ICAO “Capacity Building Seminar on Low Emissions Aviation Measures”

Climate Change Adaptation and Mitigation in the Caribbean

by

Donneil Cain
Project Development Specialist
• The Centre
• Developing Work Programme
• The PDMU
• CCCCCC Accreditation to the GCF
• Pipeline of GCF Projects
The Centre coordinates the regional response to climate change and the region’s efforts to manage and adapt to the impacts of Climate Change.

The Centre became operational in July 2005 through supporting grants from the host country, Belize and the Governments of Barbados and Italy.
The Regional Framework is to:

“Establish and guide the Caribbean’s direction for the continued building of resilience to the impacts of global climate change”.

Articulates the strategic direction for the region’s response to climate change risks.
The Regional Framework for Achieving Development resilient to Climate Change

Mainstreaming Climate Change into the SUSTAINABLE DEVELOPMENT AGENDA and work programmes of public and private institutions in all Caribbean Community countries at all levels

Promoting systems and actions to REDUCE THE VULNERABILITY of Caribbean Community countries to global Climate Change wherever possible

Promoting measures to DERIVE BENEFIT FROM THE PRUDENT MANAGEMENT of forests, wetlands, and the natural environment, in general, and to protect that natural environment

Promoting actions and arrangements to REDUCE GREENHOUSE GAS EMISSIONS, including those aimed at energy-use efficiency by increasingly resorting to low-emission renewable energy sources

Promote implementation of SPECIFIC ADAPTATION MEASURES to address key vulnerabilities in the Region.
• SE 3: REDUCTION OF THE REGION’S RELIANCE ON FOSSIL FUELS
  – GOAL 3.1: Reduce greenhouse gas emissions
  – GOAL 3.2: Adopt energy efficiency and conservation standards and measures
  – GOAL 3.3: Increase application of renewable energy technologies
  – GOAL 3.4: Adopt transport efficiency and technological advancements
The Implementation Plan (IP) for the Regional Framework, defines the regional strategy for coping with Climate Change over the period 2012-2022.
Implementation of the IP

- INSMET
- CDEMA
- CARPHA
- Bilaterally
- UG
- UB
- UWI
- CARDI
- CIMH
Developing Work Programme

- Country Priorities
- Continued dialogue and dissemination of information.
- Modeling and Climate Change Projections, which is available via our website. This is done in collaboration with our Partners in Cuba (INSMET) and Jamaica (UWI CSG)
- Our Clearinghouse, which is a repository for climate change information and research.
- Tools and training in the use of these tools.
- Workshops and Conferences
- Hand holding (communication via various medium)
Developing Work Programme

• The CCCCC realises there is a genuine need to help in the development of bankable programmes/projects.

• CCCCC must act as conduit in the dissemination of relevant information.

• CCCCC alsorecognises that greater engagement with sector level experts to move project from concepts to full funding proposals.

• Partnership with CDB is essential to unlocking climate financing for climate action in the region.
The PDMU

• Project Development and Management Unit (PDMU)
  – Project Management
  – Project Development
  – Economic and Social Impact Unit

• Four Countries have committed resources to build greater capacity within the PDMU.

• GCF funding (expected) to build capacity within the CCCCC.
Thematic Project Areas

• Climate monitoring
  – hydro-meteorological stations and
  – Coral Reef Early Warning Stations (CREWS)
• Climate modeling
• Vulnerability and Risk Assessments
• National Adaptation Strategies and Action Plans
• Adaptation and Mitigation Projects
Sample Programmes/Projects

SWRO System

Grid connected PV System
Caribbean Climate Online Risk and Adaptation tool (CCORAL)

- Risk Management Tool designed to inculcate a risk management ethos in decision-making
- On-line, user friendly,
- 14 CARICOM Member States trained to date
- More training to be rolled out
Supporting risk-based decision-making in the Caribbean

To address the likely impacts and hazards arising from climate change through the provision of locally relevant weather information for a range of time horizons

Weather Generator

Simple Model For Advecting Storms & Hurricanes (SMASH) – Tropical Storm Tool

CARiDRO
Caribbean Assessment of Regional DROught

Funded by Caribbean Development and Knowledge Network (CDKN)
<table>
<thead>
<tr>
<th>Country</th>
<th>Project*</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua and Barbuda</td>
<td>Expected solar and battery solution</td>
<td>The project scope is being evaluated as part of the island's overall post-Hurricane Irma reconstruction plans, including inputs from Carbon War Room / Rocky Mountain Institute / Clinton Climate Initiative.</td>
</tr>
<tr>
<td>Bahamas</td>
<td>900 kW solar PV carport + level 2 EV charger station(s) at National Sport Stadium</td>
<td>Contract was awarded in February 2018</td>
</tr>
<tr>
<td>Barbados</td>
<td>350 kW solar PV carport with EV chargers &amp; 500 kW solar PV groundmount at Barbados Water Authority sites</td>
<td>Contract was awarded in February 2018</td>
</tr>
<tr>
<td>Dominica</td>
<td>Grid stabilization for increased RE supply -- ~2.5 MWhr battery storage solution enabling increased hydro and geothermal energy supply</td>
<td>Project scope to remain the same (following the impacts of Hurricane Maria); intended to be tendered shortly</td>
</tr>
<tr>
<td>SVG</td>
<td>Union Island solar PV/battery hybrid -- 600 kW solar PV groundmount + 500 kWhr li-ion battery adjacent to the Union Island power station</td>
<td>Contract was awarded in February 2018</td>
</tr>
</tbody>
</table>
CCCCC Accreditation to GCF

