DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

REGIONAL

SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN

(RG-L1071)

AND

CLEAN TECHNOLOGY FUND (CTF) GRANT FOR THE SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN

(RG-G1009)

AND

GLOBAL ENVIRONMENT FACILITY (GEF) GRANT FOR THE SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN

(RG-G1004)

LOAN PROPOSAL

This document was prepared by the project team consisting of: Christiaan Gischler (INE/ENE), Project Team Leader; Jaiwattie Anganu (CMF/CJA), Alternate Team Leader; Emilio Sawada (INE/CUR); Adriana Valencia, Shohei Tada, Camila Gonzalez, Stephanie Suber, and Wilkferg Vanegas (INE/ENE); Maria Florencia Attademo and Maria Isabel Haro (IFD/CMF); Claudio Alatorre, Mateo Salomon and Christoph Tagwerker (INE/CCS); Betina Hennig (LEG/SGO); Colin McKee and Genevieve Beaulac (VPS/ESG); Jacob Veverka (INE/TSP); Seth Stevens Colby (VPP/VPP); Paloma Marcos (SCL/GDI); Lesley Cassar (CCB/CCB); Christel Saab, Camilo Osorio and Rochelle Franklin (CCB/CBA); Denise Salabie, Roy Parahoo, and Maria Camila Padilla (FMP/CBA).

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1. Monitoring & Evaluation Plan
2. Environmental and Social Management Report (ESMR)

OPTIONAL

1. Cost Benefit Analysis
2. Donor Coordination Annex
3. Indicative Project Pipeline
4. Operating Manual
5. Regional Integration Technical Annex
6. Gender Annex
7. Challenges and Opportunities for the Energy Sector in the Eastern Caribbean: Achieving an Unrealized Potential
8. Antigua & Barbuda Energy Dossier
9. Dominica Energy Dossier
10. Grenada Energy Dossier
11. Saint Kitts and Nevis Energy Dossier
12. Saint Lucia Energy Dossier
13. Saint Vincent and the Grenadines Energy Dossier
14. Challenges and Opportunities for the Energy Sector in the Eastern Caribbean: Strategy for Developing Geothermal Potential through Public-Private Partnerships in the Eastern Caribbean
15. Safeguard Policy Filter (SPF) and Safeguard Screening Form (SSF)

ABBREVIATIONS

A&B	Antigua and Barbuda
AFS	Audited Financial Statements
CDB	Caribbean Development Bank
CORE	Co-financing Mechanism for Renewable Energy and Energy Efficiency
CTF	Clean Technology Fund
DOM	Dominica
DPSP	Dedicated Private Sector Program
EA	Executing Agency
ECC	Eastern Caribbean Countries
ECERA	Eastern Caribbean Energy Regulatory Authority
EE	Energy Efficiency
EIA	U.S. Energy Information Administration
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESA	Electricity Supply Acts
ESG	Environmental, Social and Governance
ESIA	Environmental and Social Impact Assessment
ESMR	Environmental and Social Management Report
FI	Financial Intermediary
GCI-9	Ninth General Increase in the Resources of the Inter-American Development Bank
GCF	Green Climate Fund
GCL	Global Credit Loan
GDP	Gross Domestic Product
GE	Geothermal Energy
GEF	Global Environment Facility
GRE	Grenada
IFC	International Finance Corporation
IPP	Independent Power Producers
IRENA	International Renewable Energy Agency
JICA	Japan International Cooperation Agency
LCOE	Levelized Cost of Energy
OECS	Organization of Eastern Caribbean States
OC	Ordinary Capital
OCR	Ordinary Capital Resources
OM	Operating Manual
OSF	Other Special Funds
PCR	Project Completion Report
PPA	Power Purchase Agreement
PPP	Public Private Partnerships
PS	Performance Standards
PUP	Public Utilities Policy
PV	Photovoltaics
RE	Renewable Energy
REEEU	Renewable Energy and Energy Efficiency Unit
SEF	Sustainable Energy Facility
SE	Sustainable Energy
SFR	Special Funds Resources
SKN	Saint Kitts and Nevis
SL	Saint Lucia
SSF	Safeguard and Screening Form for Screening and Classification of Projects
SVG	Saint Vincent and the Grenadines
SWH	Solar Water Heaters
US	United States
WB	World Bank

PROJECT SUMMARY
REGIONAL
SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN
(RG-L1071, RG-G1009, RG-G1004)

<table>
<tr><th colspan="6">Financial Terms and Conditions</th></tr>
<tr><td colspan="6">Borrower and Executing Agency: Caribbean Development Bank (CDB)</td></tr>
<tr><th>Source</th><th>Amount (US$)</th><th>%</th><th colspan="3">Flexible Financing Facility[a]</th></tr>
<tr><td>IDB Ordinary Capital (OC) (RG-L1071):</td><td rowspan="2">20,000,000</td><td rowspan="2">28.8</td><td colspan="2">Amortization Period:</td><td>22 years</td></tr>
<tr><td colspan="2">Original WAL:</td><td>15.25 years</td></tr>
<tr><td>CTF (Grant)[c] RG-G1009):</td><td>19,050,000</td><td>26.6</td><td colspan="2">Disbursement Period:</td><td>8 years</td></tr>
<tr><td>GEF (Grant)[d] (RG-G1004):</td><td>3,013,698</td><td>4.2</td><td colspan="2">Grace Period:</td><td>8.5 years</td></tr>
<tr><td>CDB counterpart:</td><td>29,435,000</td><td>41.2</td><td colspan="2">Supervision and Inspection Fee:</td><td>[b]</td></tr>
<tr><td>Total:</td><td>71,498,698</td><td>100.0</td><td colspan="2">Interest rate:</td><td>Libor-based</td></tr>
<tr><td colspan="3">Parallel Financing:</td><td colspan="2">Credit Fee:</td><td>[b]</td></tr>
<tr><td>JICA (Loan):</td><td colspan="2">40,000,000</td><td colspan="2">Currency of Approval:</td><td>United States dollars (US$) chargeable to the OC</td></tr>
<tr><td rowspan="3">JICA (Grant):</td><td colspan="2" rowspan="3">1,000,000</td><td colspan="3">CTF Grant</td></tr>
<tr><td colspan="2">Currency of Approval:</td><td>United States dollars (US$)</td></tr>
<tr><td colspan="2">Disbursement/execution period:</td><td>8 years</td></tr>
<tr><td rowspan="3">Total Parallel Financing:</td><td colspan="2" rowspan="3">41,000,000</td><td colspan="3">GEF Grant</td></tr>
<tr><td colspan="2">Currency of Approval:</td><td>United States dollars (US$)</td></tr>
<tr><td colspan="2">Disbursement/execution period:</td><td>5 years</td></tr>
<tr><th colspan="6">Project at a Glance</th></tr>
<tr><td colspan="6">Project objective/description: The objective of the Sustainable Energy Facility (SEF) for the Eastern Caribbean (the program) is to contribute to the diversification of the energy matrix in the Eastern Caribbean Countries (ECC) in an effort to reduce the cost of power generation and electricity tariffs by promoting the implementation of Energy Efficiency (EE) and Renewable Energy (RE) technologies to reduce the region's dependency on liquid fossil fuels.

To that end, the program contemplates the financing of the following components: (i) Energy Efficiency; (ii) regulatory framework, institutional strengthening and capacity building; and (iii) Renewable Energy.</td></tr>
<tr><td colspan="6">Special contractual condition prior to the first disbursement: that the Borrower presents evidence that the Operating Manual (OM), including the sub-loan/sub-grant model agreements, has been approved in accordance with the terms and conditions previously agreed upon between the CDB and the Bank (¶3.4).
Special conditions prior to execution: As a condition prior to the first disbursement for activities under Component 3 that: (i) the Program Manager and Technical Specialist, whose functions and responsibilities are defined in the OM, have been assigned to the program (¶3.1); and (ii) the CDB presents evidence that a specialized consulting firm has been contracted to support the CDB to assess, appraise, design and develop, at least, the first one of the Geothermal Energy (GE) Public Private Partnerships (PPP) sub-loans, in accordance with the terms of reference agreed with the Bank (¶2.10).</td></tr>
<tr><td colspan="6">Exceptions to Bank policies: An exception to Bank's current procurement policies set forth in documents GN-2349-9 and GN-2350-9 is requested for approval by the Board of Executive Directors so that works, goods and services providers from CDB member countries, which are not members of the IDB, may participate in the procurement processes for activities to be financed with resources of or administered by the Bank (¶3.6).</td></tr>
<tr><td colspan="6">The project qualifies for[e]: SV ☑ PE ☐ CC ☑ CI ☑</td></tr>
</table>

(a) Under the Flexible Financing Facility (FN-655-1), the borrower has the option to request modifications to the amortization schedule as well as currency and interest rate conversions. In considering such requests, the Bank will take into account operational and risk management considerations.
(b) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.
(c) These resources were approved by the CTF Trust Fund Committee on September 16, 2015.
(d) IDB obtained the GEF's Chief Executive Officer's (CEO) Endorsement to the full project proposal requesting these resources on September 16, 2015.
(e) SV (Small and Vulnerable Countries), PE (Poverty Reduction and Equity Enhancement), CC (Climate Change, Sustainable Energy and Environmental Sustainability), CI (Regional Cooperation and Integration).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, Problem Addressed, Justification

1.1 The Report on the Ninth General Increase in the Resources of the Inter-American Development Bank (GCI-9) (AB-2764) established that the Bank will continue its work in partnership with the Caribbean Development Bank (CDB) and to this end, Management was directed to propose a mechanism for approval by the Board of Executive Directors to provide Ordinary Capital (OC) resources, grants and concessional loans from other donors to the CDB for these to be on-lent to six Eastern Caribbean Countries (ECC), namely Antigua and Barbuda (A&B), Dominica (DOM), Grenada (GRE), Saint Kitts and Nevis (SKN), Saint Lucia (SL), and Saint Vincent and the Grenadines (SVG) mainly to promote Sustainable Energy (SE), including Energy Efficiency (EE) and Geothermal Energy (GE) among other Renewable Energy (RE) technologies. On January 27, 1977, the Bank Charter was amended to allow the Bank to provide financial resources to the CDB to support the development of its ECC members. On September 28, 1977, the Bank and the CDB entered into an agreement setting forth the general standards applicable to operating relations between both institutions. Since then, the Bank has financed five Global Credit Loan (GCL) programs[1] to the CDB, using sovereign guarantee lending terms, for a total of US$114 million.

1.2 **Proposed intervention**. The proposed Sustainable Energy Facility (SEF) for the Eastern Caribbean (the "program" or "SEF") will be financed through a GCL to the CDB chargeable to the Bank´s OC resources. In addition, resources from the Clean Technology Fund (CTF) and the Global Environment Facility (GEF) will be available for the financing of non-reimbursable investment and technical assistance. This operation has the potential to unlock SE, through EE and RE to radically change the energy matrix of the ECC by reducing substantially their dependency on fossil fuels for power generation as well as reducing the cost of electricity. High electricity tariffs are particularly burdensome on this region given the characteristics of these economies which are predominantly driven by the commercial and tourism sectors.[2] As a consequence, the ECC can improve their competitiveness and the fiscal and macro-economic stability. The IDB, the CDB and the SEF donors have a unique opportunity to achieve this goal with the use of technical and financial assistance required by the ECC mainly through grant and concessional financing that will mobilize private sector capital and expertise required for developing SE projects in the region. To do this in the most effective manner, the main resource available to the ECC is GE as explained in Figure 1.

