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Subregional Headquarters for the Caribbean

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the Economics of Climate Change
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REPORT OF THE MEETING ON REVIEW OF THE ECONOMICS OF CLIMATE CHANGE

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Background

The Economic Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean and the Department for International Development (DFID) of the United Kingdom and Northern Ireland convened an expert group meeting on the Review of the Economics of Climate Change in the Caribbean. The meeting was held at the Lloyd Erskine Sandiford Centre, Barbados, on Friday 13 March 2009.

The objectives of the meeting were as follows:

(a) To introduce the project “Review of the Economics of Climate Change in the Caribbean” to stakeholders. This would include a review of the preliminary findings of the studies of Phase 1 of the project in order to obtain substantive feedback that would realize finalization of these studies before their dissemination to policy makers in the Caribbean;

(b) To discuss the implications of climate change on key sectors of interest in the Caribbean namely agriculture, health, tourism, trade and its association with disaster management;

(c) To brainstorm on the major outputs and activities to be developed in Phases 2, 3 and 4 and identify opportunities for technical and financial collaboration between ECLAC and various stakeholders for the remaining phases of the project.

An agenda and list of participants are annexed to this report.

Agenda item 1 Welcome and opening remarks

Opening remarks were delivered by Mr. Neil Pierre, Director, ECLAC Subregional Headquarters for the Caribbean; Ms. Elizabeth Carriere, Head, DFID United Kingdom, Barbados; and, Dr. Ulric Trotz, Scientific Adviser to the Caribbean Community Climate Change Center (CCCCC). Senator the Honorable Ms Irene Sandiford-Garner, Acting Minister of the Environment, Water Resources and Drainage of the Government of Barbados delivered the keynote speech.

Mr. Pierre thanked both DFID and the CCCCC as collaborators on the project “Review of the Economics of Climate Change in the Caribbean” (RECC Caribbean) that is being implemented by ECLAC. He congratulated the CCCCC and the University of West Indies (UWI) for the tremendous work accomplished in the area of downscaling and applying regional climate models to the Caribbean. Mr. Pierre recalled the findings of the Fourth Assessment Report of the Inter-Governmental Panel on Climate Change (IPCC) in terms of rising sea levels, global warming and increased acidification of oceans compounded by potential increased intense hurricane activity, all of which are likely to increase the vulnerability of small island Caribbean

States to climate change. He also cited the study by the Stockholm Environment Institute which estimated that the Caribbean could lose up to 22% of its current Gross Domestic Product by the year 2100 if no actions were taken to tackle climate change. Mr. Pierre stressed that climate change is likely to compound the socio-economic challenges currently faced by the Caribbean region and endanger the achievement of the United Nations Millennium Development Goals (MDGs). He noted that the “Review of the Economics of Climate Change” project would address such shortcomings in the Caribbean. He reiterated the message of the United Nations Secretary-General about the importance of taking action globally on climate change.

Ms. Elizabeth Carriere emphasized the critical role to be played by stakeholders in ensuring that this project bore relevance to the development issues of participating States, and would build on work already underway which utilized local expertise. She enumerated the initiatives that DFID and the Government of the United Kingdom are currently implementing in the region in order to support adaptation, notably support provided to the implementation of the Caribbean Comprehensive Disaster Management Framework (DRR), adaptation funds available from the Strategic Climate Fund and the Clean Technology Fund and the £35 million earmarked under the Pilot Programme for Climate Resilience (PPCR) that will focus on supporting adaptation in vulnerable sectors such as tourism, fisheries and agriculture. Ms. Carriere cautioned that leaders should not let the current financial meltdown blunt their incentives to act on climate change and transition their economies to a low carbon footprint.

Dr. Neville Trotz reminded the audience of the numerous adaptation initiatives that had been carried out in the Caribbean, namely the Caribbean Planning for Adaptation to Climate Change (CPACC); Adapting to Climate Change in the Caribbean (ACCC), Mainstreaming Adaptation to Climate change (MACC) and the Special Pilot on Adaptation to Climate Change (SPACC) projects. He expressed optimism that this initiative would add an economic dimension to these initiatives in better preparing the Caribbean region to both adapt and mitigate the impacts of climate change.

