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## **BAHAMAS**

### **STRENGTHENING THE ENERGY SECTOR IN THE BAHAMAS**

**(BH-T1012)**

### **PLAN OF OPERATIONS**

This document was prepared by the project team consisting of: Christiaan Gischler (INE/ENE) Team Leader; Sylvia Larrea (INE/ENE); Camilo López (INE/ENE); Lumas Kendrick (ENE/CHA); Sharon Miller (CCB/CBH); and Hyun Jung Lee (LEG/SGO); under the supervision of Leandro Alves (INE/ENE).

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## **BASIC SOCIOECONOMIC DATA**

For basic socioeconomic data, including public debt information, please refer to the following address:

<http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata>

## ABBREVIATIONS

BEC	Bahamas Electricity Corporation
BEST	Bahamas Environment, Science & Technology Commission
CCB/CBH	IDB Country Office in Bahamas
EE	Energy Efficiency
ESP	Energy Sectoral Policy
ESR	Environmental and Social Review
GBPC	Grand Bahama Power Company
GEF	Global Environment Facility
GOBH	Government of Bahamas
IDB	Inter-American Development Bank
INE/ENE	Energy Division of the Infrastructure and Environment Department
IPP	Independent Power Producers
MF	Ministry of Finance
MOTE	The Ministry of the Environment of the Bahamas
NG	Natural Gas
PM	Project Manager
PPA	Power Purchase Agreements
RE	Renewable Energy
SECCI	Sustainable Energy and Climate Change Initiative
TC	Technical Cooperation
TOR	Terms of Reference
WE	Waste Energy

**STRENGTHENING THE ENERGY SECTOR IN THE BAHAMAS  
(BH-T1012)**

**I. EXECUTIVE SUMMARY**

<b>Beneficiary Country:</b>	The Commonwealth of The Bahamas		
<b>Team Leader/Members:</b>	Christiaan Gischler (INE/ENE) Team Leader; Sylvia Larrea (INE/ENE); Camilo López (INE/ENE); Lumas Kendrick (ENE/CHA); Sharon Miller (CCB/CBH); and Hyun Jung Lee (LEG/SGO); under the supervision of Leandro Alves (INE/ENE)		
<b>Executing agency:</b>	The Ministry of the Environment of the Bahamas (MOTE)		
<b>Target Beneficiaries:</b>	The main beneficiaries are the governmental institutions of the GOBH, namely the Bahamas Electricity Corporation (BEC); The Bahamas Environment, Science & Technology Commission (“BEST”); MOTE; and The Ministry of Finance (MF).		
<b>Financing:</b>	IDB (Infrafund):	US\$	700,000
	Local:	US\$	175,000
	Total:	US\$	875,000
<b>Objectives:</b>	The objectives of this TC are to: (i) provide technical assistance to the MF and MOTE to assist BEC in achieving financial and operational sustainability; (ii) explore alternatives for BEC’s expansion plan including Renewable Energy (RE) and Waste to Energy (WE); (iii) prepare an analysis of the current regulatory, financial and fiscal frameworks with recommendations to achieve a sustainable energy matrix in The Bahamas; and (iv) support institutional strengthening in Energy Efficiency (EE) and capacity building in the areas of RE and WE.		
<b>Execution timetable:</b>	Execution:	12 months	
	Disbursement:	15 months	
<b>Special contractual conditions:</b>	The appointment of the Project Manager will be a condition for first disbursement (§5.3).		
<b>Exceptions to Bank Policies and Procedures:</b>	None		
<b>Environmental and social review:</b>	The ESR Secretariat reviewed the TC profile on September 9, 2008. The TC has been classified as a “C” according to the Safeguard Classification Tool.		
<b>Coordination with Other Donors:</b>	Not applicable		