1.3 International experience shows (¶1.15) that GE requires risk mitigation instruments and concessional financing in order to move past the early stages in

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[1] The average disbursement period for the four GCL (551/SF-RG; 488/OC-RG; 758/SF-RG; 926/OC-RG; 975/SF-RG; 1108/SF-RG) that have been fully disbursed was 9 years, with a focus on agriculture, industry, tourism, water and sanitation, and road improvement. The GCL currently under execution (RG-L1018; 2798/BL-RG) reached eligibility in December 2013 and has disbursed 41% of total funds as of July 31, 2015. Further, resources are all fully committed with sub-loans approved for 4 countries.

[2] More than 50% of tourism sector costs are related to energy use.

GE development and reduce electricity tariffs for end users. Once the geothermal resource has been proven and is being harnessed, GE projects can access finance at commercial rates. In this transaction the IDB has played a fundamental role in leveraging concessional resources from other donors in order to mitigate early stage risk for GE development. IDB has secured donor support from CTF and GEF adding up to US$22,063,698 and expects to leverage additional resources of US$81,000,000 from the Japan International Cooperation Agency (JICA) and the Green Climate Fund (GCF).[3]

1.4 **Problem.** The ECC are six island states with small and isolated electricity markets. The fact that these countries have small and isolated grids, lack the scale necessary to import cheaper fossil fuels, such as natural gas, and have not yet fully developed their RE endowments, makes them dependent on costly imported liquid fossil fuels for electricity generation and results in high electricity costs. Electricity tariffs in the ECC are indexed to fuel prices, or include a fuel surcharge with a direct pass through to end consumers. Hence, customers often see high electricity tariffs and high volatility in their monthly bills. In 2013, the average electricity tariff was US$0.39/kWh (with lower oil prices of US$70/barrel the tariff is estimated at US$0.33/kWh). By comparison, in the State of Florida in the United States of America (US), the average tariff was US$0.11/kWh.[4] On average, in 2014 the fuel cost represented 53% of the total cost to end users.

1.5 **Fiscal implications of liquid fossil fuel dependency**. Ever since the first oil shock of 1973, oil dependence has become a heavy burden on the ECC economies. High electricity prices both hinder economic growth, and a high public sector energy bill drains public resources that could be used to provide more social services. Governments in the region face fiscal constraints partly due to their fossil fuel import bills. As presented in Table 1, oil imports as a percentage of Gross Domestic Product (GDP) exceed 7% for all ECC. Limited borrowing capacity as implied by the Debt-to-GDP ratios averaging 86% limits the governments' ability to invest in Sustainable Energy (SE) technologies thus perpetuating dependency on imported fossil fuels and its tightening effect on fiscal space.

Table 1. Key Information on the Energy Sector in the Eastern Caribbean

Country /island	Average Tariff (US$/kWh)		Oil Imports as a % of GDP	Fossil Fuel Imports (US$ Million)	Debt to GDP ratio
	2013	2014			
A&B	0.44	0.42	12% (2012)	150 (2012)	98.7% (2015)
DOM	0.41	0.36	7% (2012)	41.5 (2012)	73.7% (2013)
GRE	0.40	0.37	10% (2012)	101.1 (2012)	105.5% (2014)
SL	0.37	0.32	9% (2011)	116 (2011)	84.8% (2013)
St. Kitts	0.35	0.32	9% (2010)	22.6 (2010)	80.0% (2015)
Nevis	0.37	0.32			
SVG	0.36	0.34	11% (2011)	91 (2011)	74.7% (2013)

[3] The IDB has already requested co-financing proposals to JICA and GCF which are under analysis and consideration of their respective project preparation processes.

[4] Castalia (2014). Caribbean Regional Energy Integration Assessment: Scenarios and Opportunities.

1.6 **Eastern Caribbean power sector overview**. All countries[5] except for SKN have one vertically integrated electricity utility, responsible for generation, transmission, and distribution of electricity. In SKN, two vertically integrated electricity utilities are responsible for generation, transmission, and distribution of electricity, one on St Kitts and another on the island of Nevis. DOM, GRE, and SL have privately owned utilities while utilities in SVG, A&B, and SKN are entirely state-owned (see Table 2). For a detailed energy sector overview see the Energy Dossiers for A&B, DOM, GRE, SKN, SL, and SVG.

1.7 Fossil fuel based power generation units in the ECC have been in operation on average for over 13 years, power service is reliable, the ECC have almost reached universal electricity access,[6] and in general, electricity tariffs reflect the full cost of service.[7] There are no fossil fuel sources available domestically in any of the six ECC. Although Independent Power Producers (IPP) are allowed to generate electricity to sell to the utility, the only RE IPP in operation is the Nevis wind farm with 2.2MW of installed capacity. Utilities have relatively small customer bases, which do not allow for larger and more cost-effective power generation plants that use other fuels.

Table 2. Key Information on the Energy Sector in the ECC

Country /Island	Utility	Government Ownership (%)	Peak/ Baseload Demand[8] (MW)	Installed Generation Capacity (MW)	Genera-tion Capacity from RE (%)	Average Fuel Cost (US$/kWh sold) (2013)
A&B	APUA	100%	49.2/25	83	0%	NA
DOM	DOMLEC	21%	16.8/8	26.7	25%	0.18
GRE	GRENLEC	21.6%	29.2/15	48.6	1%	0.22
SL	LUCELEC	45.4%	59.7/30	86.2	0%	0.22
St. Kitts	SKELEC	100%	24.0/12	43.0	0.05%	NA
Nevis	NEVLEC	100%	9.3/4.5	13.9	20%	NA
SVG	VINLEC	100%	25.7/13	51.4	10%	0.20

1.8 **Legal and regulatory framework**. The electricity sectors of all ECC are governed by the Electricity Supply Acts (ESA).[9] The ESA establish the structure of the electricity sector, regulate the sector, and either grant licenses to the vertically integrated utility or create the legal framework necessary for the ministry responsible for energy to do so. The ESA also establish the price setting mechanism that is used to determine electricity tariffs.

1.9 **Regulation of the electricity sectors varies between countries**. DOM, GRE and SKN have legislation that mandates creating an independent regulator for the electricity sector. Despite this, only DOM has appointed an independent

[5] In the case of A&B, the utility also manages the production and distribution of potable water and wastewater treatment. Water pumping and production is the highest consumption of energy in A&B.

[6] The ECC's coverage rates are the following: SL 96% (2013), Saint Kitts 95% (2012), Nevis 95% (2012), GRE 99.5% (2013), SVG 99% (2011), DOM 91.2% (2011), and A&B 88.2% (2010).

[7] Except in the case of SKN.

[8] Baseload demand is assumed to be approximately half of the peak load.

[9] The only exception to this is SKN, where the electricity sectors in each island are governed by separate laws and tariffs are set by the Governor General in Saint Kitts and by NEVLEC in Nevis.

regulator as yet. GRE and SKN have assigned regulatory functions among different government agencies. In SL and SVG regulation is established by statute in the ESA and regulatory functions are spread among various government agencies. The World Bank (WB) sponsored Eastern Caribbean Energy Regulatory Authority (ECERA) project was planning to have one regional regulator for the Eastern Caribbean region. Currently, the ECERA fulfills the function of an advisory agency housed at the headquarters of the Organization of Eastern Caribbean States (OECS) Commission in SL.

1.10 The ECC have taken steps to improve their governance frameworks to promote the adoption of RE for power generation. However, significant work and changes are required for the successful implementation of RE in general and GE in particular. Most of the countries lack laws and regulations governing the exploration and development of geothermal resources. Only Nevis has passed[10] legislation that defines what a geothermal resource is and who owns it, and sets out the process for assigning rights to explore and exploit it. The rest of the countries are working to prepare geothermal resource development bills which are currently at different stages of seeking parliamentary approval.

1.11 **SE potential**. All of the ECC have available SE resources that could offset liquid fossil fuel generation and hence create financial savings. SE means economically viable RE and EE projects that displace fossil fuel-based electricity. Adoption of EE technologies[11] and measures could not only reduce consumption through demand-side management but also optimize power generation at the supply side. Figure 1 shows the technologies that can be developed to seize the region's SE potential. The figure shows the amount of barrels of oil that each technology would displace (vertical axis) and their all-in cost or Levelized Cost of Energy (LCOE)[12] (horizontal axis). The size of the bubbles shows the potential of the technology in terms of Mega Watts (MW) of potential installed capacity and the color indicates whether it is baseload,[13] intermittent energy or EE. The graph shows that GE, a baseload energy with more than 90% capacity factor, the lowest LCOE (around US$0.10/kWh), the largest potential displacement of oil barrels (more than 2 million barrels) and the largest estimated installed capacity potential (over 160MW), is the largest available RE resource for the ECC (except A&B) with the possibility in some cases of exporting[14] power to neighboring islands via undersea cables.

1.12 Also in Figure 1, EE appears to be the second technology/measure that has similar LCOE than GE, but with lower oil displacement and installed capacity potential (equivalent to 35MW). The main EE technologies with highest potential

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10 As of July 31st, 2015.

11 The key EE technologies for the ECC can be divided into the following groups: (i) lighting; (ii) air conditioning; (iii) refrigeration; (iv) mechanical applications; (v) solar water heating; and (vi) other efficient appliances.

12 The LCOE is a way to compare the all in cost of any energy technology, including capital cost, operation, maintenance, and decommissioning during its lifetime.

13 Baseload energy is the power that can be produced 24 hours per day and 7 days a week without interruption.

14 Nevis could be connected to St Kitts, Dominica to Guadeloupe, and Dominica to Martinique with a 5km, 70km and 100km undersea cable respectively.

in this region are: (i) Solar Water Heaters (SWH)[15] which would replace electric water heaters; (ii) light-emitting diode (LED) technology, and other efficient lighting for replacing high pressure sodium streetlights (and other standard technologies); and (iii) EE appliances, like efficient air conditioning. Table 3 shows the estimated investment requirements for EE and RE in the ECC and Table 4 presents the estimated investment requirements for GE by stage of development.