The Honourable Acting Minister, Ms Irene Sandiford-Garner, affirmed that climate change is indeed the most serious developmental challenge facing the world today and she remarked that the solutions to climate change would need to be grounded in economics as the causes of global warming were itself economics in nature. She cited that for the Caribbean important impacts will be tied to increased water scarcity, the endangering of the tourism sector, the increased demand for energy and heightened food insecurity in the presence of higher projected world food and fuel prices. She also warned about the diversion of resources away from poverty alleviation and social services that will be necessitated by the need to finance climate change adaptation. She welcomed the “Review of the Economics of Climate Change” as being a timely initiative ahead of the forthcoming international negotiations on emissions reductions in Copenhagen in December 2009. The Honourable Acting Minister also cautioned governments to act boldly and decisively in order to ensure that climate change did not become an unsolvable problem. She concluded optimistically, however, noting that the current financial crisis had demonstrated that, in the face of imminent danger, political will can be summoned and that unprecedented and limitless actions can be taken to avert further disaster.

Ms. Bineswaree Aruna Bolaky, Associate Economic Affairs Officer, ECLAC Subregional Headquarters for the Caribbean, delivered the vote of thanks.

**Agenda item 2:
The Review of the Economics of Climate Change (RECC)
in Latin America and the Caribbean**

In this session, ECLAC presented the “Review of the Economics of Climate Change” initiative that is being carried out across the Central America, South America and the Caribbean region.

Phase 1 of the “Review of the Economics of Climate Change (RECC) in the Caribbean” started in September 2008 and is due to end in March 2009. The project has two main objectives namely to assess the major economic impacts of climate change on key sectors of Caribbean economies and encourage actions to be taken to address climate change, both in terms of adaptation and mitigation, by government, regional institutions and the private sector. In Phase 1 activities consisted of the elaboration of studies to scope the technical planning necessary for undertaking a Stern-type report for the Caribbean as well as the conduct of media/public outreach activities destined to raise awareness about the project and climate change in general.

Phase 1 of the RECC has been completed in Central America. Phase 2 is currently reviewing the methodological components of a Stern-type report for Central America. Macroeconomic projections are being constructed for the region for two scenarios - a scenario with climate change and another without - while the former will in turn take into account several emissions scenarios. The analysis will emphasize the impact of extreme events on the region as well as the implications for poverty and inequity. At a regional level, analyses will be done for the sectors of water, agriculture and forests, energy, human health, ecosystems and biodiversity, marine and coastal zones. This regional sectoral analysis will be complemented by an in-depth study of one sector for each country.

Phase 1 of the RECC in South America started in November 2008 and consisted of a review of existing information on climate change in South America and work planning for the remaining phases. Phase 2 will start in July 2009 and will lead to the preparation of studies on the physical and economic impact of climate change in each of the nine South American countries. Common assumptions will be made across these studies when it comes to projecting on economic growth, population growth, energy prices and agricultural prices. Sensitivity analysis will be performed to account for variations in emissions path and discount rate. Focus will also be laid on the impact of climate change on macroeconomic stability including fiscal balance. Phase 3 will analyze the regional inter-dependencies across Latin America and the Caribbean. It is hoped that ECLAC will be able to prepare a single regional report for Latin America and the Caribbean with some preliminary findings in time for the Copenhagen summit in 2009.