## II. BACKGROUND AND JUSTIFICATION

- 2.1 The Commonwealth of The Bahamas (the Bahamas) comprise 700 islands and keys with a total land area of 5,383 square miles spread over 100,000 square miles. The total population of the country is approximately 300,000 persons of which 69% reside in New Providence, the capital city of Nassau; 16% reside in Grand Bahama, the second major center; and 15% is scattered among the other 28 inhabited islands.
- 2.2 Electricity in the Bahamas is provided by: (i) Bahamas Electricity Corporation (BEC), a government owned public corporation responsible for the generation, transmission and distribution. BEC operates 29 generating plants (28 diesel engine stations and 1 gas turbine power station) with an installed capacity of 438MW, providing service to approximately 98,000 customers in New Providence (including Paradise Island) and 21 Family Islands; and (ii) Grand Bahama Power Company (GBPC), a private utility company that serves 19,000 customers in Grand Bahama Island.
- 2.3 BEC's primary duty is the supply of electricity at reasonable prices. For such duty the BEC has power to purchase, generate, transmit, transform, distribute and sell energy either in bulk or to individual consumers within its service area. Currently BEC is operating under financial constraints. BEC's historical financial indicators show that on the operating side, even though the company has increased its sales on a compounded annual growth rate of 14% over the last 4 years, the company is investing at a much higher rate; such circumstance, combined with the deterioration of its internal cash flow as a result of: (i) reduction on the electricity tariffs; (ii) higher fuel costs; and (iii) increase on non-billed electricity, is resulting in liquidity pressures.<sup>1</sup>
- 2.4 The significant increase in international oil prices during 2006 – mid 2008 has impacted Energy Sector of the Bahamas, where Heavy Fuel Oil (around 70%) and Light Fuel Oil (around 30%) are used for power generation. Given the high dependence of the nation on fossil fuels, the Government of Bahamas (GoBH), as part of the energy generation expansion plan, is focusing on supporting the use of alternative sources for Renewable Energy (RE) and Waste Energy (WE) and to promote energy conservation through Energy Efficiency (EE) programs, aiming to reduce petroleum products imports and volatility in electricity prices and to preserve the environment, which will help to reduce the financial impact on BEC's operating costs, in addition to the positive net benefits for the country in the areas of security of supply and lower harmful emissions.
- 2.5 One constraint for the use of RE is that the current Electricity Act does not promote the use of RE. As such, the legal and regulatory framework of the energy

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<sup>1</sup> The debt coverage ratios have been deteriorating since 2004, even though the financial debt has remained constant in nominal terms.

sector and the set of fiscal incentives would need to be in place before investments for commercial applications that generate electricity with RE.

- 2.6 The GoBH, through the Ministry of Finances (MF) and the MOTE has requested to the Inter-American Development Bank (IDB) support for the development of a comprehensive study on BEC's overall operations. As such, an important component of this TC is to analyze BEC's operational, technical and financial aspects to understand and strengthen its weak points. Also, an important component of this TC will be to evaluate alternatives in the expansion of BEC's generation assets, including RE to decrease the Bahamas' dependency on fossil fuels.
- 2.7 In a parallel effort to help the GoBH in their decision making process to achieve sustainable energy (technically and financially), the IDB is preparing a TC with the Sustainable Energy Climate Change Initiative (SECCI) (BH-T1016) and the Global Environment Facility (GEF) (BH-X1001) to: (i) provide technical assistance to the GoBH to achieve EE in public buildings, residential sector and commercial sectors, and implement demonstration projects; (ii) explore alternatives for RE and implement pilot projects; (iii) support the GoBH with a WE program; and (v) institutional strengthening and dissemination of findings.
- 2.8 The results of this TC will contribute to prepare an IDB loan to BEC for a potential refinancing of its debt and/or financing its future capital investment program that will include RE, to ensure the medium and long-term sustainability of the company. Therefore this TC is eligible to be financed in a contingent recovery basis with funds of the Infrastructure Project Preparation Fund (Infrafund).
- 2.9 The Bank's Country and Sector Strategies: The Bank's country strategy for The Bahamas for 2003-2007 (document GN-2290-1) has four principal areas of strategic focus: (i) sustaining economic growth and private sector development; (ii) promoting social development and equity; (iii) improving environmental management and natural resources conservation; and (iv) public sector modernization. This TC broadly supports the pillars of the Country Strategy in areas (i) and (iii) and is also consistent with the goals of the Energy Sectoral Policy (ESP) of the IDB because it: (i) develops alternative sources of energy, especially from renewable resources; (ii) reduces and/or replaces the utilization of hydrocarbons in the production of energy; (iii) promotes the efficient use of energy; and (iv) creates and/or strengthens the institutional and technological base of the energy sector.
- 2.10 This TC is also consistent with the pillar of "Infrastructure for Growth and Environmental Sustainability" of the Country Strategy 2008-2012 for The Bahamas, currently in preparation, as confirmed with the GoBH during the Policy Dialogue Mission conducted in October of 2008.