Table 3: Estimated Investment requirements for EE and RE in the ECC (in US$ Million)

Country	EE			RE				
	Solar water heating	Streetlights and building retrofits	Total EE	Solar PV	Wind	Hydro	GE	Total RE
SL	8.0	7.7	**15.7**	26.0	20.0	-	168.3	**214.3**
SVG	5.0	4.8	**9.8**	15.6	10.0	18.0	96.3	**139.9**
GRE	5.9	5.7	**11.6**	13.0	7.5	-	102.3	**122.8**
SKN	2.8	2.7	**5.4**	10.4	10.0	-	92.1	**112.5**
DOM	4.2	4.0	**8.3**	7.8	-	-	67.0	**74.8**
A&B	3.9	3.7	**7.6**	26.0	12.5	-	-	**38.5**
Total	**29.8**	**28.6**	**58.4**	**98.8**	**60.0**	**18.00**	**526.0**	**702.8**

Table 4: Estimated total investment required for GE in the ECC by stage of project development (in US$ Million)

Country	Stage 1a: Pre-invest-ment	Stage 1b: Pre-investm ent	Stage 2: Exploration	Stage 3: Field Development		T&D and Access Roads	Total
	(Studies)	(Slim hole drillings)	(Full scale drillings)	(Production /re-injection wells)	(Plant)		
SL	(done)	6	14	42	90	16.3	**168.3**
SVG	(done)	(skip)	14	21	45	16.3	**96.3**
GRE	(done)	6	14	21	45	16.3	**102.3**
SKN	(done)	(done)	14	21	45	12.1	**92.1**
DOM	(done)	(done)	(done)	7	45	15.0	**67.0**
Total	**0**	**12**	**56**	**112**	**270**	**80.2**	**526.0**

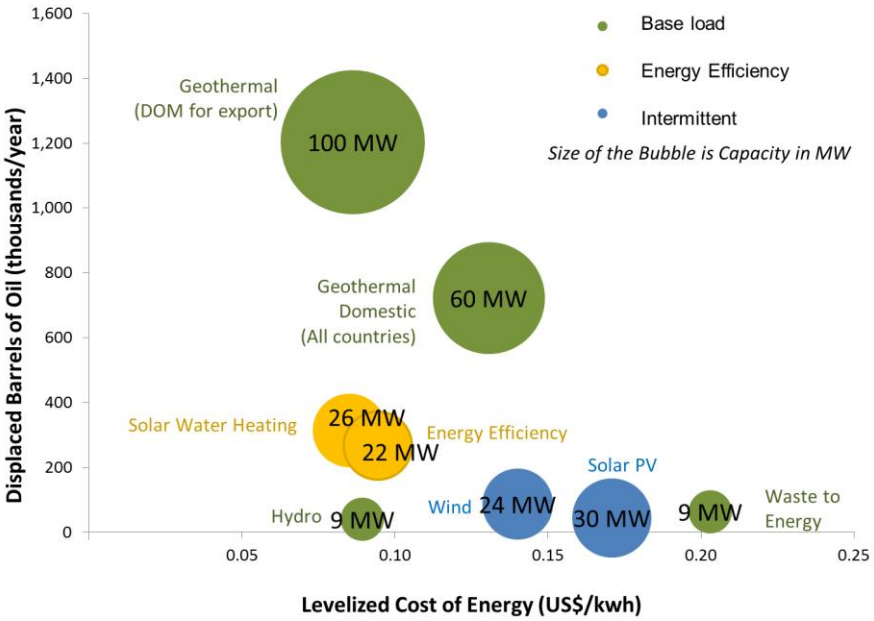
1.13 The potential for RE, however, remains largely unrealized in the ECC. Apart from some hydro power (25% of installed in DOM and 16-20% of gross generation in SVG in 2013), electric utilities in these countries use diesel or fuel oil generators. The main barriers to SE in the ECC are: (i) high capital costs; (ii) lack of access to capital at appropriate terms; (iii) inadequate legislative, regulatory and policy frameworks; (iv) limited fiscal space for governments to acquire new public debt; (v) insufficient specialized technical skills; (vi) lack of economies of scale given the relative small size and isolation of electricity markets in the ECC; and (vii) RE resource risk (especially in GE).

1.14 GE development, which has the largest potential for the displacement of oil consumption, suffers from special challenges that require participation of both the

[15] Barbados, also located in the Eastern Caribbean, has over 35% penetration of SWH, saving more than 50MW equivalent over 20 years.

governments and the private sector through Public-Private Partnerships (PPP) arrangements. This is due to the limited borrowing capacity of the region's governments to undertake infrastructure investments, the scale of investments required to develop GE, high uncertainty during early development stages that the private sector is unable to bear, and the limited capacity in ECC to develop their GE potential.[16]

Figure 1. SE Alternatives for the ECC[17]



1.15 **Lessons learned from international experience**. A shift towards SE through increased use of RE and increased EE has demonstrated potential for meeting energy challenges such as high electricity cost and overdependence on imported fossil fuels. Lessons learned from current and previous EE initiatives supported by IDB (i.e. 2485/OC-BA and 2748/OC-BA) point to the potential of leveraging more private sector capital in support of EE through performance based contracts. Performance based contract models for EE and RE retrofits will be included in the OM making this knowledge available to SEF sub-projects. To date, 164 countries have set targets related to RE penetration in their energy systems,[18] and countries, cities and corporations globally have committed to double the rate of global EE by 2030.[19] International experience indicates that the existence of an enabling legal and regulatory framework for SE, private investment, international cooperation and the availability of sources of appropriate financing are essential for global investment in RE and EE. Among

[16] Despite of the relatively small scale of the GE plant per country (10-15 MW), GE projects are expected to contribute significantly to reduce power generation costs in the ECC countries. Other SE technologies will receive SEF funding.

[17] The information to prepare Figure 1 was obtained from the Challenges and Opportunities for the Energy Sector in the Eastern Caribbean: Achieving an Unrealized Potential Report prepared by Castalia Advisors Inc.

[18] United Nations Climate Change Newsroom.

[19] At the UN Secretary General's Climate Summit in 2014.

RE solutions, GE development in particular necessitates significant public sector support to move forward. The factors that enabled GE development in countries such as El Salvador, Costa Rica, Nicaragua, Kenya, US,[20] Iceland[21] and Guadaloupe[22] were analyzed and lessons were extracted as part of the design of the SEF. The main factors are: (i) the existence of high quality GE resources; (ii) availability of grant support and risk mitigation mechanisms for exploratory activities; (iii) strong government commitment to develop GE; (iv) an enabling legal and regulatory framework that sets incentives to develop RE technologies and provides clear rules for the development of geothermal resources; and (v) development of early geothermal projects by government-owned agencies with support of international donors.

1.16 **Eligibility of the CDB as a borrower of Bank's resources**. The proposed financing to the CDB complies with all three criteria (compatibility, complementarity, and additionality) as set forth in the Bank's Operational Policies and Strategies Manual (OP-601: Relationship with Subregional Financial Institutions - General Policy). Regarding compatibility, a review of CDB policies and operational practices shows that CDB policies and strategies are consistent with those of the Bank's, predicated on consistent principles. While the CDB does not have an equivalent Public Utilities Policy (PUP) (GN-2716-4), this operation was designed taking into consideration the principles of IDB's PUP: (i) each sub-project will be financially sustainable as it will generate, though the electricity tariff charged to final users, sufficient funds to meet the financial commitments and the operational and maintenance costs of the systems related to the operation; and (ii) each sub-project will achieve environmental and social sustainability as explained in ¶2.6. There are differences[23] between IDB and CDBs information disclosure policies and practices. Regarding complementarity, since the Bank cannot lend directly to the ECC (not member countries of the Bank), the CDB provides the channel for Bank assistance to support the social and economic development of these countries. Finally, regarding additionality, this loan has a multiplier effect with regard to financial resource flows to the sub-region and will increase the level of resources that the CDB could provide to the beneficiary countries. In accordance to OP-601, having determined that the CDB's policies are consistent with those of the IDB, the CDB will apply its own policies and procedures for granting sub-loans with resources from the program.

1.17 **Strategic alignment**. All operations financed by CDB through this loan will comply with strategic alignment metrics homologous to the Bank's. All operations

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[20] US is the country with the highest installed capacity for geothermal generation (3,442MW in 2013) of which California hosts (78%).

[21] Iceland has successfully developed its geothermal resources and has an installed capacity of 665MW for geothermal generation.

[22] Guadeloupe, an Overseas Department of France, is the only island in the Eastern Caribbean that has successfully developed its geothermal resources and demonstrates the feasibility of developing GE potential in the context of a small island. Guadeloupe has an installed capacity of 15MW consisting of a 4.7MW plant (Bouillante 1) and a 10MW plant (Bouillante 2).

[23] For purposes of disclosure on environmental and social information related to sub-projects, the IDB and CDB has agreed to simultaneous public disclosure of CDB environmental and social appraisal documentation with the Board, at minimum 10 days prior to consideration by CDB Board of Executive Directors, as well specific requirements for ESIA disclosure. See Environmental and Social Management Report (ESMR)for further information and CDB´s webiste http://www.caribank.org/about-cdb/information-disclosure-policy.

will be mapped to the specific CDB's country strategy with each of their ECC borrowers and to IDB's institutional priorities as outlined in the GCI-9, in accordance with the Bank´s guidelines for the classification and validation of operations eligible for the GCI-9 regional cooperation and integration[24] lending priority (GN-2733), as each sub-loan contributes to the goals of: (i) supporting development in small and vulnerable countries; (ii) assisting borrowers in dealing with mitigation and adaptation to climate change, sustainable energy and environmental sustainability; and (iii) increasing regional cooperation and integration.

1.18 **Lessons learned from previous work with CDB**. The Project Completion Report (PCR) of the two most recently completed GCL to the CDB (926/OC-RG; 975/SF-RG, and 1108/SF-RG) and the lessons learned from the execution of the one currently in execution (2798/BL-RG), highlight the following aspects that contributed to effective program implementation: (i) sound project design process as reflected in the high quality of CDB project appraisal documents; (ii) project consistency with country strategies; (iii) CDB's responsive approach to clients, as reflected by flexibility in the use of sub-loans to address changing priorities in the borrowing countries; and (iv) high quality supervision by CDB in terms of ensuring that project outputs were achieved. The GCL (2798/BL-RG) currently in implementation offers the following lessons for consideration in the preparation and implementation of this operation: (i) the financial conditions as well as Environmental, Social and Governance (ESG) requirements applicable to sub-loans have to be fully agreed by all parties; (ii) capacity building efforts and quality supervision by IDB are important to improve the execution rate of sub-projects; and (iii) given that CDB's non-resident Board of Directors meets five times a year,[25] the CDB had difficulty meeting the 30 day publication requirement of the ESG appraisal under the previous loan and requested a waiver in each instance. As such, under this loan the requirement to publicly disclose the ESG Appraisal on CDB's webpage has been modified to ensure that it is done simultaneously with other Board documentation but not less than 10 days prior to the Board meeting. Specific to the publication of the Environmental and Social Impact Assessment (ESIA), the requirement that this be made available at a minimum of 30 days prior to the Board meeting, or in line with local country legislation, whichever is greater, has been maintained. The ESMR addresses these points in more detail.