Accreditation Date: Jul 6, 2015 B.10
AMA Execution Date: May 25, 2016
Total Projected Costs*

- **XS**: Micro - USD 0 - 10 million
- **S**: Small - USD 10 - 50 million
- **M**: Medium - USD 50 - 250 million
- **L**: Large - USD > 250 million

*At the time of application, irrespective of the portion that is funded by the GCF and, if applicable, other sources, for an individual project or activity within a programme.*
## Environmental and Social Risk Categories

<table>
<thead>
<tr>
<th>Risk level</th>
<th>Funding proposals</th>
<th>Intermediation*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td><strong>Category A</strong></td>
<td><strong>Intermediation 1 (I-1)</strong></td>
</tr>
<tr>
<td></td>
<td>Activities with potential significant adverse environmental and/or social risks and/or impacts that are diverse, irreversible, or unprecedented.</td>
<td>When an intermediary’s existing or proposed portfolio includes, or is expected to include, substantial financial exposure to activities with potential significant adverse environmental and/or social risks and/or impacts that are diverse, irreversible, or unprecedented.</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td><strong>Category B</strong></td>
<td><strong>Intermediation 2 (I-2)</strong></td>
</tr>
<tr>
<td></td>
<td>Activities with potential mild adverse environmental and/or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.</td>
<td>When an intermediary’s existing or proposed portfolio includes, or is expected to include, substantial financial exposure to activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally-site specific, largely reversible, and readily addressed through mitigation measures; or includes a very limited number of activities with potential significant adverse environmental and/or social risks and/or impacts that are diverse, irreversible, or unprecedented.</td>
</tr>
<tr>
<td><strong>Low/No</strong></td>
<td><strong>Category C</strong></td>
<td><strong>Intermediation 3 (I-3)</strong></td>
</tr>
<tr>
<td></td>
<td>Activities with minimal or no adverse environmental and/or social risks and/or impacts</td>
<td>When an intermediary’s existing or proposed portfolio includes financial exposure to activities that predominantly have minimal or negligible adverse environmental and/or social impacts.</td>
</tr>
</tbody>
</table>

*Activities involving investments through financial intermediation functions or through delivery mechanisms involving financial intermediation.*
• READINESS PROPOSALS

• NATIONAL ADAPTATION PLANS

• PROJECT PREPARATION FACILITY PROPOSALS

• SIMPLIFIED FUNDING PROPOSAL

• FUNDING PROPOSAL
## Pipeline of GCF Projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Beneficiary Country(ies)</th>
<th>E&amp;S Risk Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Sector Resilience Nexus for Sustainability in Barbados (WSRN S-Barbados)</td>
<td>Barbados</td>
<td>B/1-2</td>
</tr>
<tr>
<td>Arundo Donax Renewable Bio-mass Fuel for Belize</td>
<td>Belize</td>
<td>B/1-2</td>
</tr>
<tr>
<td>Water Security in St. Lucia</td>
<td>St. Lucia</td>
<td>B/1-2</td>
</tr>
<tr>
<td>An Integrated Water and Coastal Management Framework for Urban Areas in Dominica</td>
<td>Commonwealth of Dominica</td>
<td>TBD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Beneficiary Country(ies)</th>
<th>E&amp;S Risk Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainstreaming Coral Reef Resilience and Restoration as an ecosystem-based Adaptation Strategy to Climate Change in the Caribbean Region</td>
<td>Jamaica, Belize, SVG, and Dom. Rep.</td>
<td>B/1-2</td>
</tr>
<tr>
<td>Increasing Resilience in the Fisheries Sector of Caribbean SIDS, through Climate Change Adaptation (CCA) and Enhancing Livelihoods in Vulnerable/Fishing Communities (IRCFish)</td>
<td>Antigua &amp; Barbuda, Barbados, Belize, Com. Of Dom., Grenada, Guyana, Jamaica, St. Lucia, SVG</td>
<td>TBD</td>
</tr>
<tr>
<td>Enhancing Coastal Protection for Climate Change Resilience (EDA)</td>
<td>Antigua and Barbuda, Barbados, Belize, Grenada, Guyana, Jamaica, St. Lucia, &amp; SVG</td>
<td>B/1-2</td>
</tr>
</tbody>
</table>
Opportunities and Challenges
Thank You

Let’s Connect!

Caribbean Community Climate Change Centre
Lawrence Nicholas Building, Ring Road, P.O. Box 563
Belmopan, Belize
Email: dcain@caribbeanclimate.bz
Tel: +(501) 822-1104/1094; Fax: +(501) 822-1365