

PROJECT PROFILE

I. BASIC INFORMATION ABOUT THE PROJECT

Countries:	Caribbean Region		
Name of Project:	Energy Efficiency for Caribbean Water and Sanitation companies RG-T1605		
Project Team:	Christoph Tagwerker (INE/100) and Marcello Basani (INE/WSA), co-team-leaders; Gerard Alleng (INE/INE); Yvon Mellinger (INE/WSA); Javier Grau (WSA/CGY); Evan Cayetano (WSA/CJA); Dominique Bouzerma (WSA/CHA); and Yolanda Galaz (INE/WSA).		
Beneficiary	Water and Sanitation Companies in the CCB (Country Department Caribbean Group) Countries		
Executing Agency:	Inter-American Development Bank (IDB), through its Water and Sanitation Division (INE/WSA), with the support of the IDB Sustainable Energy and Climate Change Initiative (INE/SECCI) group.		
Financing Plan	SECCI-IDB Fund (non reimbursable)	US\$	435,000
	Local Counterpart: in kind	US\$	108,000
	Total	US\$	543,000
Technical and Basic Responsibility:	INE/WSA, with the support of the IDB Sustainable Energy and Climate Change Initiative (INE/SECCI) group.		
Duration:	Execution period		12 months
	Disbursement period		16 months
Tentative dates:	Approval Date: October 2008		

II. BACKGROUND AND JUSTIFICATION

A. Background

- 2.1 The surge in world energy prices and a growing international focus on climate change is sparking interest in energy economics and policies. Energy Efficiency (EE) is increasingly regarded by countries and firms as a strategy to sustain economic competitiveness. To successfully cope with this new situation, the adoption of innovative technologies and policies is a key for economic growth and prosperity.
- 2.2 With few exceptions, the Caribbean countries are net importers of energy and highly dependent upon fuel imports, with primary energy used for three basic purposes: electricity generation; transportation and direct industry consumption. Besides having only a small endowment of sources of primary energy (hydrocarbons and hydraulic power), generally energy consumption is also

characterized by complexity of physical energy integration due to the scattering of island countries and by small economies of scale.

- 2.3 Energy demand for electricity and fuels in the region is expected to grow due to increases in economic activity and demand by the transportation sector. Recent trends in fuel and natural gas prices have increased the energy cost base for energy importing Caribbean countries, and affected their economies.
- 2.4 At the same time, water and sanitation utilities continue to face enormous challenges in meeting the ever increasing demands of growing population. Most utilities suffer from a number of interrelated institutional weaknesses, including dilapidated physical infrastructure, high water losses, low levels of energy efficiency and low skills levels of the staff and poor customer relations among others.
- 2.5 At present, the Bank recognizes the need to support these countries in the assessment and implementation of energy initiatives aimed at mitigating the impact of oil and fuel prices on their macroeconomic accounts, and fostering efficient energy production and consumption. Increasing energy efficiency in Water and Sanitation (W&S) operators represents an important step in this direction.

B. The Sustainable Energy and Climate Change Initiative - SECCI

- 2.6 The intent of IDB's SECCI, approved by IDB Board of Executive Directors in March of 2007, is to support the LAC region in its urgent challenge to find economically and environmentally sound energy options. Its core objectives are to expand the development and use of renewable energy sources, energy efficiency technologies and practices, and carbon finance in the region, as well as to promote and finance climate change adaptation and mitigation strategies that reduce the regions climate vulnerability. Resources of the SECCI IDB Fund can be used to fund and support the type of project described in this TC.
- 2.7 The first pillar of the SECCI initiative, in particular, promotes the use of renewable energy and energy efficiency, by:
 - a. Closing gaps in the financing of energy efficiency in LAC by up-scaling Bank investments;
 - b. Integrating policy reform and removal of institutional barriers with innovative policy and project financing for market transformation;
 - c. Mainstreaming sustainable energy investment across sectors and refining financing tools;
 - d. Collaborating and forming new partnerships with the public and private sectors in LAC, donor agencies, and other financial institutions.

C. The Water Initiative – WSI

- 2.8 In May 2007, as a response to the new sector challenges, the Board of Executive Directors approved the Water and Sanitation Initiative (WSI), with the objective

of helping countries in the region to achieve universal access to sustainable services. The Initiative not only proposes ambitious targets, but also supports changes in operational processes to enable the institution to adopt a much more *dynamic and proactive* approach in order to achieve *universal access* to adequate services.

- 2.9 The Initiative includes the Efficient and Transparent Companies program, by which it will provide technical assistance to water and sewage utilities to improve their operational and financial performance.

D. The Caribbean Renewable Energy, Energy Efficiency and Bio-energy Action Program (CREBAP).

- 2.10 On August 6th, 2007 in Guyana, Georgetown, the IDB, the Organization of American States (OAS), the Inter-American Institute for Cooperation on Agriculture (IICA), the Caribbean Community Secretariat (CARICOM) and the Government of Guyana launched the CREBAP. The CREBAP is defined as a framework of cooperation in promoting programs on Renewable Energies (RE), Energy Efficiency (EE) and Bio-energy (BE). This initiative also includes adaptation/mitigation to climate change (CC), access to carbon finance (CF), technical assistance for removal of policy, regulatory and legal barriers to promote sustainable energy and public education and awareness.