1.19 **CDB's experience in the energy sector**. In its 45 years of existence, the CDB has been continuously involved in the development of the power sector, leading on the transformation (through technical assistance and advice) of several government departments, with responsibility for electricity, into electric utility corporations. Lending over the period has largely supported investments in generation and transmission and distribution by public and private utilities. CDB's

[24] This operation is automatically classified as regional integration under the sub-sector Energy Integration (EN INT). The program meets 1 of the 4 criteria of the Bank´s Sector Strategy to Support Competitive Global and Regional Integration (GN-2565-4): (i) regional additionality due to the operation being a regional project that has a direct effect on improving the integration of the ECC independent energy systems, helping them reduce their electricity prices and become more economically competitive (see Regional Integration Technical Annex).

[25] CDB's Board of Directors meets 5 times a year in March, May, July, October and December.

involvement with the SE sub-sector began in the 1980s when, with development partners, a regional energy project was executed by CDB. For the last four years, small-scale solar Photovoltaics (PV) installations are routinely included in social infrastructure projects in off-grid rural and hinterland locations, such as schools, clinics and for water pumps. SE considerations have been mainstreamed in CDB's operations, so that routine screening for opportunities for the inclusion of SE components across sectors is now normal. Loans to the private sector supported generation from bio-mass by an IPP and more recently a utility-scale solar PV plant. The Sustainable Energy Technical Assistance Project was implemented through a grant to the OECS Commission in 2011 for the development of appropriate frameworks and strategies for 9 OECS countries along with programs to build awareness in the sub-region. Since 2014, the CDB has renewed its focus on the energy sector, with particular emphasis on SE, through the establishment of appropriate internal structures and staffing, policy and strategy, partnerships and appropriate resource mobilization.

1.20 **CDB's experience lending to the private sector**. In the ten-year period since 2005, CDB has approved over US160 million in direct private sector loans, indirect loans to financial intermediaries for the benefit of the private sector without a government guarantee, and equity investment funds. Direct lending, other than to financial intermediaries and electric utilities included loan co-financing with other senior lenders for a biomass co-generation plant in Belize.

B. Program Objective and Components

1.21 The objective of the program is to contribute to the diversification of the energy matrix in the ECC in an effort to reduce the cost of power generation and electricity tariffs by promoting the implementation of EE and RE technologies to reduce the region's dependency on liquid fossil fuels.

1.22 The Bank will provide a GCL to the CDB, which will be complemented with resources from other donors to finance eligible sub-loans and sub-grants (investment and technical assistance) in all eligible beneficiary countries (ECC). The program proposes the financing of the following components:

1.23 **Component 1: EE** – Resources from this component will be used for the financing of sub-loans and grants to ECC governments to promote EE measures such as: (i) retrofitting government buildings; (ii) installing new or replacing existing streetlights with more efficient ones; and (iii) increasing power generation efficiency, including transmission and distribution loss reduction programs. EE opportunities identified during program preparation would require investments estimated at US$58.4 million as shown in Table 3.

1.24 **Component 2: Regulatory framework, institutional strengthening and capacity building –** Resources from this component will be used for the financing of non-reimbursable technical assistance to the CDB, and to the ECC

governments[26], including their ministries responsible for energy and electric utilities. Support to the CDB will focus on strengthening its capacity as required to implement the program including: (i) consulting services to provide specific skills and advisory services when required for sub-project preparation; (ii) drafting of legal documents (i.e. loan contracts for GE sub-loans); and (iii) further developing staff capacity to evaluate and execute sub-loans. Support to the ECC governments will include: (i) supporting an effective legal, policy and regulatory framework[27] for the implementation of SE projects; (ii) strengthening their technical, institutional, environmental and regulatory capacity; (iii) transaction advisory support to structure projects and negotiate with private partners; and (iv) providing opportunities for training to acquire the necessary skills to enable SE development and execute SE projects.

1.25 **Component 3: RE** – Resources from this component will be provided to both ECC governments and PPP under the following sub-components: Subcomponent 1: Intermittent RE: includes the financing of projects such as wind power and solar PV; and Subcomponent 2: includes the financing of projects such as GE, hydro and waste to energy projects. Since the risk levels involved in GE projects are inherent to each of the development stages, the program will offer financial instruments tailored for each stage to enable projects to advance to subsequent stages through to plant construction. Funds for GE projects will be made available through a facility proposed by the CDB, called the GeoSmart Facility to address the specific challenges that GE development faces given its risk profile. Under this sub-component, the GeoSmart Facility will provide a range of financial support to public sector actors and/or PPP,[28] customized for each stage of geothermal development to support development of GE projects in each of the ECC with geothermal potential.[29] The activities to be financed are: (i) pre-investment activities, for which a mix of grants and/or loans[30] are best suited to unlock investments, including: (a) surface studies (geology, geophysics and geochemistry- 3Gs) and ESIA, and studies on the feasibility of power interconnections between neighboring islands; and (b) drilling of early exploration wells (slim holes); (ii) exploration activities, for which risk mitigation instruments such as contingent recovery grants are essential, including: (a) exploration drilling program (full size wells); and (b) feasibility studies for targeted reservoirs, and the ESIA for this phase; and (iii) field and power plant development activities for which loans will be provided for: (a) production drilling (production and reinjection wells); (b) engineering and construction of power plants; and

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[26] The CDB will develop and use grant agreements to provide technical assistance under Component 2 to ECC governments.

[27] Including a framework for establishing PPP arrangements.

[28] Including in the form of Special Purpose Vehicles that may be led by a government or by the private sector. During the Analysis Mission held from June 1 – 10, 2015 the project team engaged with several potential GE private developers that are interested in obtaining funds for the SEF to mitigate risk during early stages of GE development. Design of Component 3 is based on the document Strategy for Developing Geothermal Potential through Public-Private Partnerships in the Eastern Caribbean.

[29] In 2010 the study called "Caribbean Regional Electricity Generation, Interconnection, and Fuels Supply Strategy", prepared by Nexant and financed by the World Bank concluded that undersea cables were not necessarily viable for long distances. The only feasible electrical interconnections between islands in the Eastern Caribbean would be Nevis-St. Kitts, the DOM – Martinique and the DOM – Guadeloupe links. Thus it would be more cost-effective for each of the ECC to develop their individual GE capacity.

[30] Preliminary studies indicate projects require concessional terms and grant funding in order for GE projects to be feasible and for expected results to be materialized.

(c) access roads, substations and transmission lines. As shown in Table 3, RE opportunities identified during program preparation would require investments of approximately US$703 million of which US$526 million are required for GE.

1.26 **Donor coordination**. The IDB, through the SEF program, has the potential to leverage a total of US$5.2 per dollar of IDB OC resources and has played an instrumental role in engaging different donors that can support the region's GE development. The SEF will provide financing, according to demand by beneficiaries, that is complementary to efforts currently undertaken by other donors. In terms of GE interventions, the following are some of the main actors engaged and the way the SEF is and will be coordinating with them (See Donor Coordination Annex). Mechanisms for donor coordination in the ECC are already in place[31] and CDB will leverage those in order to coordinate SEF activities with other donors as required to avoid duplication of efforts and foster collaboration and synergies.

a. The WB is currently providing technical cooperation support to DOM and SL and considering further support in the form of concessional lending using Clean Technology Fund (CTF) resources and their own concessional lending. Thus, the possibility that the SEF could finance elements that are complementary to those the WB would finance in these two countries will be explored (i.e. the transmission line from the GE Plant to the main center of consumption in DOM and regulatory framework and capacity building in SL).

b. The International Renewable Energy Agency (IRENA) and the Abu Dhabi Fund for Development have approved a loan to SVG for US$15 million for GE development. The SEF could provide financing to SVG for exploration as it is well suited to mitigate exploration risk in coordination with the IRENA funding.

C. Cost of the Program

1.27 The cost of the program is estimated at US$71,498,698 of which US$20 million will be financed by the Bank´s OC resources, US$19.05 million by the CTF,[32] US$3,013,698 by the GEF,[33] and US$29,435,000 by the CDB as local counterpart resources. A funding proposal for US$40 million was submitted by IDB to the

[31] The Eastern Caribbean Donor Partner Group (ECDPG), of which CDB is a member, is coordinated by the Delegation of the EU to Barbados, the Eastern Caribbean and OECS. It holds periodic meetings to coordinate donor efforts and identify opportunities to collaborate among donors. The Caribbean Renewable Energy Forum (CREF) is also a venue used by the IDB, CDB and other donors to promote SE.

[32] The CTF Trust Fund Com mittee endorsed in June 26, 2014 the scaling up of the Dedicated Private Sector Program (DPSP) I, utility-scale RE with a focus on GE. US$19.05 million DPSP funds will be available for the SEF subject to CTF approval to be approved in tandem with the IDB loan; the modality for the use of CTF resources will be described in the OM.

[33] The GEF Council has approved the Project Information Form for supporting RE and EE in the ECC and CEO Endorsement was obtained on September 16th, 2015, so that US$3,013,698 will be available for the SEF (US$1,095,890 for A&B, US$1,004,566 for SVG, and US$913,242 for GRE).

GCF[34] on July 31, 2015 to complement the SEF. However, Bank approval of these resources will be processed separately from and independently of this operation.

1.28 In addition, the program will be complemented by parallel financing (US$41 million) to be provided by the JICA (US$40 million loan and US$1 million grant) through the co-financing of Renewable Energy and Energy Efficiency (CORE)[35] mechanism with the IDB. Availability of these resources will not affect the timely and effective execution of the IDB loan and grant resources or the achievement of its objectives.[36]

Table 5. Cost of the Program by Source and Component (US$)

Component		Financing				Parallel Financing	Total SEF
		IDB (OC loan)	CTF	GEF	CDB	JICA	
Component 1: Energy Efficiency		-	-	341,574	8,000,000	-	**8,341,574**
Component 2: Reg. framework, inst. strengthening and capacity building		-	-	2,117,042	11,200,000	1,000,000	**14,317,042**
Component 3: Intermittent RE and GE		20,000,000	19,050,000	341,574	10,000,000	40,000,000	**89,391,574**
Monitoring and evaluation	Assurance Reports on the Process of Preparation and Submission of Disbursement Requests	-	-	-	195,000	-	**195,000**
	Ex-post Cost benefit Analysis	-	-	-	40,000	-	**40,000**
Project Management and evaluation		-	-	213,508	-	-	**213,508**
Total		**20,000,000**	**19,050,000**	**3,013,698**	**29,435,000**	**41,000,000**	**112,498,698**

[34] The GCF is a fund within the framework of the UNFCCC which its purpose is to contribute to the global efforts to combat climate change. The IDB was accredited in July 2015 to act as channel through which GCF will deploy its resources to developing countries and is in the process of submitting a full proposal for GCF resources to be used for the SEF. GCF resources comprising US$25 million in loans would be used for GE investments, US$12 million in contingent recovery grants would support GE exploratory drilling, and US$3 million in grants would support regulatory frameworks as required to develop GE in the region. Resources from the GCF will be subject to the approval of the GCF by the Board of Executive Directors.

[35] CORE is a co-financing mechanism established in March 2012 and amended in March 2014 whereby JICA commits to provide Central America and the Caribbean region with highly concessional loans of up to US$1,000 million as a co-financing resource with the Bank to support RE and EE projects/programs. The Memorandum of Cooperation signed among the Bank, JICA and CDB in July 2014 at Trinidad and Tobago, formalizes a framework of cooperation among the three parties to consider the possibility of co-financing under CORE for RE and EE in the EC, with special focus on GE development.

