TC ABSTRACT

I. Basic project data

- Country/Region: Central America and the Caribbean.
- TC Name: Substitution of Fossil based Electricity Generation with Renewable Energy in Central America and the Caribbean.
- TC Number: RG-T2376.
- Team Leader/Members: Claudio Alatorre (INE/CCS), Team Leader; Rafael Matas (SCF/INF), co-team leader; Christiaan Gischler (INE/ENE); Emiliano Detta (INE/CCS); Sergio Ballón (INE/ENE); Christoph Tagwerker (INE/CCS); Patrick Doyle (SCF/INF); Genevieve Beaulac (VPS/ESG) and Milagros de Pomar (INE/CCS).
- Indicate if: Client Support.
- If Operational Support, TC give number and name of Operation Supported by the TC: NA
- Reference to Request: Pending
- Date of TC Abstract: June 2013.
- Beneficiary: Public or private companies and governments of Bahamas; Barbados; Belize; Costa Rica; Dominican Republic; El Salvador; Guatemala; Guyana; Haiti; Honduras; Jamaica; Nicaragua; Panama; Suriname; and Trinidad & Tobago.
- Executing Agency and contact name: Inter-American Development Bank, through INE.
- IDB Funding Requested: US$ 1,000,000.
- Local counterpart funding, if any: US$ 200,000.
- Disbursement period (which includes execution period): 24 months.
- Required start date: September 2013.
- Types of consultants: Consultant Firms and/or individual consultants.
- Prepared by Unit: INE/ENE; SCF/INF; INE/CCS.
- Unit of Disbursement Responsibility: INE/CCS.
- Included in Country Strategy (y/n): N
- TC included in CPD (y/n): N
- GCI-9 Sector Priority: (i) Protect the environment, respond to climate change, and to promote renewable energy and (ii) Small and vulnerable countries.

II. Objective and Justification

Central America (CA) and the Caribbean (CB) are two of the most fossil fuel dependent regions in the World. Oil imports were estimated at US$4 billion a year in the CB in 2009[1] and US$13billion a year in CA in 2011.[2] In the case of CA in 2011 oil imports represented 18.5% of the region's total exports, while in the CB some islands spent as much as half of their export revenues on imported fossil fuels. High fossil fuel prices in both regions not only impact government's budgets but also translate in high electricity

[1] OLADE (2009) Energy Statistics Report. OLADE.
[2] CEPAL (2012) *Centroamérica: Estadísticas del Subsector Hidrocarburos* 2011.

prices; accordingly, retail electricity rates in the CB averaged US$0.35 in 2010[3] and in CA average electricity rates for all users were of approximately US$0.20 in 2011.[4]

There is significant room for expansion of renewable energy (RE) in Latin America and the Caribbean (LAC), and more specifically CA and the CB. Given the specific example of the wind sector, in which the Bank has wide experience, LAC has been steadily increasing its capacity for the last years. By the end of 2011, the total wind installed capacity reached 2,889MW, and in year 2011 there was an increase of 45% in installed capacity compared to the preceding year. Although most of the growth in the sector is taking place in Brazil and Mexico, countries such as Uruguay, Argentina, Chile, Peru, and countries in CA and the CB such as Costa Rica, Honduras, Jamaica and the Dominican Republic, are also developing wind energy farms. Although there has been a significant relative growth in the Region, total installed capacity in absolute terms compared to other regions of the world is still very low, which suggests the need for increasing the support to RE projects in general in the Region for the coming years.

Following the above mentioned rationale, the objective of this technical cooperation (TC) is to promote the transition to renewable sources of energy in the power sector in both CA and the CB. This would be done through the identification of opportunities for fossil fuel substitution by RE-based generation, in fossil fueled power plants (whether of public or private ownership), with a fixed price Power Purchase Agreement (PPA) executed with a public utility or with a private off taker. This would provide with the opportunity of presenting the potential clients with a financially viable transition to renewable energy, based on a stable stream of revenues that derive from the existing fixed price PPA and the reduction of operating costs that the transition from fossil fuel to RE will entail. This TC is aligned with the GCI-9 sector priorities as it will foster investments in small and vulnerable countries while striving to protect the environment and respond to climate change by promoting RE in both regions.

III. Description of activities

Component 1: Identification of Suitable Markets to substitute fossil based electricity generation with RE

In order to optimize the use of the TC resources, the first step will be to define a group of eligible countries and localities that have the necessary basis conditions for further analysis.