During the discussions, it was recognized that economists have been slow in the region to take climate change on board. It was pointed out that it may not be realistic to expect results from the RECC Caribbean studies to be ready on time to feed into the international negotiations at Copenhagen in 2009 and that realistic timelines should be set. It was also pointed out that

national circumstances should guide the development of responses to climate change. Resources available for funding such responses will be a critical issue for the region. Mention was made that there is a need to carefully disentangle the effects of climate change from other effects and that appropriate costing should be done to ascertain the additional resources that climate change will necessitate for the development of the region. It was argued that there is a need to strengthen the negotiation skills of policy makers in the Caribbean in order to secure their effective participation at international forums on climate change. It was stated that negotiations on climate change takes place at two levels: a technical level and a high political level and that in the Caribbean the political directorate has been less visible at such negotiations. It was reiterated that there is a need to establish common assumptions for the technical studies of the RECC across all three subregions (Central America, Caribbean and South America) in order to facilitate analyses about the implications of regional integration for climate change. Mention was made of the upcoming meeting of regional negotiators on climate change for the Latin America and the Caribbean region on 9-10 March 2009 in Santiago, Chile. ECLAC invited the Caribbean governments to be represented at that meeting.

Agenda item 3

Studies of Phase I of the RECC Caribbean - Methodology, Findings and Challenges

This session realized the results of three studies that were commissioned by ECLAC under the Review of the Economics of Climate Change. The first study made reference to the various available documents that have been published providing background information data and information on climate change. These include the Caribbean Environment Outlook, Human Development Report 2007/2008 and The Inter-governmental Panel on Climate Change (IPCC) Fourth Assessment Report, 2007. The presentation addressed the common challenges facing the Caribbean in terms of insularity, small size and economies as well as their small contribution to global emissions of greenhouse gases making a case for adapting to and mitigating climate change.

Preliminary results of consultations conducted to obtain data and opinions from stakeholders were presented and these were arranged under the following headings:

- Climate change initiatives;
- Institutional framework;
- Legislative framework;
- Vulnerable sectors;
- Research needs and gaps; and
- Main obstacles to climate change adaptation.

The second report indicated that the project is feasible and that the data that would be needed to inform modeling were also available. The report examined the available tools and economic models that could be employed in an assessment of the economic impacts of climate change in the Caribbean. These included the Policy Analysis of the Greenhouse Effect (PAGE), Dynamic Integrated model of Climate and the Economy (DICE), Regional dynamic Integrated model of Climate and the Economy (RICE) and Climate Framework for Uncertainty, Negotiation and Distribution (FUND). Of the available models, the FUND was deemed the most

appropriate but it did not take into account changes in precipitation. In response, the modality of adapting the model could be done but this would involve tremendous cost and time and therefore it was accepted that a mathematical model be used whereby, data representing different climate scenarios would be inputted and the results compared. These same data would be inputted into the model utilized by Central America for comparison of results. Furthermore, the data would be inputted into the FUND model again to provide comparison. This presentation reinforced that both adaptation and mitigation should be addressed in the project.

The final report presented by the CCCCC is the Project Document that would inform the activities of future phases of the initiative. A project overview outlining the vulnerability of Caribbean States based on location, size, natural disasters; the economic (limited diversification and narrow export base); the social (migration of skilled persons, approximately 30% of absolute poverty) and technological. The document further listed global challenges to the region, namely global recession, trade liberalization, meeting the MDGs and climate change. This would call for an increased need to assess the economic impacts of climate change and adaptation options and policies versus a Business As Usual Approach (BAU).

Background information on the rationale for the project was provided and reference was made to several studies that provided evidence that climate change is indeed a reality that carries with it economic costs.

The project objectives were as follows:

(a) An assessment of the likely economic impacts of climate change on key sectors of the Caribbean economies in an effort to stimulate governments, regional institutions and private sector actions to develop and implement the most effective policies to mitigate and adapt to climate change;

(b) To provide robust analyses, using simulation modelling analyses under various scenarios, that will encourage the adoption of cost effective adaptation options

The project envisaged the following phases:

Phase II

- Project coordination and planning;
- Methodological aspects for studies;
- Conduct of national studies (*in all 27 States on the most important sectors*)

Phase III

- Methodological Issues;
- Socio-economic aspects and scenarios;
- International context;
- Analysis of extreme events;
- Application of models;
- Regional studies

- Water
- Agriculture
- Forestry
- Human health
- Energy
- Terrestrial ecosystems and biodiversity
- Marine and coastal areas
- Transportation systems
- Infrastructure and housing
- Cultural, scientific and natural heritage

Participants indicated that the project is feasible and necessary and stressed the importance as energy is a cross-cutting issue. It was indicated that mitigation should be regarded as a co-benefit since the Caribbean contributes less than 1% to greenhouse gas emissions. However, in keeping with the Bali road map, it was suggested that countries implement a verifiable, measurable system that commits them to an agreed level of mitigation. It was also emphasized that in a world with trade restrictions, a regional energy policy should not be divorced from a regional climate change policy.

