



DELIVERING TRANSFORMATIONAL CHANGE 2011-21

EXECUTIVE SUMMARY

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

March 2012



Caribbean Community
Climate Change Centre



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/CCCC-12-03-02

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

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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”.

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.

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).

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.

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.

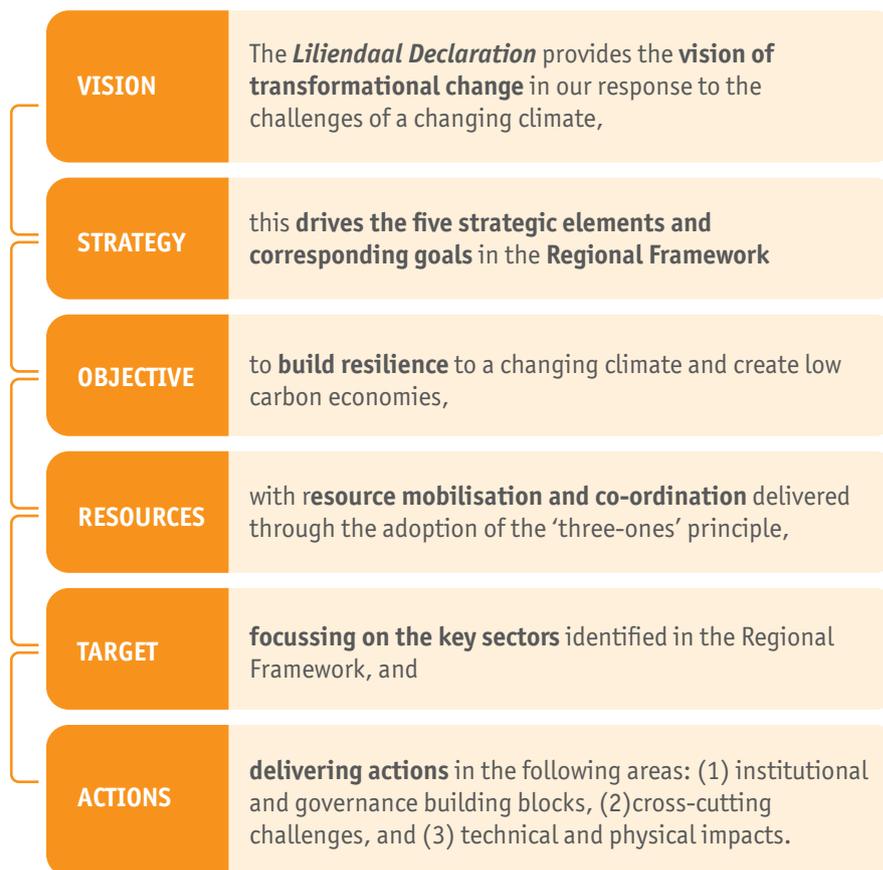
2. Preparation Process

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

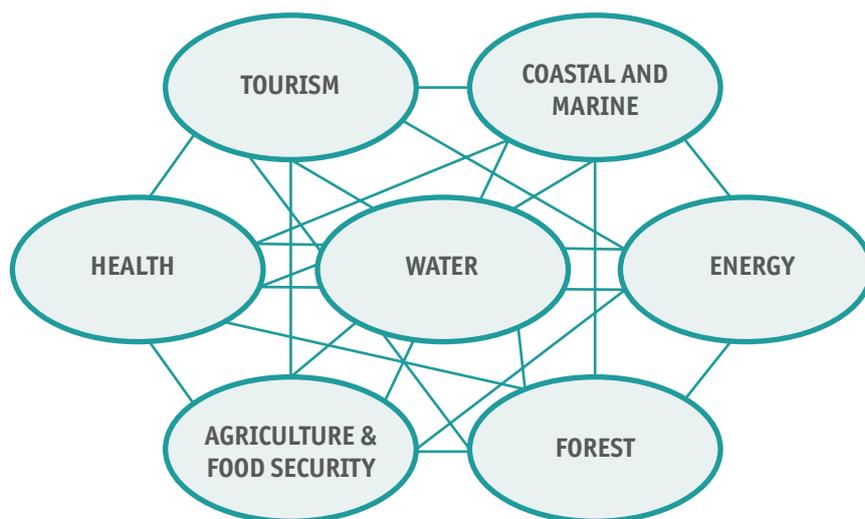
This drives the Regional Framework's Five Strategic Elements (and 20 goals nested within these):

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
<p>Liliendaal Declaration Regional framework strategic elements and goals delivered through:</p> <p>Track One Implementation Plan</p> <p>Track Two Regional and National strategies & policies</p>	<p>Regional level through CARICOM</p> <p>National level through governments</p>	<p>M&E focus</p> <p>Resource mobilisation and strategic direction through: One plan & one co-ordinating mechanism.</p> <p>Progress and results from institutional and intervention actions.</p> <p>Archiving transformational change</p>



FOCUSING ON THE REGIONAL FRAMEWORK SECTORS

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

Action 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 section 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

- 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.

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.

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 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

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



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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.



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