[36] JICA's resources are expected to be used to complement the activities under Component 3 and after CTF resources have been used to mitigate exploratory risk in GE projects.

D. Key Results Indicators

1.29 **Expected results**. The development of approximately 60MW[37] of RE in the ECC and the implementation of EE measures (street lighting and public buildings retrofitting) saving 31GWh/year will displace liquid fossil fuel based electricity generation which is costlier than generation with SE technologies. This could result in a 20% reduction of the average electricity generation cost and, if generation cost reductions are passed on to customers, this should lead to an average decrease in tariffs from US$0.33/kWh in 2015 (at a fuel price of US$70 per barrel) to US$0.27/kWh. The reduction in generation cost could result in significant reductions in electricity bills[38] and cost savings for customers[39] as well as in a reduction in CO2 emissions of 375,930 metric tons per year.[40]

1.30 Introducing EE measures and technologies and replacing liquid fossil fuel based generation with RE generation, particularly GE, will reduce the importation of fuel oil. This will benefit the countries by improving their current accounts and their foreign exchange reserves. The annual importation of oil products is expected to fall by an average of 802,000 barrels with respect to current oil imports in the ECC estimated at 1.8 million barrels/year (a 44% reduction). This would reduce the average amount of international reserves used to pay for fuel imports by US$56 million (or US$40 million with fuel price of US$50 per barrel) per year. Reducing government expenditure on electricity (for example street lighting and in government facilities) would free up fiscal space for governments to pay down debt or provide other needed services. The savings due to EE measures and technologies would be US$3.9 million per year in the six ECC.

1.31 **Results indicators**. The expected results and outputs, which include CTF and GCF core outcome indicators,[41] are detailed in the Results Matrix (See Annex II). The project will incorporate in its components elements which will contribute to the achievement of the first strategic gender objective in the Implementation Guidelines for the IDB's Operational Policy on Gender Equality in Development: empowering women economically by facilitating women's access to economic opportunities and promoting women's entrepreneurship. The Results Matrix includes the corresponding gender indicators (See Gender Annex).

1.32 **Economic viability**. A Cost Benefit Analysis was developed for each of the sub-projects identified in the Indicative Project Pipeline for the program. The projects have an aggregate Economic Net Present Value (ENPV) of approximately US$163 million and all of them are financially and economically

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37 20MW GE in SL, and 10MW GE in each country in DOM, SKN, SVG, and GRE.

38 Electricity bills would reduce as an effect in power generation cost reduction through the use of more affordable technologies like GE and through energy savings at the household level using EE measures and technologies.

39 The agreement between the government and/or regulator with the PPP should aim to reflect the concessionality of the funding provided by the SEF in the Power Purchase Agreement and in the final tariff to customers.

40 Estimated multiplying yearly GE electricity generation times an emission factor of 0.76 tons CO2/MWh obtained from http://www.eia.gov.

41 In addition to project success indicators that track validation of the resource base, the leverage achieved by the donor funds, and the ability of the project to achieve financial closure, core indicators relevant to CTF include: volumes of GHG avoided and MWh generated.

viable; the Economic Internal Rate of Return (EIRR) is greater than 12% for all projects.[42] A sensitivity analysis was conducted and indicates that the program's economic viability is maintained despite changes in the values of some key variables.[43]

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing Instruments

2.1 The program will be financed through a Global Credit Loan to the CDB from the Bank´s OC resources and through non-reimbursable investment and technical assistance financing. Resources from the CTF through its Dedicated Private Sector Programs (DPSP) will be used by the CDB to finance GE projects under the following two modalities: (i) loan guarantees, where CDB will provide a loan, using IDB funding, to the GE developer (PPP) for exploratory drilling and in case the drilling is unsuccessful, CTF resources will be used to repay the loan; and (ii) as a contingent recovery grant where the CDB can offer a grant to the GE developer for exploratory drilling which will be converted into a loan in case the exploration is successful.[44]

2.2 **Resource allocation**. Resources will be used for the financing of sub-projects by the CDB in the eligible countries that meet the eligibility criteria for the program established in the loan contract and agreements to be entered into between the Bank and the CDB, and those set forth in the Operating Manual (OM) (¶3.4). ECC countries will have equitable opportunity of access to program resources which will be available on a first-come first-served basis, provided that: (i) a minimum of three countries receives funding; and (ii) no single country receives more than 50% of program resources.[45]

2.3 Sub-projects may be financed by the CDB either from one source of funding or a combination of them. This will be determined by the CDB in the context of each sub-project based on the criteria and guidelines set in the OM of the program. The all-in financing cost to each final beneficiary that receives resources from the program should not exceed 2.6% per annum[46] in the case of loans granted to GE

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[42] The lowest EIRR among the sub-projects analyzed is 14.4%.

[43] For GE projects the ENPV falls from US$160 million in the base case to US$66 million when the price for monetizing carbon emissions decreases by 40% and the capital expenditures increase by 20%. ENPV falls from US$160 million in the base case to US$62 million when there is a 20% reduction in oil prices with respect to the U.S. Energy Information Administration (EIA) 2015 reference projection. For EE projects the ENPV falls from US$3 million in the base case to US$830,000 when the efficiency of the retrofitted lamps decreases by 10%, and the street lighting tariff (avoided cost) decreases by 12% due to a decrease in the oil price.

[44] The OM of the program will define the criteria for determining successful and unsuccessful drilling as well as the percentage of investment required from the private sector sponsors.

[45] This amount is based on the cumulative expenditure needed to complete at least one geothermal investment starting from exploratory drilling.

[46] This rate was estimated based on a blended loan including IDB´s OC and CTF loan resources in a 1:1 ratio. The OM will explain in detail how this rate was estimated as well as the on-lending mechanism for CDB to make sub-loans to its ECC borrowers.

projects under PPP arrangements. Financing instruments will be structured in a way to incentivize private sector participation.

2.4 The CDB, with input from the IDB (¶3.5), will determine which projects will receive funding from the program based, among other factors, on the countries' development priorities and on the CDB's internal programming processes. Nevertheless, an Indicative Project Pipeline has been developed by the CDB that includes a set of projects preliminarily identified, which could be require funding from the program.

2.5 **Project eligibility criteria.** EE and RE eligible projects financed through Components 1 and 3 respectively must be public sector operations, except for GE projects which will have to be structured as legally established PPP (bringing together the public and private sectors with the common goal of developing GE). Project eligibility criteria will be further developed in the OM; however, the minimum requirements projects have to comply with to access program funding are: (i) having a results matrix that includes project impact, outcome and output indicators, with baseline data and targets; and (ii) having an ESIA and meeting the social safeguards criteria, as noted in ¶2.7. In addition to this GE eligible projects should have a contractual[47] and/or regulatory mechanism in place that allows concessionality granted to them to be reflected in the Power Purchase Agreement (PPA) to be signed with an off-taker, in order to reflect as much as possible the concessionality granted in the electricity tariffs to final users.

B. Environmental and Social Safeguard Risks

2.6 In accordance with Directive B.13 of the Bank's Environment and Safeguards Compliance Policy (OP-703), the program is classified as a Financial Intermediary (FI) and as such this operation is not categorized according to its potential ESG impacts and risks. The Facility's target investments include EE and RE. The RE component of the Facility is most dominant and comprised largely of GE sub-projects, presenting the potential for significant ESG risks. As such, this project is classified as a high risk FI (FI-1). The construction impacts for GE projects represent the more significant risks, which can include: (i) potential contamination of soil and ground water by drilling mud; (ii) increased water demand from wells drilling and testing and for the cooling system; (iii) potential land contamination due to the disposal of drilling mud and solid wastes; (iv) noise and vibrations generated during drilling; (v) effects of drilling on groundwater aquifers, nearby hot springs, natural thermal features, and induced micro-seismicity and ground subsidence; (vi) increased heavy traffic and potential traffic accidents in the vicinity of the project site; (vii) noise and dust emissions; (viii) soil erosion and loss of vegetation; and (ix) potential impacts to thermal features; and potential impacts to marine habitat and fauna. Most of these construction impacts and risks can be adequately mitigated through the implementation of appropriate environmental, health and safety management plans and standard operating procedures.

[47] If the regulation for GE exploration and exploitation are not in place, then the contracts between CDB and GE PPP should include the necessary provisions to compensate for the lack of regulations.

2.7 Due to the high risk nature of these sub-projects, the Bank will engage the CDB in a "hand-in-hand" ESG due diligence process on each Category A project, and all geothermal sub-projects, providing final sign off and closely monitoring project implementation with the support of an external consultant.[48] In addition to this agreed due diligence process requirement, the Bank will require as part of the loan contract to be entered into between the Bank and the CDB that the latter complies with all applicable local environmental, social, health and safety, and labor regulatory requirements, and in relation to the financing of sub-projects with IDB's proceeds ensure that each sub-project complies with: (i) CDB´s ESG policies and review procedures; (ii) in-country regulations; (iii) IDB's list of excluded activities; (iv) fundamental principles of the rights at work; and (v) the International Finance Corporation (IFC) Performance Standards (PS)[49] and applicable WB environmental, health and safety guidelines. For further details on the possible risks and impacts, due diligence process stages and risk management mechanisms, and contractual requirements, please refer to the ESMR.

C. Fiduciary Risk

2.8 The fiduciary risk of the project has been assessed as low mainly due to the adequacy of the CDB's organization structure and procedures for fiduciary management, its demonstrated capacity in the fiduciary management of projects, and the overall low risk of the CDB's operational performance.[50]

2.9 The CDB is an AA rated financial institution that, according to recent reports[51] is based on its strong business profile which is reflected in its role as "the cornerstone lender" to Caribbean governments and its "extremely strong financial profile", reflected through its strengthening capital adequacy, its less diversified funding profile, and its solid liquidity. It should also be noted that the CDB has also continued to strengthen its governance structure through the consolidation of its risk management and monitoring framework, as well as through the introduction of new institutional checks and balances".[52]

D. Capacity Building of the CDB

2.10 PPP are relatively new in the Caribbean and both the CDB and country governments have a limited track record structuring and financing this type of

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48 Budget for this has been included in the monitoring budget (see Monitoring & Evaluation Plan).

49 That IDB is requiring sub-projects to be reviewed using the IFC PS and WB environmental, health and safety guidelines is consistent with other FI operations where (i) the project developer may be private sector, and (ii) project documentation has already been prepared with this as the environmental and social standard. IDB has regularly applied the IFC PS as the governing environmental and social standard in FI operations where the borrower has either adopted them previously within their Environmental and Social Management System, or the sub-project developer is using them. Examples include Banco Itau (RG-L1047), ABC Bank (BR-L1413), Banco Pine (BR-L1391), Banco Atlantida (HO-L1077), among others.

50 A financial due diligence of CDB was undertaken for the preparation of the SEF confirming the conclusions reached by the Standard & Poor's assessment.