E. Justification

- 2.11 Energy costs on average represent 30 to 40% of LAC water utilities' operating budgets, and energy savings are estimated to range between 10 and 40% (Alliance to Save Energy [ASE] 2005, Watergy 2006a). Energy used for wastewater treatment can account for 25–50% of a treatment plant's operating budget. Some processes such as sludge treatment account for 30–80% of a facility's energy consumption. (Watergy 2006b).
- 2.12 According to the Northwest Energy Efficiency Alliance, energy savings at many treatment plants could range from 15–75% with short payback periods (Northwest Energy Efficiency Alliance n.d; California Energy Commission 2006). Some estimates say that water facilities could save 5–15% of electricity consumption through installing variable frequency drives and high efficiency motors and drives, and wastewater facilities could also save 10–20% through equipment modifications (Carns 2004).
- 2.13 A number of water and sanitation operators in the region have already requested IDB support to increase energy efficiency. The IDB's recent focus on the region, together with the objectives of the Water and the SECCI Initiative, reinforce the scope of this TC.

III. OBJECTIVES AND DESCRIPTION OF THE PROGRAM

A. Objective

- 3.1 The general objective of this TC is to improve energy efficiency and reduce energy costs within the water and sanitation sector in the Caribbean. The specific objective is to provide the water and sanitation companies of the CCB Country Group (Bahamas, Barbados, Guyana, Haiti, Suriname, Jamaica, Trinidad and Tobago) with an action plan to increase energy efficiency.

B. Components of the Program

- 3.2 To comply with the above mentioned objectives, resources of the SECCI-IDB Fund will be used to contract a consultancy firm that will carry out the various components of the operation, as described here below:
- 3.3 ***Component 1: Identification of existing energy efficiency studies on the CCB's Water and Sanitation sector.*** This will be done through a literature review and contacting public and private entities in the sector. The identified studies will be evaluated and should help better understanding the current situation in the region, and the specific issues related to the sector.
- 3.4 ***Component 2: Energy Efficiency Programs (EEPs).*** The following activities will be realized for the major W&S Operators of each CCB country, ensuring the maximum level of participation: (1) Capacity building on energy management and energy efficiency related to water companies; (2) Energy efficiency audits to evaluate the existing energy demand, identify and quantify energy saving measures and develop investment plans to implement these measures; (3) Evaluation and recommendations for plant maintenance.
- 3.5 ***Component 3: Energy efficiency action plan.*** Based on the conclusions of the studies and on the analyses conducted, an action plan for the short-medium run with energy efficiency measures will be developed for each operator audited.
- 3.6 ***Component 4: Development of a methodology.*** Based on the studies and the EEPs conducted, a methodology will be developed for energy efficiency and maintenance to help water companies in self assessing the efficiency of their installations and to identify best available technologies and practices to implement. A similar module will be developed for smaller providers.
- 3.7 ***Component 5: Regional workshop.*** In order to disseminate the results of this TC, a regional two day workshop will be organized. The methodology developed (component 4) will be shared and presented and their application for day to day business will be illustrated using the evaluated companies as practical examples.

IV. COSTS AND FINANCING

- 4.1 For the execution of this TC a consulting firm with wide experience in the water sector and energy efficiency will be hired for a total cost of US\$543,000 to carry out this TC. Funding will be provided on a non-reimbursable basis by the SECCI IDB Fund (US\$ 435,000), while the local water and sanitation operators that will benefit from this TC will contribute in kind with US\$ 108,000 (about 20% of the total amount, which includes transport and office costs, local support, local dissemination, administrative costs).

Components (USD)	SECCI-IDB	Local	Total
Component 1: Identification of existing energy efficiency studies	5,000		5,000
Component 2: Energy Efficiency Programs (7 in total)	280,000	63,000	343,000
Energy Efficiency Audit	200,000		200,000
Evaluation and recommendations for plant maintenance	40,000		40,000
Capacity building	40,000		40,000
Transport, office costs, local support, etc.		63,000	63,000
Component 3: Energy efficiency action plans	20,000		20,000
Component 4: Development of a methodology	5,000		5,000
Component 5: Regional workshop	91,000	42,000	133,000
Logistics and translation services	7,000		7,000
Travel	38,000		38,000
Per diem	24,000		24,000
Publications and web page	12,000		12,000
Reporting to HQ	5,000		5,000
Local dissemination		42,000	42,000
Others	5,000		5,000
Administration, monitoring and evaluation	24,000	3,000	27,000
Miscellaneous	10,000		10,000
TOTAL	435,000	108,000	543,000

V. EXECUTION OF THE PROGRAM

- 5.1 This TC will be executed by the IDB (INE/WSA in collaboration with the INE/SECCI group). A consulting firm will be hired. IDB (INE/WSA in collaboration with INE/SECCI) will be responsible for hiring the consulting firm and monitoring of the TC.
- 5.2 The payments for the consulting firm will be realized by the IDB. This TC will be executed within a period of 12 month, disbursement period will be 16 month.
- 5.3 The procurement of the Consulting firm will be realized according to the IDB policies defined in document GN-2349-7.

VI. SOCIAL AND ENVIRONMENTAL ASPECTS

- 6.1 The present technical cooperation has positive social and environmental effects, because it promotes more efficient and therefore cleaner technologies within the water and sanitation sector. The operation doesn't have either negative environmental nor social aspects, because only studies related to energy efficiency will be elaborated.
- 6.2 The classification and evaluation of risk according to the criteria set out in "screening and safeguard" of ESR is C.

VoBo:

<u>(original signed)</u>	<u>(August 27, 2008)</u>
Federico Basaños, Division Chief INE/WSA	Date

Approved by:

<u>(original signed)</u>	<u>(August 28, 2008)</u>
Dora Currea, Manager CCB/CCB	Date

Approved by:

<u>(original signed)</u>	<u>(August 28, 2008)</u>
Roberto Vellutini, Manager INE/INE	Date