There was some concern about the legal framework in terms of the existing multilateral environment agreements that support sustainability and the suggestion that it might be useful to leverage the objectives of this initiative with existing ones. Sensitization of the public was also raised and since the Association of Caribbean States (ACS) linked the Caribbean with Central America, it was suggested that the ACS take note of this project. There was also some caution about duplication of activities. However, it was noted that the preliminary research in Phase I had taken cognizance of existing initiatives that would complement the activities of future phases of this project.

It was also mentioned that the importance of livelihoods in addressing climate change should be emphasized and, as such, a livelihoods analysis should be considered. The incremental costs of impacts should be considered and both short-term and longer-term impacts of disasters and natural hazards should be addressed. The challenge of mainstreaming these initiatives into the development process was also mentioned.

The data and information needs for national studies should be defined and reference was made to price, livelihood and gender data as examples. It was also suggested that the link between poverty and adaptation be considered both in terms of the naturally poor and the vulnerable.

Agenda item 4

Climate Change in the Caribbean

Presentations were made on the impact of climate change on food security and agriculture, tourism, health and trade in the Caribbean. It was pointed out that the Caribbean is likely to become warmer and drier due to climate change and that this will have implications for crop productivity. Preliminary evidence was highlighted for countries such as Cuba, Dominican Republic and St Kitts and Nevis. It was also noted that current adaptation strategies in agriculture in the Caribbean currently revolve around capacity-building, raising public awareness, improving water harvesting methods, increasing crop efficiency and implementing United Nations conventions that relate to desertification and land degradation, forestation and protection of natural ecosystems.

The high dependence of the Caribbean on tourism was noted. It is likely that climate change will affect Caribbean tourism through its impacts on energy costs, increased prevalence of tropical diseases, increased dependence on food imports and destruction of beaches and coral reefs. It was recommended that adaptation policies reinforce implementation of the various United Nations environmental conventions and protocols, strengthen the forging of alliances among developing countries and foster the development of sustainable tourism. Caribbean countries should strive to position themselves as carbon neutral destinations and embrace pro-poor, eco-friendly, low-volume but high value-added tourism strategies.

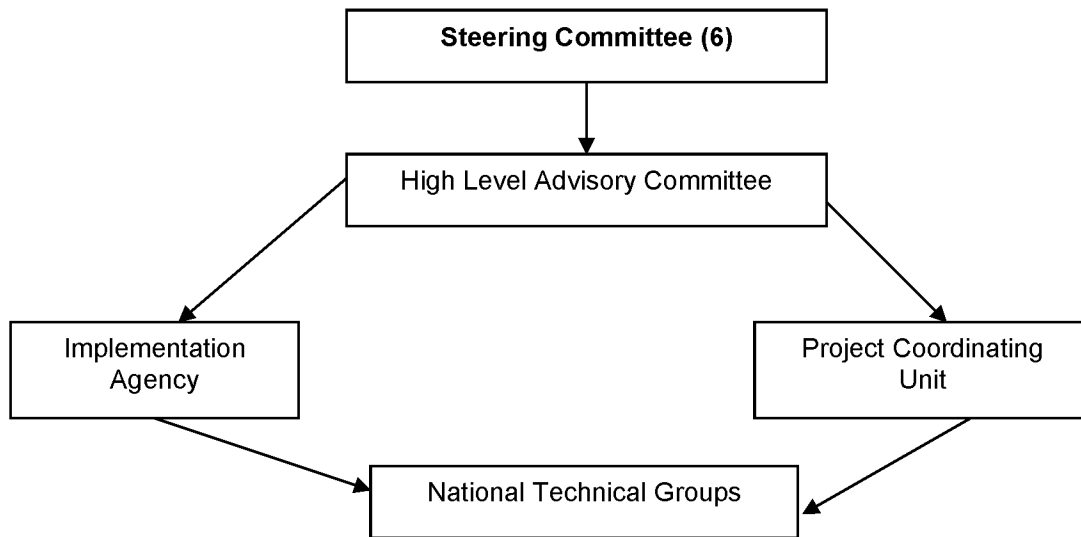
It is hypothesized that climate change may impact on health in the Caribbean through its impact on air quality and pollution including increased Sahara dust, incidence of heat waves, storms and sea level rise, increased droughts, water and food-borne diseases, quality of coastal water and incidence of vector borne diseases. Adaptation will necessitate better monitoring and evaluation methods in the health sector. On the trade front, Caribbean countries will need to be careful that, the imposition of eco-labeling and environmental standards by developed countries, do end up discriminating against their exports. Vigilance will need to be exercised regarding compatibility between measures and commitments taken under the World Trade Organization (WTO) and the United Nations Framework Convention on Climate Change (UNFCCC). Attention will need to be paid to the implications that mitigation measures adopted by developed countries may have on the competitiveness of industries in Caribbean economies.