51 Standard & Poor's Ratings Services provides high-quality market intelligence in the form of credit ratings and in its May 7, 2015 report on the CDB confirmed its "Stable" outlook and affirmed CDB's "AA/A-1+" status on long and short term foreign currency ratings.

52 See Caricom Today. Standard and Poor's affirms CDB's AA/ A-1+ ratings.

projects and sub-loans. For this not to affect the execution and effectiveness of the SEF, the program will ensure through Component 2 the transfer of technical expertise to develop local competencies as well as the availability of specific training and advisory services as required by the CDB and the governments. **As condition prior to the first disbursement for activities under Component 3 the CDB will retain an expert consulting firm[53] that will support the CDB to assess, appraise, design and develop at least the first of the GE PPP sub-loans, in accordance with the terms of reference agreed with the Bank.** The firm will also advise in terms of sourcing required staff as needed, training requirements, with emphasis in PPP contracts for GE developers. In addition to this, the CDB, in cooperation with its development partners, including the IDB and its Multilateral Investment Fund, has established a US$1.2 million regional PPP support program[54] designed to assist its borrowing member countries in the development and implementation of PPP (¶1.25).

2.11 IDB's private and public sector windows will collaborate[55] with the CDB to facilitate knowledge transfer and capacity building regarding environmental and social (¶2.7), legal, financial, and technical aspects. Also, the OM establishes the rules and procedures for implementing the SEF to ensure that the individual sub-projects and sub-grants financed with SEF resources are completed according to program objectives.

E. Other Key Risks and Issues

2.12 **Enabling legal and regulatory frameworks.** The successful implementation of EE and RE projects financed by the SEF requires regulations for RE generation and institutional arrangements for implementing and overseeing RE and EE projects. There is a risk that because not all countries have developed specific RE and GE legislation and regulation (¶1.10), it will be harder to establish PPP and move forward with GE projects in the region. To mitigate this risk the OM will define a requirement for GE sub-projects to include, in the absence of supporting legislation and regulation, provisions in the PPP contracts defining: (i) the process for granting a license to develop geothermal resources and assigning responsibility for monitoring geothermal resources to a government body; and (ii) the tariff setting mechanism that will allow the electric utility to recover the cost of service regardless of the technology or fuel used to generate power, while reflecting any reductions in the costs of electricity generation. For other RE projects, Component 2 will help mitigate this risk by providing support to governments to make the necessary changes to the legal and regulatory frameworks.

2.13 **Feasibility of GE projects and materialization of expected results.** The exploratory risk might deter private investments or increase the cost of capital to levels that don't allow for the reduction of power generation costs. The program

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[53] The funding for the firm will be financed by the TCs currently in execution RG-T2480 and/or RG-T2260. After the contract of the consulting firm ends, CDB and IDB will reassess the need of continuing the support as needed.

[54] CDB's Caribbean Regional PPP Support Mechanism.

[55] Program resources will not be used to fund these activities. Instead they will be funded with IDB resources.

addresses this by: (i) providing through Component 3: (a) grants to support governments in the pre-investment phase ensuring that there is enough technical and scientific information for governments and private investors to make sound investment decisions; (b) risk mitigation instruments to fund exploratory drilling reducing the risk for project developers; and (c) concessional funding to reduce the overall cost of capital for GE projects; and (ii) requiring that GE projects have a contractual and/or regulatory mechanism that reflects the concessionality granted through this program in PPAs.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of Implementation Arrangements

3.1 **Executing Agency (EA).** The CDB will be the borrower and the EA of the program through the Renewable Energy and Energy Efficiency Unit (REEEU) and will work in close collaboration with IDB and other donors. Individual sub-projects will be implemented by ECC government agencies in case of public sector projects and by legally established PPPs, in accordance with the criteria set forth in the OM for GE projects. **As condition prior to the first disbursement for activities under Component 3 the CDB will assign a Program Manager and a Technical Specialist whose functions and responsibilities are defined in the OM.**

3.2 **Financial structure**. The CDB has two sources of funding for its borrowing members: (i) Ordinary Capital Resources (OCR) financed from equity contributions, market borrowings and income; and (ii) Special Funds Resources (SFR). The SFR comprises a number of funds, the largest of which is the Unified Special Development Fund, while all others funds together are referred to as the Other Special Funds (OSF). The OC resources of the IDB will be treated and on-lent by CDB as its OCR resources, having its callable capital automatically available as guarantee and the CTF resources will be managed and accounted for as part of the OSF. The GEF resources will be administered as non-reimbursable grants.

3.3 **Disbursements and commitment period**. It is expected that the loan financed with resources from OC will have an eight year disbursement and a seven year commitment period. The latter is the period for the sub-loan agreements to be signed. As sub-loans financed by the CDB are implemented, the CDB will present disbursement requests to the Bank based mainly on the reimbursement of payments made and the advance of funds mechanisms. Advances will be disbursed based on the liquidity needs of the project within a six month period. With the exception of the first advance of funds, the CDB will have to present a justification for the use of at least 70% of the total cumulative balances pending justification, and the Bank approve such justification. The CTF grant will have a disbursement and execution period of eight years and the GEF grant will have a disbursement and execution period of five years.

3.4 **Execution and administration**. The provisions governing program execution, including the use of program resources and eligibility of each financial instrument to be used on a sub-project by sub-project basis, will be established in the OM

agreed by the IDB and CDB. **It is a special contractual condition prior to the first disbursement that the Borrower presents evidence that the OM, including the sub-loan/sub-grant model agreements, has been approved in accordance with the terms and conditions previously agreed upon between the CDB and the Bank.**

3.5 **Project cycle.** The executing mechanism which is summarized here will be fully described in the OM. To begin the project cycle, every sub-loan would require a two page concept note and a non-objection from the IDB to move forward. A final non-objection will be requested prior to CDB's board approval. For activities under Component 2, the CDB will use grant agreements to provide non-reimbursable technical assistance to ECC governments. It is expected that as part of the execution, the project team will be continuously monitoring the development of the sub projects and providing the required support to the CDB to facilitate their execution.

3.6 **Procurement of goods and services**. Given the consistency of CDB procurement policies with those of the IDB (GN-2349-9 and GN-2350-9), it is recommended that the CDB uses its own procurement policies for operations receiving financing from this global loan. IDB policies require that funds from Bank loans be used only for procurement of activities contracted with firms or individuals of IDB member countries. Therefore, as with previous global loans to the CDB, an exception will be requested for approval by the Board of Executive Directors so that goods, works and services providers from CDB member countries, which are not members of the IDB, may participate in the procurement processes for activities to be financed with resources of the program. Since the program is mainly demand-driven, and sub-projects (loans and grants) will be identified during execution, the proposal does not include a Plan of Activities, a Pluriannual Execution Plan, or a Procurement Plan (See Annex III).

3.7 **External control and reporting**. Given the consistency of the CDB financial management policies and procedures with those of the IDB and in accordance with the Bank's Financial Management Guidelines OP-273-6, external audit requirements will be met through: (i) submission of the Annual Audited Financial Statements (AFS) of the CDB. These reports are to be presented to the Bank within 180 days following the end of CDB's fiscal year end.[56;57] It should be noted that in accordance with OP-273-6, a longer due date, as compared to the Bank norm of 120 days, is being requested since the project will utilize the financial management system of the CDB; (ii) submission of an assurance report on the process of preparation and submission of disbursement requests. These reports will be conducted by an independent audit firm that is eligible to the Bank, and the report submitted within 180 days following the end of CDB's fiscal year end. The CDB may utilize the services of its auditors, once they are eligible to the Bank; and (iii) submission of semi-annual unaudited financial reports of the SEF including financial status reports on sub-loans. These statements should be submitted within 60 days after the close of each semester. These statements are

[56] CDB's fiscal year end is December 31st.
[57] CDB's financial rules dictate that its AFS may not be released until approved by the Board of Governors at its annual meeting held in May of each year.

intended to supplement the information in CDB's AFS since the AFS do not include project specific information (See Annex III).

B. Summary of Arrangements for Monitoring Results

3.8 The CDB will monitor and supervise operations based on their policies and procedures and provide IDB with the necessary information for IDB to monitor and evaluate the program as well as to comply with its reporting obligations to the CTF and GEF (See Monitoring & Evaluation Plan).

3.9 **Progress reports**. The results of CDB's monitoring and supervision will be reported to the Bank through semi-annual progress reports submitted no later than 60 days after the end of each semester. These reports will indicate the degree of fulfillment of the output indicators and progress toward the outcomes of the Results Matrix, making it possible for the Bank to monitor these indicators using the Bank's Project Monitoring Report. They will also include for each individual operation: (i) a report on its consistency with the sub-loans eligibility criteria, environmental and social safeguards criteria as detailed in the OM, and the IDB´s GCI-9 priority lending targets; (ii) CDB financial statements of the individual operation and summary updates on its situation, the problems encountered and measures taken to address them; and (iii) data on the outcome and outputs of the results matrix of the individual operation. The latter will be based on information in the CDB's Project Supervision Reports, copies of which will be annexed to the reports.

3.10 **Midterm review**. After four years from the date of the first disbursement, a midterm review will be conducted by the CDB, as detailed in the M&E.

3.11 **Project Completion Report (PCR).** A PCR will be prepared evaluating the impact and results obtained by the program and each sub-project completed. As part of the PCR an ex post cost benefit analysis of the program will be developed. It is recommended that the PCR be conducted once 100% of the program is completed. The PCR will include the progress in meeting the project results as defined in the results matrix, information on the execution of the program and lessons learned.

3.12 **GEF Midterm Review and Terminal Evaluation**. A mid-term evaluation will take place 30 months after the date of disbursement eligibility, or once 50% of GEF resources are disbursed, whichever is earlier. A final evaluation will be carried out six months after the closing date of the GEF grant operation (RG-G1004). Both evaluations will be contracted by independent consultants hired by IDB with resources from the agency fee provided by the GEF.

EVALUABILITY ASSESSMENT NOTE

SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN (RG-L1071)

CLEAN TECHNOLOGY FUND (CTF) GRANT FOR THE SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN (RG-G1009)

GLOBAL ENVIRONMENT FACILITY (GEF) GRANT FOR THE SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN (RG-G1004)

1.1 The objective of this Evaluability Assessment Note is to inform the Board of Executive Directors about the evaluability of the Sustainable Energy Facility (SEF) for the Eastern Caribbean (RG-L1071), the Clean Technology Fund (CTF) grant (RG-G1009) and the Global Environment Facility (GEF) grant (RG-G1004). Given the nature of this loan and grants proposal, a standard Development Effectiveness Matrix (DEM) score is not applicable. Rather, Management has ensured that ex-ante evaluability, implementation metrics and ex-post reporting by the Caribbean Development Bank (CDB) are consistent with the standards of the Bank for its own operations.