- 2.11 This TC is also in accordance with some of the activities described in the ESP because it aims to improve the efficiency in the use of energy in the various sectors of economic activity and also studies the possibilities of utilizing new sources of energy, including research toward adapting energy production procedures which, because of their technological and socioeconomic characteristics, may signify an alternative source of energy for the future of Bahamas.

### **III. PROGRAM DESCRIPTION**

#### **A. Program goal and purpose**

- 3.1 The general objective of the TC is to upgrade and strengthen the capacity of the MOTE which is the entity with responsibility for the Energy Sector in The Bahamas, as well as to provide alternatives to minimize The Bahama's dependency on fossil fuels.
- 3.2 The specific objectives of this TC are to: (i) provide technical assistance to the MF and the MOTE to assist BEC in achieving financial and operational sustainability; (ii) explore alternatives for BEC's expansion plan including RE and WE; (iii) prepare an analysis of the current regulatory, financial and fiscal frameworks with recommendations to achieve a sustainable energy matrix in The Bahamas; and (iv) support institutional strengthening in EE and capacity building in the areas of RE and WE.

#### **B. Activities**

- 3.3 **Component I - Financial and Operational Technical Assistance:** This component is designed to: (i) prepare a financial and operational audit to BEC; (ii) assist BEC in improving its operational and financial management in order to strengthen the capacity to service debt; (iii) based on the results of the operational and financial audit, analyze alternatives on how to improve BEC's cash management; (iv) examine the operations of BEC to identify any inefficiencies and to recommend measures to increase efficiency, reduce cost and improve services; and (v) prepare a strategic pipeline of projects that includes refinancing options, future financing needs for expansion of its system and financial viability for BEC's long terms investments (analyzing and prioritizing projects).
- 3.4 This Component will also address the following issues: (v) diagnostic of the present situation, based in existing information and interviews of key stakeholders; (vi) review the historical financial statements made of BEC; (vii) identify issues and assist BEC in improving its operational and financial management (e.g, establishment of indicators for measurable improvements of operational efficiency, tariff structure, including technical and commercial losses, thermal generation efficiencies, O&M costs, increased collection ratios); (viii) analysis of technical and non-technical electricity losses in transmission and distribution lines and proposals to control it; (ix) modeling and forecasts BEC's



- financial statements based on expansion programs and commercial operations forecasts obtained in other activities of the study, showing the effect and importance of specific actions and programs to solve BEC's financial constraints; and (x) evaluation of strengths and weaknesses of BEC's Human Resources policies including an appraisal of the current employee performance and present performance indicators in order to compare BEC's performance with similar utilities.
- 3.5 **Component II - Explore alternatives for BEC's expansion plan including WE, RE and NG:** Specifically this Component will: (i) assess BEC's expansion program in Generation, Transmission and Distribution (in New Providence – Paradise Island and in Family Islands) using traditional energy and assess the potential for diversification of their energy matrix with RE and WE; (ii) assess the possibility of using Natural Gas (NG) for electricity generation, assuming that NG could be available in The Bahamas (in coordination with other studies done for The Bahamas), evaluate costs and potential saving of the operation, mainly for New Providence; (iii) provide technical assistance to support the preparation of Purchase Power Agreements (PPAs) to purchase/sell power from Independent Power Producers (IPPs) from/to the grid; (iv) determine cost of implementation of RE and WE; and (v) establish a prioritized plan of action to include RE and WE in the energy matrix, in coordination with other studies done for The Bahamas and prepare a prioritized list of projects.
- 3.6 **Component III - Regulatory Framework:** This component will: (i) review and provide recommendations to the existing energy legislation and regulatory policies in The Bahamas; (ii) prepare an analysis of the current regulatory framework and its impacts on the sustainability of BEC and the generation of electricity nationally; (iii) recommend regulation and policy to achieve a sustainable energy sector; (iv) review the mandate of the Public Utilities Commission and make recommendations; (v) prepare and recommend regulation and policies for on-grid connected WE and RE operated IPPs or BEC's owned facilities; and (vi) provide recommendations to achieve a long-term sustainability of BEC.
- 3.7 **Component IV - Integration of EE, RE, WE and NG to the Bahamas Energy Matrix:** This component will: (i) provide technical assistance to review and recommend legislation, regulatory and policy issues to integrate EE, RE, WE and traditional energy (diesel, fuel oil and eventually NG, if it is available) in the energy matrix of The Bahamas; (ii) analysis of the current energy matrix of The Bahamas; (iii) assess from energy planning point of view, using computer based energy models, how to integrate EE, RE, WE and traditional energy to the existing energy matrix; and (iv) with the information gathered and generated in the previous components this subcomponent will support the preparation of the National Energy Policy and the reformulation of the Bahamas Electricity Act.