During the discussions, it was pointed out that future research in the Caribbean will require a shift from regional studies to country-level studies. In particular, it was felt that a fair amount of research already exists on the impacts of climate change for the region but that the time has now come to move forward to concrete policy-making and recommendations for concrete actions. It was also felt that climate change will require a new way of doing research, namely, that the linkages across sectors and disciplines need to be further explored and studied. Climate change requires a multi-disciplinary approach to research and policy-making.

Agenda items 5 and 6
High Level Advisory Committee, Review Team and
Phases 2, 3 and 4 of the RECC, Caribbean – Opportunities for Collaboration

This session entailed a presentation describing the Terms of Reference of the High Level Advisory Committee as well as the Review Team.

A new implementation structure was presented and accepted by the meeting. The structure is as follows:



A. The Steering Committee

This would comprise six representatives taken from the following geographical groupings:

- Overseas Countries and Territories – two;
- Organisation of Eastern Caribbean States – one;
- Guyana/Suriname – one;
- Dominican Republic – one;
- Jamaica / Trinidad & Tobago/ Barbados – one;

Ex-officio members would be ECLAC, CCCCC, the Caribbean Community Secretariat (CARICOM), DFID, the Caribbean Development Bank (CDB) and the United Nations Environment Programme (UNEP)

B. The HLAC

This committee would meet before 15 March 2009 and would subsume the functions of the Review Team. With respect to the composition of this team it would be important to ensure that there is a balance between sectoral and institutional representation.

C. The Project Coordinating Unit (PCU)

The PCU would have the following functions:

- Coordinating activities between the Central and South American RECCs and the Caribbean RECCs;
- Financial reporting;
- Project reporting;
- Coordination with the implementation agency;
- Oversight of the implementation agency.

D. Implementation Agency

The CCCCC in collaboration with the Caribbean Disaster Response and Emergency Response Agency (CDERA) would be the implementation agencies. They would be responsible for all technical activities on the basis of an agreed implementation plan.

E. The National Technical Groups

The functions of this group would be subsumed by the National Climate Change Committees that have already been established under the Caribbean Planning for Adaptation to Climate Change Project, as there is no need to create another group.

**Agenda item 7
Closure**

The meeting agreed that there would be a follow-up meeting of the HLAC in mid-March to finally approve the project documents.

Annex 1

Agenda

1. Opening
2. The Review of the Economics of Climate Change (RECC) in Latin America and the Caribbean
3. Studies of Phase 1 of the RECC Caribbean – methodology, findings and challenges
4. Climate change in the Caribbean
5. High-Level Advisory Committee and Review Team
6. Phases 2, 3 and 4 of the RECC Caribbean – Opportunities for collaboration
7. Closure

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