1.2 **Background**. The Report on the Ninth General Increase in the Resources of the Inter-American Development Bank (GCI-9)[1] establishes that the Bank will continue its work in partnership with the CDB. To this end, Management was directed to propose a mechanism for approval by the Board of Executive Directors to provide ordinary capital resources, grants and concessional loans from other donors to the CDB. These resources shall be on-lent to six Eastern Caribbean Countries (ECC), namely Antigua and Barbuda (A&B), Dominica (DOM), Grenada (GRE), Saint Kitts and Nevis (SKN), Saint Lucia (SL), and Saint Vincent and the Grenadines (SVG). Resources shall be mainly utilized to promote Sustainable Energy (SE), including energy efficiency and geothermal energy among other renewable energy technologies. On January 27, 1977, the Bank Charter was amended to allow the Bank to provide financial resources to the CDB to support the development of its members. On September 28, 1977, the Bank and the CDB entered into an agreement setting forth the general standards applicable to operating relations between both institutions. Since then, the Bank has financed five global loan programs to the CDB totaling US$114 million. The proposed SEF for the Eastern Caribbean will be financed through a Global Credit Loan to the CDB chargeable to the Bank´s ordinary capital resources. In addition, resources from the CTF and GEF will be available for the financing of non-reimbursable investment and technical assistance.

1.3 **Strategic Alignment**. All operations financed by CDB through this loan will be mapped to both GCI-9 priorities and/or to the specific CDB's country strategy

[1] Document AB-2764 "Report on the Ninth General Increase in the Resources of the Inter-American Development Bank", ¶3.25.

with each of the borrowers. Thus, all operations will comply with strategic alignment principles homologous to the Bank's.

1.4 **Evaluability**. A Cost Benefit Analysis was developed for each of the sub projects identified in the Indicative Project Pipeline for the program. All the sub-projects are economically viable; the Economic Internal Rate of Return is greater than 12% for all sub-projects. A sensitivity analysis was conducted and indicates that the sub-project's economic viability is maintained despite changes in the values of some key variables.

1.5 **Reporting of results**. The CDB will monitor and supervise operations based on their policies and procedures and provide IDB with the necessary information for IDB to monitor and evaluate the program as well as to comply with its reporting obligations to the CTF and GCF. The CDB's results management framework allows for a systematic monitoring and evaluation of its projects thus complying with the reporting requirements established in the Monitoring & Evaluation Plan. Effects will be evaluated against expected impacts, results and outputs, which include CTF core outcome indicators, as detailed in the Results Matrix.

1.6 **Additionality**. This loan has a multiplier effect with regard to financial resource flows for sustainable energy in the sub-region as it will crowd in private sector capital to develop and implement SE initiatives. At the same time, it will increase the level of resources that the CDB could provide to the eligible countries, by boosting the CDB's availability of limited concessional resources. IDB's involvement in this program promotes additional improvements in the legal and regulatory framework for sustainable energy in the ECC and helps strengthen the executing agency as well as the sub-region's governments in dimensions such as environment and social impact assessment, funding of Public Private Partnerships initiatives, and developing technical skills to support geothermal development in the sub-region.

RESULTS MATRIX

Project Objective	The objective of the Sustainable Energy Facility (SEF) for the Eastern Caribbean is to contribute to the diversification of the energy matrix in the Eastern Caribbean Countries (ECC) in an effort to reduce the cost of power generation and electricity tariffs by promoting the implementation of Energy Efficiency (EE) and Renewable Energy (RE) technologies to reduce the region's dependency on liquid fossil fuels. To that end, the program contemplates the financing of the following components: (i) Energy Efficiency; (ii) regulatory framework, institutional strengthening and capacity building; and (iii) Renewable Energy.

Impact Indicators	Units	Base Level (2015)	Target Level	Source of Verification	Comments
Average electricity tariff for customers in ECC.	US$/ KWh	0.33	0.30	CARILEC Average Tariffs for ECC.	Measures the average electricity tariff in the 6 ECC covered by the program.

Component 1	Indicator	Units	Base (2015)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
Results													
Reduction in electricity consumption from public lighting sectors with EE projects financed by the program.	Electricity saved by EE applications, measures & programs.	GWh/year	0	0	0	0	9.3	28.0	31.1	31.1	31.1	130.6	Source: Report from CDB based on utility sales reports.

Component 1	Indicator	Units	Base (2015)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
Reduction in imports of fossil fuels for electricity generation in ECC due to EE projects financed at any stage by the program.	Reduction in imports of fossil fuels for electricity generation.	Thousand barrels of oil	0	0	0	0	15	30	45	50	80	220	Source: Estimation based on efficiency levels and number of retrofitted lamps; to be provided by the Executing Agency (EA) based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA).
Greenhouse Gas (GHG) emissions avoided by EE projects financed at any stage by the program.	GHG emissions avoided.	$ktCO_2e/yr$	0	0	0	0	1.6	4.0	15.0	20.0	37.5	496.3	Source: IDB estimations made following IDB methodology, based on number of lamps installed, efficiency levels of lamps, and an average conversion factor (ex-post CBA). KtCO2e = thousands of tons of CO2 equivalent.
EE projects appraised by the CDB.	EE projects appraised	Number of EE projects	0	1	1	0	0	0	0	0	0	2	Source: Report from CDB.

Component 1	Indicator	Units	Base (2015)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
Outputs													
Loans provided to energy efficiency projects with resources from the program.	Loans provided for EE projects.	Number of EE loans	0	0	0	1	0	0	0	0	0	1	Source: Report from CDB.
Component 2	**Indicator**	**Units**	**Base**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Target**	**Source of Verification/ Comments**
Results													
ECC with legal and regulatory frameworks that enable Geothermal Energy (GE) development.	# countries that have GE legal and regulatory frameworks.	# countries	1	0	0	1	1	0	0	0	0	3	Source: Report from CDB.
Women trained in construction, operation and/or maintenance of RE and EE infrastructure and projects.	% of women trained, out of the total trainees, in construction, management and/or maintenance of SE infrastructure/ projects.	%	0	0	0	0	0	0	0	0	0	30	Source: Reports from the CDB based on information from governments and private project sponsors. Measured as an average of individual GE sub-projects at the end of the program.

Component 2	Indicator	Units	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
Outputs													
Energy policy reforms or recommendations for energy policy reform provided to and implemented by governments in ECC.	Number of ECC.	Number of countries	0	0	0	1	1	0	0	0	0	2	Source: Report from CDB.
Trainings provided to the EA and/or government employees with resources from the program.	Number of trainings provided.	Number of trainings	0	0	2	3	2	3	3	2	0	15	Source: Report from CDB.
Grants provided for technical assistance to governments in ECC with resources from the program.	Number of EC countries receiving grants.	Number of countries	0	0	1	1	1	1	0	0	0	4	Source: Report from CDB.

Component 3	Indicator	Units	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
Results													
GHG emissions avoided by geothermal projects financed at any stage by the program.	GHG emissions avoided.	$ktCO_2e/yr$	0	0	0	0	0	338.4	338.4	338.4	338.4	1,353.7	Source: IDB estimations made following IDB methodology, based on installed capacity, electricity generation, and an average conversion factor (ex-post CBA). KtCO2e = Thousands of tons of CO2 equivalent.
Reduction in imports of fossil fuels for electricity generation in ECC with geothermal projects financed at any stage by the program.	Reduction in imports of fossil fuels for electricity generation.	Thousand barrels of oil	-	-	-	-	-	722	722	722	722	2,889	Source: IDB estimations based on estimated installed capacity and electricity generation to be provided in EA reports based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA).
Geothermal power generation capacity installed in projects	MW of geothermal capacity.	MW	0	0	0	0	0	0	0	0	60	60	Source: Report from CDB. Estimations of

Component 3	Indicator	Units	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
facilitated or financed at some stage by the program.													expected installed capacity based on quality of resource confirmed once exploration wells are drilled.
Geothermal projects financed at any stage by the program that moved on from early exploration to production drilling or from early exploration or production drilling to construction of plants and/or electricity generation.	Number of GE projects financed that moved to the following stage of development.	Number of GE projects	0	0	0	1	1	1	1	0	0	4	Source: Report from CDB with information from ECC and private project sponsors.
Women participate in consultation processes related to GE projects.	% of women who participate in consultations.	%	0	0	0	0	0	0	0	0	0	35	Source: Reports from the CDB based on information from governments and private project sponsors (Measured as an average of individual GE sub-projects at the end of the program).

Component 3	Indicator	Units	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Target	Source of Verification/ Comments
RE projects appraised by the CDB.	RE projects appraised.	Number of RE projects	0	0	1	1	1	0	0	0	0	3	Source: Report from CDB.
Outputs													
Loans provided to geothermal projects at any stage of development with resources from the program.	Number of loans to GE projects.	Number of loans	0	0	0	1	1	1	0	0	0	3	Source: Report from CDB.
Loans provided to finance transmission lines required for connecting GE plants to the power grid.	Number of loans for transmission and distribution projects.	Number of loans	0	0	0	0	1	0	0	0	0	1	Source: program report from EA with information from the projects, the utilities, and the governments in the ECC.

NOTES:

(1) Further details on how to calculate each of the indicators are provided in Appendix A of the Monitoring and Evaluation Plan.

(2) The targets in the results matrix are targets for each year, as opposed to cumulative targets up to the year. All targets are set taking into account the projects in the indicative pipeline of the SEF (including five GE projects and two EE projects).

FIDUCIARY ARRANGEMENTS

COUNTRY: Regional
PROJECT NUMBER: RG-L1071
PROJECT TITLE: Sustainable Energy Facility (SEF) for the Eastern Caribbean
EXECUTING AGENCY: Caribbean Development Bank (CDB)
FIDUCIARY TEAM: Denise Salabie, Fiduciary Financial Management Lead Specialist; Roy Parahoo, Fiduciary Procurement Lead Specialist

I. EXECUTIVE SUMMARY

1.1 An evaluation of the Caribbean Development Bank (CDB) was carried out during the 2nd quarter of 2015 in order to assess their fiduciary management capacity to execute the project. The evaluation, which was carried out through a series of interviews and a review of the CDB's organization structure and procedures for fiduciary management, indicated that the CDB has adequate fiduciary capacity to execute the project and also that the project has a low fiduciary risk assessment, and requires no mitigating actions.

1.2 The CDB is a regional development bank, with an 'AA/A-1' credit rating as per Standard & Poor's (S&P) and has sound internal control and fiduciary systems. It also has a demonstrated capacity of executing the Bank's financed projects, having executed 5 Global Credit Programs, of which one is currently in execution (RG-L1018; 2798/BL-RG).

Table 1. Global Loan Programs to the CDB

Operation Number and Name	Approval date	Final disbursement date	Total amount (US$ millions)
RG0013 (551/SF-RG) - Global Credit: Agriculture Industry Tourism & Fishing	08/1978	03/1987	12.0
RG0036 (488/OC-RG; 758/SF-RG) - Global Loan II	10/1984	06/1992	25.0
RG0037 (926/OC-RG; 975/SF-RG) - Credit Program for Small Caribbean States	05/1996	08/2007	37.0
RG0056 (1108/SF-RG) - Global CDB Loan	06/2002	12/2011	20.0
RG-L1018 (2798/BL-RG) - CDB Global Loan Program for the IDA-Eligible OECS Member Countries	08/2013	05/2019	20.0
Total			**114.0**

1.3 The project includes Ordinary Capital (OC) financing by the Bank in the form of a Global Credit Loan to the CDB, which will be complemented with resources from other sources, and on-lent to finance eligible sub-loans and sub-grants in beneficiary countries in the independent Eastern Caribbean countries, Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines. Other sources of resources that will contribute towards the project include the Clean Technology Fund (CTF) and the Global Environment Fund (GEF), which are both administered by the Bank, as well as resources to be provided by the CDB as local counterpart.