#### IV. COST AND FINANCING

- 4.1 The cost of this TC to be financed with funds of the Infrafund is estimated as US\$700,000. As described in Paragraphs 1.3 and 4.2 of documents AB-2453 and GN-2404-4, the Infrafund may finance, on a contingent recovery basis, the preparation of specific programs, plans and projects that do not envision IDB financing. If the GoBH decides to move forward with a loan preparation for BEC, the resources of this TC will be non-reimbursable. The Infrafund is the only fund to support these kind of studies for such type of projects. The program will also include local counterpart funding in cash for US\$175,000. Table IV-I summarizes the TC's estimated costs.

**Table IV-I – Summary Cost (in US\$)**

Component	Financing		Total Funding
	IDB	Local	
	(US\$)	(US\$)	(US\$)
<b>Component I - Financial and Operational Technical Assistance</b>	250,000	175,000	425,000
<b>Component II - Explore alternatives for BEC's expansion plan including WE, RE and NG option</b>	180,000	--	180,000
<b>Component III - Regulatory Framework</b>	150,000	--	150,000
<b>Component IV – Integration of EE, RE, WE and NG to the Bahamas Energy Matrix</b>	70,000	--	70,000
<b>Monitoring and Audits</b>	40,000	--	40,000
<b>Contingencies</b>	10,000	--	10,000
<b>TOTAL</b>	<b>700,000</b>	<b>175,000</b>	<b>875,000</b>
<b>Percentage</b>	<b>80 %</b>	<b>20 %</b>	<b>100 %</b>

#### V. EXECUTING AGENCY AND MECHANISM

- 5.1 Executing Agency: The MOTE will be the Executing Agency of this TC. The selection and contracting of consulting services financed with Infrafund resources will be a responsibility of the MOTE.
- 5.2 Executing mechanism: The project will be executed under the coordination of the Energy Division of the Infrastructure and Environment Department (INE/ENE). The consulting services will be carried out by one consulting firm or association of firms. The MOTE will participate in the technical selection committees and will be in charge of coordinating logistical support and facilitating access to information. As beneficiaries of this TC, MOTE and BEC will provide counterpart staff and will review the technical reports.
- 5.3 In order to facilitate the coordination and execution of this program this TC will require a Project Manager (PM) that will have to be part of the MOTE. The PM will also coordinate the activities of TCs BH-T1016 and BH-X1001. The PM will

- be responsible for overall project guidance, access to key stakeholders, orderly implementation of the program, the selection of the consulting firm to carry out the four components of the TC, revision of the products prepared by the consulting firm, budget administration, logistics, local support and coordination between BEC, BEST, MOTE, MF, INE/ENE and the consulting firm.
- 5.4 The appointment of the PM will be a condition for first disbursement of the TC funds.
- 5.5 Execution period and disbursement schedule: The execution period for this TC will be 12 months, and the disbursement period 15 months, running from the effective date of the signature of the TC agreement.
- 5.6 Procurement and program implementation readiness: The procurement of consulting services will be carried out in accordance to the policies for Selection and Contracting of Consultants financed by the IDB (document GN-2350-7). The procurement plan is presented in Annex I.