Activities:

i) Carry out data gathering and analysis of the electricity markets including its relevant stakeholders, generation companies, regulatory, institutional framework and specific incentives for the development of RE, in all the beneficiary countries of Central America and the Caribbean. Data gathering and analysis of RE resources available (mainly wind and solar) for the beneficiary countries of Central America and the Caribbean may also be required for some countries and locations.

ii) Based on i), the selected consultant will propose the most suitable localities to be analyzed, to implement RE projects to substitute fossil based generation.

iii) Identify potential energy projects/client companies in the different countries considered suitable candidates to undertake further pre-investment studies.

[3] CARILEC (2010) Tariff Survey Among Member Electric Utilities (Mid-Year, June 2010). Castries, St. Lucia: CARILEC.

[4] CEPAL (2012) *Centroamérica: Estadísticas del Subsector Eléctrico* 2011.

iv) Identify barriers, potential risks in the implementation of the energy substitution and define potential relievers to those risks for each country separately. Additionally, identify any public and private sector initiatives that aim to eliminate the identified barriers/risks.

Results:

To identify the countries within CA and the CB that are more suitable to undertake RE projects to substitute fossil based generation and to provide a short list of potential projects eligible for RE substitution within those countries.

Component 2: Development of Pre-investment Studies for identified eligible Projects

From the short list of eligible projects for RE substitution provided through Component 1 of this TC, the Team will select at least three projects, in which the sponsors involved showed interest in the substitution to RE, in order to undertake a specific analysis to determine the technical and financial feasibility of fossil substitution.[5] This analysis will include pre-investment studies on the specific selected projects, to obtain detailed information on the actual costs, and the economic, financial and environmental benefits of the substitution. Accordingly, this TC will support the development of pre-feasibility and feasibility studies of at least three eligible projects, including technical support (such as wind resource analysis), when required. This component is expected to require a certain counterpart funding from the clients, in order to assure their commitment to the transition to RE.

Activities:

i) To prepare and develop pre-investment studies for proposed projects including feasibility studies, detailed engineering design, financial structuring, environmental and wind resource studies (if applicable) and any other analysis to make the project feasible.

Results:

At least three pre-investment studies developed for eligible projects located in CA and the CB.

Component 3: Dissemination of Findings

This component will include the dissemination of the findings of Components 1 and 2 with the aim of fostering the replication of this kind of projects in the region.

Activities:

i) To develop at least one technical note and a specialized seminar with stakeholders in the region to disseminate findings.

Results:

At least one technical note published and one seminar held.

IV. Budget

Activity/Component	Description	IDB Funding (US$)	Counterpart Funding (US$)	Total Funding (US$)
Component I. Identification of Suitable Markets for Fuel Substitution with RE	Define a group of eligible countries for fossil substitution with RE, with the final aim of obtaining a short list of eligible existing projects.	100,000	0	100,000
Component 2.	Prepare and develop pre-investment studies	850,000	200,000	1,050,000

[5] The studies to be performed could focus directly on the eligible projects, or indirectly regarding other aspects related to the projects, such as the status of the energy transmission grid in a specific country.

Development of Pre-investment Studies in Pilot Companies	for the proposed projects selected from the short list.			
Component 3. Dissemination of findings.	Dissemination of the findings of components 1 and 2 with the aim to foster the replication of this kind of projects in the region.	50,000	0	50,000
Total		**1,000,000**	**200,000**	**1,200,000**

V. Executing agency and execution structure

This TC will be executed by the Bank as it has a regional outreach and there is limited knowledge about the substitution of fossil based generation with RE in the region. INE/CCS will be the Unit with Disbursement Responsibility (UDR) and also be responsible for procurement and execution. Technical responsibility will be with INE/ENE, INE/CCS and SCF/INF.

VI. Project risks and issues

The main risk for this project is that that studies developed as part of this TC are not followed through by the beneficiaries with a real investment in order to undertake the substitution to RE. The reasons behind this could be regulatory, financial or political. This risk is partially mitigated by; a) Component 1, in which a thorough analysis of the regulatory framework of the electricity sector and its incentives to renewable energy will be performed in several countries in the region; b) Component 2, which will analyze the specific feasibility of each one of the eligible projects; and c) the fact that there will be a counterpart funding required in order to undertake Component 2, which will determine a certain degree of commitment from the client to follow through at a later stage with the actual project and investment.

VII. Environmental and Social Classification

It is not anticipated that the activities to be financed under this TC will have negative direct social or environmental impacts. Therefore the team considers that, according to the Bank's Safeguards Screening Toolkit, this operation should be given a classification of "C": (i) no environmental or social risks; (ii) direct contribution to solve an environmental issue.