II. EXECUTING AGENCY´S FIDUCIARY CONTEXT

2.1 The CDB's electronic Loan Management System (FlexCube) and financial management system (Smartstream), as well as its fiduciary oversight procedures, including its Operational Policies and Procedures and Procurement Guidelines will be relied on for the project execution.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

3.1 The fiduciary risk of the project has been assessed as low risk mainly due to the adequacy of CDB's organization structure and procedures for fiduciary management; its demonstrated capacity in the fiduciary management of projects; and, the overall low risk of the CDB operational performance.

3.2 The CDB is an AA rated financial institution that, according to recent reports[1] is based on its strong business profile which is reflected in its role as "the cornerstone lender" to Caribbean governments and its "extremely strong financial profile", reflected through its strengthening capital adequacy, its less diversified funding profile, and its solid liquidity. It should also be noted that the CDB has also continued to strengthen its governance structure through the consolidation of its risk management and monitoring framework, as well as through the introduction of new institutional checks and balances."

IV. ASPECTS TO BE CONSIDERED IN THE SPECIAL CONDITIONS OF CONTRACT

4.1 In order to move forward the contract negotiations by the project team and mainly by the Legal Department, herein are those fiduciary arrangements that must be negotiated on, outlined below are agreements and requirements which will be incorporated into the special conditions:

a. **Rate of exchange agreed with the Executing Agency (EA).** For purposes of determining the equivalency of expenditures incurred in local currency of the reimbursement of expenditures chargeable to the loan, the agreed exchange rate shall be the exchange rate on the effective date on which the Borrower, the EA, or any other person or legal entity in whom the power to incur expenditures has been vested makes the related payments to the contractor, supplier or beneficiary.

b. Financial statements and audited statements to be submitted by the CDB are as follows: (i) semi-annual unaudited financial reports of the project, including financial status reports on sub-loans. These statements should be submitted within 60 days after the close of each semester; (ii) Annual Audited Financial Statements (AFS) of the CDB. These reports are to be presented to the Bank within 180 days following the end of CDB's fiscal year end, December 31st, and should be audited by a firm of

[1] Standard & Poor's Ratings Services provides high-quality market intelligence in the form of credit ratings and in its May 7, 2015 report on the CDB confirmed its "Stable" outlook and affirmed CDB's "AA/A-1+" status on long and short term foreign currency ratings.

independent public accountants; and (iii) annual assurance reports on the process of preparation and submission of disbursement requests. The engagement should be conducted by an independent audit firm that is eligible to the Bank and the report submitted within 180 days following the end of CDB's fiscal year end, December 31st.

c. **Advance of funds limit (change from the Bank norm of 80%).** Each advance of funds shall be subject to: (i) The request for advance of funds being presented in a manner acceptable to the Bank; and (ii) with the exception of the first advance of funds, the CDB should have presented a justification for the use of at least 70% of the total cumulative balances pending justification for this purpose, and the Bank having accepted such justification.

V. FIDUCIARY ARRANGEMENTS FOR PROCUREMENT EXECUTION

5.1 Given the consistency of the CDB procurement policies with the Bank's procurement (GN-2349-9 and GN-2350-9), the CDB shall use its own procurement policies operations receiving financing from this global loan. Since the Bank's procurement policies require that Bank loan funds be used only to finance procurement activities contracted with firms or individuals of Bank's member countries, it is necessary, as with previous global loans to the CDB, to request an exception from the Board of Executive Directors to expand said eligibility to providers from CDB member countries, which are not members of the Bank.

5.2 Since the program is mainly demand-driven, and sub-projects will be identified during execution, it does not include a Procurement Plan, Plan of Activities, or a Pluriannual Execution Plan at this stage.

VI. FINANCIAL MANAGEMENT

6.1 **Programming and Budget.** The CDB will allocate loan resources based on criteria specified in the Loan Contract and credit regulations.

6.2 **Accounting and Information Systems.** The CDB's financial management electronic system includes a Loan Management System (Flex Cube) and a General Ledger System (Smart Stream). One of the many features of CDB's Loan Management System, which was upgraded in 2009, is its reporting capacity which allows for reports to be customized and generated via the use of COGNOS. The financial reports are prepared in accordance with International Financial Reporting Standards and under the historical cost basis. It is expected that the accounting system will facilitate the recording of all financial transactions, facilitate the financial management of sub-loans and provide information related to the overall financial execution of the project.

6.3 **Disbursements and Funds Flows**:

a. The CDB will be responsible for the submission of all disbursement requests to the Bank.

b. A US$ Bank account will designated by the CDB for the management of project resources.

c. Disbursements will be processed using the ex-post methodology.

d. Reimbursement of expenditures and justification of advance of funds will be made based on disbursements of loans or grants by CDB.

e. The reimbursement of payments made and advance of funds disbursement methodologies will be mainly used for the project. Advances will be disbursed based on the liquidity needs of the project within a 6 month period. Also, the level of justification of advance of funds will be 70%. The flexibility in the advance of funds limit (from the norm of 80%) is being requested in order to facilitate the smooth disbursement of funds to be on-lent by CDB to beneficiary countries. This is deemed necessary since the timing and amounts of disbursements and as such, the related justifications will be affected by the timing of compliance with legal agreements and conditionalities.

6.4 **Internal Control and Audit.** The CDB will establish and maintain adequate internal control procedures and systems for the project. These procedures should provide a reasonable level of assurance that, at a minimum, project funds are used for their intended purposes; project transactions, decisions and activities are properly authorized and documented; and, project transactions are executed in accordance with the policies and procedures established in the relevant legal agreements.

6.5 **External Control and Reporting.** Given the consistency of the CDB's financial management policies and procedures with those of the Bank's and in accordance with the Bank's Financial Management Guidelines OP-273-6, Bank external audit requirements will be met through:

a. **Submission of the AFS of the CDB.** These reports are to be presented to the Bank within 180 days following the end of CDB's fiscal year end, December 31st. It should be noted that in accordance with OP-273-6, a longer due date, as compared to the Bank norm of 120 days, is being requested since the project will utilize the financial management system of the CDB (the Borrower). The CDB's financial rules dictate that its AFS may not be released until approved by the Board of Governors at its annual meeting held in May of each year. This means that CDB will be unable to submit AFS within the 120 day deadline from the end of the fiscal year (December 31st) – as per the Bank's norms.

b. **Assurance report on the process of preparation and submission of disbursement requests.** The engagement should be conducted by an independent audit firm that is eligible to the Bank, and the report submitted within 180 days following the end of CDB's fiscal year end, December 31st and should be audited by a firm of independent public accountants. The CDB may utilize the services of its auditors, provided they are eligible to the Bank. This will be funded by the CDB.

c. **Other Financial reports required are:** Semi-annual unaudited financial reports of the project, including financial status reports on sub-loans. These statements should be

submitted within 60 days after the close of each semester. These statements are intended to supplement the information in CDB's AFS since the AFS does not include project specific information.

6.6 **Financial Supervision Plan.** The financial management supervision of the project by the Bank will be complimented by annual assurance reviews on the process of preparation and submission of disbursement requests conducted by an external audit firm.

6.7 **Execution Mechanism.** The CDB's Renewable Energy and Energy Efficiency Unit (REEEU) will be mainly responsible for the fiduciary management of the project and will liaise with its Finance Department as it relates to the processing of payments and accounting and financial reporting of the project.

SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN

RG-G1009

CERTIFICATION

I hereby certify that this operation was approved for financing under Clean Technology Fund (CTF), through a communication dated September 16, 2015 and signed by Goritza Ninova (ORP/GCM). Also, I certify that resources from said fund are available for up to **US$19,050,000** in order to finance the activities described and budgeted in this document. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

Original Signed	9/16/2015
Sonia M. Rivera Chief Grants and Cofinancing Management Unit ORP/GCM	Date

SUSTAINABLE ENERGY FACILITY (SEF) FOR THE EASTERN CARIBBEAN

RG-G1004

CERTIFICATION

I hereby certify that this operation was approved for financing under Global Environment Facility (GEF), through a communication dated September 16, 2015 and signed by Marisil Naborre (ORP/GCM). Also, I certify that resources from said fund are available for up to **US$3,013,698** in order to finance the activities described and budgeted in this document. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

Original Signed	9/16/2015
Sonia M. Rivera Chief Grants and Cofinancing Management Unit ORP/GCM	Date

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/15

Regional. Loan ____/OC-RG to the Caribbean Development Bank
Sustainable Energy Facility (SEF) for the Eastern Caribbean

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Caribbean Development Bank, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a program for sustainable energy facility (SEF) for the Eastern Caribbean. Such financing will be for the amount of up to US$20,000,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on _____ 2015)

LEG/SGO/IDBDOCS#39840969
RG-L1071

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Regional. GRT/TC-____-RG. Nonreimbursable Financing to the Caribbean Development Bank Sustainable Energy Facility (SEF) for the Eastern Caribbean

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank, or such representative as he shall designate, is authorized in the name and on behalf of the Bank, in its capacity as Implementing Entity for the Clean Technology Fund, to enter into such agreement or agreements as may be necessary with the Caribbean Development Bank, as beneficiary, and to adopt such other measures as may be pertinent for the execution of the project proposal contained in document PR-____ with respect to a nonreimbursable financing for a program for the sustainable energy facility (SEF) for the Eastern Caribbean.

2. That up to the sum of US$19,050,000 is authorized for the purposes of this resolution chargeable to the resources of the Clean Technology Fund.

3. That the above-mentioned sum is to be provided on a nonreimbursable basis.

(Adopted on _____ 2015)

LEG/SGO/IDBDOCS#39841220
RG-G1009

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/15

Regional. GRT/FM--RG. Nonreimbursable Financing to the Caribbean Development Bank Sustainable Energy Facility (SEF) for the Eastern Caribbean

The Board of Executive Directors

RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized in the name and on behalf of the Bank, as Administrator of the IADB/GEF Fund, to enter into such agreement or agreements as may be necessary with the Caribbean Development Bank, as beneficiary, and to adopt such other measures as may be pertinent for the execution of the project proposal contained in document PR-____ with respect to a nonreimbursable financing of the Global Environment Facility (GEF) for a program for the sustainable energy facility (SEF) for the Eastern Caribbean.

2. That up to the sum of US$3,013,698 is authorized for the purposes of this resolution chargeable to the resources of the IADB/GEF Fund.

3. That the above-mentioned sum is to be provided on a nonreimbursable basis.

(Adopted on _____ 2015)

LEG/SGO/IDBDOCS#39841298
RG-G1004