## **VI. MONITORING AND EVALUATION**

- 6.1 Monitoring: The work of the consulting firm and its compliance with the Terms of Reference (TOR) for this project will be monitored by the MOTE in close coordination with INE/ENE and the IDB Country Office in Bahamas (CCB/CBH).
- 6.2 Technical and basic responsibility: Technical and basic responsibility for the project rests with the MOTE. CCB/CBH and INE/ENE will also conduct technical supervision and provide additional support. This includes the procurement of services to commission studies with TC contribution resources, technical supervision of the consulting firm, the performance of consulting engagements, and review of the technical quality of all studies financed under this TC, regardless of the source of financing. In addition, INE/ENE will monitor the contracting of the consulting firm to carry out studies for which the executing agency indicates its intention to request retroactive financing under a possible loan to finance BEC's long term investment program.
- 6.3 Progress and final reports: Intermediate and final reports of each study will be submitted to the MOTE. The MOTE will distribute the reports to the IDB, BEC and the MF. The MOTE and the IDB will submit comments within 2 weeks after receiving the reports. The MOTE will be responsible for approval of the final reports.

## **VII. PROGRAM BENEFITS AND RISKS**

- 7.1 Benefits and beneficiaries: The principal direct beneficiary will be the MOTE, BEST and the MF, which will have the tools required to analyze the sustainable energy matrix for The Bahamas and for making more rational and efficient

investment decisions. Another beneficiary will be BEC, which will have an optimal financial and investment plan to help them achieve financial and operational sustainability while exploring alternatives for an expansion plan including RE, WE and NG.

- 7.2 Risks: The major risk for this TC is that if in the future oil prices drop significantly the initiative loses momentum and the efforts to switch to sustainable energy are abandoned. However, GoBH considers sustainable energy as way to hedge against volatile oil prices. The TC will allow a more accurate calculation of how to mitigate the technical and financial losses of BEC and will help quantify the investments required by the GoBH in the areas of RE, WE and NG to help reduce the dependency of fossil fuels. The adoption of RE and WE are among the top priorities of the central government and have been sufficiently addressed and their importance underscored in the country's energy policy. The project team, together with GoBH, is mitigating this risk with the preparation of another TC with SECCI funds (BH-T1016) to promote sustainable energy in the Bahamas and GEF funds for the financing of pilot projects that will provide supporting quantitative and qualitative data that gives grounds to the implementation of a wider and more ambitious program. It is the team's and the government's believe that the pilot projects will help make a stronger case for the economic and environmental benefits of the adoption of RE and WE.
- 7.3 There is a coordination risk since the project has several parties and beneficiaries and the communication channels could intertwine at some point. This risk is mitigated with the hiring of a PM who will centralize the communication among agencies, all the procurement processes and the influx of information, both from the consulting firms and the government agencies.
- 7.4 There are some risks associated with the performance, monitoring and oversight of the implementing agency but these are also mitigated with the presence of a PM. The PM will either have previous experience and familiarity with IDB policies or will be trained for that matter. In any case, the MOTE and the PM will have permanent support from the project team, CCB/CBH and the procurement specialist in charge of the Bahamas.

## **VIII. ENVIRONMENTAL AND SOCIAL REVIEW**

- 8.1 This TC will not have a direct environmental and social impact. The social impacts of this project will be positive taking into account it's objectives and scope. The methodologies to be developed to explore alternatives for BEC's expansion plan including WE and RE will include an environmental and social analysis to comply with the environmental and social relevant National Legislation and the requirements of the Bank Environmental and Safeguard Compliance Policy (OP-703). Furthermore, this TC will support the reduction of carbon emissions, by replacing part of the exiting fossil fuel based electricity generation with renewable energy.

- 8.2 Based on the IDB Environmental and Safeguard Compliance Policy (OP-703), and taking into account the objectives, impacts and risks of this TC, this operation is a Category “C”.
- 8.3 The ESR Secretariat reviewed the TC Profile on September 09, 2008 and the proposed environmental and social strategy was approved.

