. 2009. "Coping with commitment: Projected thermal stress on coral reefs under different future scenarios." PLoS ONE 4(6): e5712
- Glemarec, Yannick (2011). Catalysing Climate Finance: A Guidebook on Policy and Financing Options to Support Green, Low-Emission and Climate-Resilient Development. United Nations Development Programme, New York, NY, USA.
- Government of Barbados (2001). The National Communication to the UNFCCC. St. Michael, Barbados, Ministry of Physical Development and Environment.
- Grinsted, A., Moore, J. C., and Jevrejeva, S. (2009). Reconstructing Sea Level from Paleo and Projected Temperatures 2000 to 2100 AD. *Climate Dynamics*, 34, 461–472.
- GTZ Climate Protection Programme (2010) Second International Workshop on Mainstreaming Adaptation to Climate Change - Managing Adaptation Processes, in *Adapt to Climate Change Newsletter*, Issue 8 (December).
- Headley, (2000). Barbados Employs the Sun to Heat Water. *Sustainable Energy News*, v30: p5.
- Hoegh-Guldberg, O. (1999). Climate Change, Coral Bleaching and the Future of the World's Coral Reefs. *Marine and Freshwater Research* 50: 839–866.
- Horrocks, L. and Hunt, L. (2009) Towards indicators for adaptation: policy needs, possible approaches and practical solutions. *Climate Change: Global Risks, Challenges and Decisions*, IOP Conf. Series: Earth and Environmental Science 6 (2009) 362015.

- Ince, David (2000). Development of Solar Water Heating and other Renewable Energy Technologies in Barbados. Bridgetown, Ministry of Environment, Energy and Natural Resources.
- IPCC WGI (Intergovernmental Panel on Climate Change Working Group 1). 2007. Climate Change 2007: The Physical Science Basis; Contributions of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, ed. S. Solomon, D. Qin, M. Maning, Z. Chen, M. Marquis, K. B. Avery, M. Tignor, and H. L. Miller. Cambridge: Cambridge University Press.
- IPCC WGII (Intergovernmental Panel on Climate Change Working Group 2). 2007. Climate Change 2007: Impacts, Adaptation and Vulnerability; Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, ed. M. L. Parry, O. F. Canziani, J. P. Palutikov, P. J. van der Linden, and C. E. Hanson. Cambridge: Cambridge University Press.
- Kehler Sibert, C. et al (2010) Bilateral Finance Institutions and Climate Change. A Mapping of 2009 Climate Financial Flows to Developing Countries. UNEP and Stockholm Environment Institute.
- Milton, S. and Kaufman, S. (2005). Solar Water Heating as a Climate Protection Strategy: The Role for Carbon Finance.
- Organisation for Economic Co-operation and Development (2010). Rio Markers. Available at http://www.oecd.org/document/6/0,3746,en_2649_34421_43843462_1_1_1_1,00.html (accessed 18/03/2011).
- Organisation for Economic Co-operation and Development (2006). Declaration on Integrating Climate Change Adaptation into Development Co-operation. Paris: OECD.
- Parhelion Underwriting Ltd (2010) Can Capital Markets Bridge the Climate Change Financing Gap?
- Perlacks, B. and Hinds, W. (2003). Evaluation of the Barbados Solar Water Heating Experience. Preliminary report.
- Parry, M., N. Arnell, P. Berry, D. Dodman, S. Fankhauser, C. Hope, S. Kovats, R. Nicholls, D. Satterthwaite, R. Tiffin, and T. Wheeler. 2009. Assessing the Costs of Adaptation to Climate Change: A Review of the UNFCCC and Other Recent Estimates. London: International Institute for Environment and Development and Grantham Institute for Climate Change.
- Rahmstorf, S. (2007). A Semi-Empirical Approach to Projecting Future Sea-Level Rise. *Science*, 315(5810), 368-370.
- The Caribbean Food and Nutrition Institute (CFANI), (August 2007), Vulnerability, Food and Nutrition Security in the Caribbean, The Food and Agriculture Organization.
- Thornton, N. (2010) Realising Development Effectiveness: Making the Most of Climate Change Finance in Asia and the Pacific. A synthesis report from five country studies in Bangladesh, Cambodia, Indonesia, Philippines and Vietnam. Report prepared for the Asia Pacific Climate Change Finance and Aid Effectiveness Dialogue 19th – 20th October 2010. Capacity Development for Development Effectiveness Facility.
- UK Climate Impacts Programme (2011) Adaptation and the M&E challenge: plotting a way forward. UKCIP Adaptation and M&E workshop.

- United Nations Development Programme Global Environment Facility (UNDP-GEF), (2004).
- UNDP (2002) A Climate Risk Management Approach to Disaster Reduction and Adaptation to Climate Change. UNDP Expert Group Meeting Integrating Disaster Reduction with Adaptation to Climate Change, Havana.
- UNFCCC (United Nations Framework Convention on Climate Change). 2010. Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention. CP.16.
- UNFCCC (United Nations Framework Convention on Climate Change) (2007) Investment and Financial Flows to Address Climate Change. Bonn: UNFCCC.
- United Nations High-Level Advisory Group on Climate Change Financing (UN AGF) (2010) Workstream 4. Contributions from International Financial Institutions.
- UN Secretary General (2010) Report of the UN Secretary General's High-level Advisory Group on Climate Change Financing.
- Vermeer, M. and Rahmstorf, S., (2009). Global sea level linked to global temperature. Proceedings of National Academy of Sciences of the United States of America, 106 (51), 21527–21532.
- Willows, R. I. & Connell, R. K. (2003) Climate adaptation: risk, uncertainty and decision-making. UKCIP technical report. UKCIP, Oxford.
- World Bank. (2010) The Cost to Developing Countries of Adapting to Climate Change: New Methods and Estimates. Washington, DC: World Bank.
- World Resources Institute (2010) Summary of Developed Country 'Fast-Start' Climate Finance Pledges. Available at <http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges> (accessed 18/03/2011).
- World Resources Institute (WRI) (2011). Reefs at Risk Revisited. Washington, DC. 112pp



This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, which can accept no responsibility for such views or information or for any reliance placed on them. This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, the Climate and Development Knowledge Network's members, the UK Department for International Development ('DFID'), their advisors and the authors and distributors of this publication do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.