## ANNEX I

### BH-T1012: Project Procurement Plan

### STRENGTHENING THE ENERGY SECTOR IN THE BAHAMAS

#### General information

**Country:** Bahamas

**Beneficiary Country:** The Commonwealth of The Bahamas

**Executing agency:** The Ministry of the Environment of the Bahamas (MOTE)

**Project name:** Strengthening the Energy Sector in the Bahamas

**Brief description of the project's objectives and components:**

The TC objectives are to: (i) provide technical assistance to the MF and the MOTE to assist BEC in achieving financial and operational sustainability; (ii) explore alternatives for BEC's expansion plan including RE and WE; (iii) prepare an analysis of the current regulatory, financial and fiscal frameworks with recommendations to achieve a sustainable energy matrix in The Bahamas; and (iv) support institutional strengthening in EE and capacity building in the areas of RE and WE.

**Estimated date of project approval by INE/ENE Chief: December 2008.**

**Estimated date of signature of the Letter of Agreement contract: January 2009.**

**Estimated date of the final disbursement: April 2010.**

#### **A. Introduction**

Procurements for the proposed project will be carried out in accordance with the *Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank* (GN-2350-7), of August 2006, and with the provisions established in the loan contract and this procurement plan.

#### **B. Procurement plan**

The procurement plan for the Strengthening the Energy Sector in the Bahamas covering 12 months of project execution has been agreed between the IDB and Government of Bahamas. The plan, which is summarized in Appendix 1, indicates the procedure to be used for the procurement of services, and the method of selecting consultants, for each contract or group of contracts. It also indicates the estimated cost of each contract or group of contracts; and estimated dates for the publication of specific procurement notices and completion of the contracts included in this project. The procurement plan will be updated annually or whenever necessary or as required by the IDB.

The procurement plan is available on the Bank's website: [Information on project procurements](#)

#### **C. Project procurement**

The procurements to be made for the proposed project are described in general below.

**Works procurement:** There are no works included in the procurement plan.

**Goods procurement:** There are no goods included in the procurement plan.

**Procurement of consulting services:** Consulting services for the project include: research, analysis and reporting of results.

The consulting firm to be hired for the project will be selected using the standard request for proposals (RFP) issued by the IDB. Individual consultants will be selected bearing in mind the provisions established in chapter V of the policy in document GN-2350-7.

**Operating expenses:** There are no foreseeable operating expenses to be financed by the IDB.

## Appendix 1

### Procurement plan<sup>1</sup>

**Country:** Bahamas

**Beneficiary Country:** The Commonwealth of The Bahamas

**Executing agency:** The Ministry of the Environment of the Bahamas (MOTE).

**Project name:** Strengthening the Energy Sector in the Bahamas

**Brief description of the project's objectives and components:**

The TC objectives are to: (i) provide technical assistance to MF and MOTE to assist BEC in achieving financial and operational sustainability; (ii) explore alternatives for BEC's expansion plan including RE, WE and NG; (iii) prepare an analysis of the current regulatory, financial and fiscal frameworks with recommendations to achieve a sustainable energy matrix in The Bahamas; and (iv) support institutional strengthening in EE and capacity building in the areas of RE and WE.

**Estimated date of project approval by INE/ENE Chief: December 2008.**

**Estimated date of signature of the Letter of Agreement contract: January 2009.**

**Estimated date of the final disbursement: April 2010.**

Contract Description	Estimated Cost (US\$)	Selection Method	Review (ex-ante or ex-post)	Source of Financing and percentage	Publication of Procurement Notices	Status (pending, in process, awarded, cancelled)
Component I - Financial and Operational Technical Assistance	250,000	QCBS	ex-ante	IDB=58%	October 2008	Pending
Component II - Explore alternatives for BEC's expansion plan including WE, RE and NG option	180,000	QCBS	ex-ante	IDB=100%	October 2008	Pending
Component III - Regulatory Framework	150,000	QCBS	ex-ante	IDB=100%	October 2008	Pending
Component IV – Institutional Strengthening and capacity building in the areas of EE, RE, WE and NG	70,000	QCBS		IDB=100%	October 2008	Pending
Project Manager	40,000	IC	ex-post	IDB=100%		Pending

**QCBS=Quality and Cost Based Selection, IC=Individual Consultant**

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<sup>1</sup> All project contracts should be included, even if not financed by the IDB, indicating the source of funding in each case.



**ANNEX II**  
**DETAILED BUDGET**  
**STRENGTHENING THE ENERGY SECTOR IN THE BAHAMAS (BH-T1012)**

<b>Component</b>	<b>IDB- INFRAFUND in US\$</b>	<b>MOTE in US\$</b>	<b>TOTAL in US\$</b>
<b>Component I: Financial and Operational Technical Assistance</b>	<b>250,000</b>	<b>175,000</b>	<b>425,000</b>
- Diagnostic of BECs current situation and review the historical financial statements	<i>10,000</i>	<i>30,000</i>	<i>40,000</i>
- Analysis of technical and non-technical electricity losses in transmission and distribution lines	<i>50,000</i>	<i>35,000</i>	<i>85,000</i>
- Review BECs operational and financial management procedures	<i>30,000</i>	<i>40,000</i>	<i>70,000</i>
- Modeling and forecasts BEC's financial statements based on expansion programs	<i>70,000</i>	<i>30,000</i>	<i>100,000</i>
- Financial analysis and recommendations	<i>70,000</i>	<i>20,000</i>	<i>90,000</i>
- Evaluation of BEC's Human Resources policies	<i>20,000</i>	<i>20,000</i>	<i>40,000</i>
<b>Component II - Explore alternatives for BEC's expansion plan including WE, RE and NG option</b>	<b>180,000</b>	<b>--</b>	<b>180,000</b>
- Assessment of BEC's expansion program in Generation, Transmission and Distribution	<i>30,000</i>	<i>--</i>	<i>30,000</i>
- Assessment of BEC's potential for diversification with RE and WE	<i>80,000</i>	<i>--</i>	<i>80,000</i>
- Assessment of BEC's the possibility of using Natural Gas for electricity generation	<i>20,000</i>	<i>--</i>	<i>20,000</i>
- Support to the preparation of PPAs	<i>20,000</i>	<i>--</i>	<i>20,000</i>
- Prioritized plan of action to include RE and WE in the energy matrix	<i>30,000</i>	<i>--</i>	<i>30,000</i>
<b>Component III - Regulatory Framework</b>	<b>150,000</b>	<b>--</b>	<b>150,000</b>
- Review the existing energy legislation and regulatory policies in The Bahamas	<i>30,000</i>	<i>--</i>	<i>30,000</i>
- Analysis of the current regulatory framework and its impacts on the sustainability of BEC	<i>20,000</i>	<i>--</i>	<i>20,000</i>
- Recommend regulation and policy to achieve a sustainable energy sector	<i>20,000</i>	<i>--</i>	<i>20,000</i>
- Review the mandate of the Public Utilities Commission	<i>20,000</i>	<i>--</i>	<i>20,000</i>
- Recommend regulation and policies for on-grid connected WE and RE operated IPPs or BEC's owned facilities;	<i>50,000</i>	<i>--</i>	<i>50,000</i>

- Provide recommendations to achieve a long-term sustainability of BEC.	<i>10,000</i>	--	<i>10,000</i>
<b>Component IV – Integration of EE, RE, WE and NG to the Bahamas Energy Matrix</b>	<b>70,000</b>	--	<b>70,000</b>
- Review and recommend legislation, regulatory and policy issues to integrate EE, RE, WE and traditional energy in the energy matrix	<i>30,000</i>	--	<i>30,000</i>
- Analysis of the current energy matrix of The Bahamas	<i>20,000</i>	--	<i>20,000</i>
- Support the preparation of the National Energy Policy and the reformulation of the Bahamas Electricity Act	<i>20,000</i>	--	<i>20,000</i>
<b>Monitoring and Audits</b>	<b>40,000</b>	--	<b>40,000</b>
<b>Contingencies</b>	<b>10,000</b>	--	<b>10,000</b>
<b>TOTAL</b>	<b>700,000</b>	<b>175,000</b>	<b>875,000</b>
<b>Percentage</b>	<b>80%</b>	<b>20%</b>	<b>100%</b>