



REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

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PART I: PROJECT INFORMATION

Project Title: Sustainable Energy Facility (SEF) for the Eastern Caribbean			
Country(ies):	Antigua and Barbuda, Grenada, and St. Vincent and the Grenadines	GEF Project ID: ¹	5312
GEF Agency(ies):	IADB	GEF Agency Project ID:	RG-1004
Other Executing Partner(s):	Caribbean Development Bank (CDB)	Submission Date:	09/15/2015
GEF Focal Area (s):	Climate Change	Project Duration(Months)	60
Name of Parent Program (if applicable):	N/A	Project Agency Fee (\$):	286,302
➤ For SFM/REDD+ <input type="checkbox"/> ➤ For SGP <input type="checkbox"/> ➤ For PPP <input type="checkbox"/>			

A. FOCAL AREA STRATEGY FRAMEWORK²

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
CCM-2			GEFTF	365,296	8,000,000
CCM-3			GEFTF	2,648,402	41,435,000
Total project costs				3,013,698	49,435,000

B. PROJECT FRAMEWORK

Project Objective: Reduce the dependency on fossil fuels by promoting the implementation of Energy Efficiency (EE) measures and Renewable Energy (RE) projects and solutions, including geothermal energy projects, as a way to reduce fossil fuel consumption and costs. Overall, the SEF Program aims to help increase the competitiveness of participant countries of the OECS. As a consequence, the SEF Program will also lead to the reduction of greenhouse gas emissions.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Cofinancing (\$)
I. Energy Efficiency (Investments and Financial Mechanisms for EE projects) (previously Comp III PIF)	Inv	Reduction in electricity consumption from public lighting sectors with EE projects financed by the program. [At least 130.6 GWh]	At least 1 EE pilot project implemented. At least 1 loan provided to energy efficiency projects with resources from the program.	GEF TF	341,574	8,000,000

¹ Project ID number will be assigned by GEFSEC.

² Refer to the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.
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		<p>Reduction in imports of fossil fuels for electricity generation in EC countries due to EE projects financed at any stage by the program. [At least 220 kboe³]</p> <p>Greenhouse Gas (GHG) emissions avoided by EE projects financed at any stage by the program. [At least 496.3 ktCO₂e]</p>	At least 2 EE projects appraised by the CDB.			
<p>II. Institutional strengthening and capacity building of local and regional actors and Technical assistance for supporting RE and EE projects</p> <p>(previously Comp I and II PIF)</p>	TA	At least 3 ECC with legal and regulatory frameworks that enable Geothermal Energy (GE) development.	<p>Energy policy reforms or recommendations for energy policy reform provided to and implemented by governments in at least 3 ECC.</p> <p>Women trained in construction, operation and/or maintenance of RE and EE infrastructure and projects. [At least 35% of total trainees]</p> <p>Trainings provided to the EA and/or government employees with resources from the program. [At least 15 trainings]</p> <p>Grants provided for technical assistance to governments in at least 4 ECC with resources from the program.</p>	GEF TF	2,117,043	3,150,000
III. Renewable	Inv	GHG emissions	At least 1 RE pilot	GEF TF	341,573	38,050,000

³ Kboe: thousands of barrels of oil equivalent
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<p>Energy (Investment and Financial Mechanisms for RE projects)</p> <p>(previously Comp IV PIF)</p>		<p>avoided by geothermal projects financed at any stage by the program. [At least 1,354 ktCO2]</p> <p>Reduction in imports of fossil fuels for electricity generation in ECC with geothermal projects financed at any stage by the program. [At least 2,889 kboe]</p> <p>Geothermal power generation capacity installed in projects facilitated or financed at some stage by the program. [At least 60MW]</p> <p>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. [At least 4 projects]</p> <p>Women participate in consultation processes related to GE projects. [At least 35% of participants in consultations]</p>	<p>project implemented.</p> <p>Loans provided to geothermal projects at any stage of development with resources from the program. [At least 3 loans]</p> <p>Loans provided to finance transmission lines required for connecting GE plants to the power grid. [At least 1 loan]</p> <p>At least 3 RE projects appraised by the CDB.</p>			
Monitoring and Evaluation	TA	Monitoring and Evaluation mechanisms in place	<p>GEF Mid-term and Terminal evaluation</p> <p>Annual assurance</p>		70,000	235,000

			reports on the process of preparation and submission of disbursement requests			
			Ex-post Cost Benefit Analysis			
Subtotal					2,870,190	49,435,000
Project management Cost (PMC) ⁴				TA	143,508	0
Total project costs					3,013,698	49,435,000

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Please include letters confirming cofinancing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
GEF Agency	IADB	Soft Loan	20,000,000
Other Multilateral Agency (ies)	CDB	Soft Loan	29,435,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing⁵			49,435,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) ²	Total c=a+b
IADB	GEF TF	Climate Change	Antigua and Barbuda	1,095,890	104,110	1,200,000
IADB	GEF TF	Climate Change	Grenada	913,242	86,758	1,000,000
IADB	GEF TF	Climate Change	St. Vincent and the Grenadines	1,004,566	95,434	1,100,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0

⁴ PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				3,013,698	286,302	3,300,000

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

² Indicate fees related to this project.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
International Consultants	1,631,386	478,203	2,109,589
National/Local Consultants	699,165	204,944	904,109

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF⁶

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

There are no changes in relation to the PIF. However, it is crucial to mention that since 2013 significant emphasis has been given to the preparation of a legal and regulatory framework for geothermal development both in St. Vincent and the Grenadines and Grenada. In the case of St. Vincent and the Grenadines, the Government signaled the importance of geothermal development in the National Economic and Social Development Plan 2013-2015” (“the National Development Plan”). In the plan, objective 2 for energy is “to encourage exploration and increased utilization of renewable energy technologies” and one of the strategic interventions for this objective is to “explore the feasibility of geo-thermal energy.” In November 2012, the Government of St. Vincent and the Grenadines prepared the Geothermal Bill with support from the Clinton Initiative, which is intended to fill this gap. As of August 2015, the Government had submitted the Geothermal Bill to Cabinet for the first round of revisions by the legal committee.

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities.

No changes with respect to original PIF.

A.3 The GEF Agency’s comparative advantage:

No changes with respect to original PIF.

A.4. The baseline project and the problem that it seeks to address.

Since 2013 significant emphasis has been given to the development of the geothermal potential available both in St. Vincent and the Grenadines and Grenada. In St. Vincent and the Grenadines, the Government is working with the

⁶ For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter “NA” after the respective question.

private sector to explore its geothermal resources and to develop a 10MW to 15MW geothermal plant. There is strong political support for the project and the Government plans to build this plant on a PPP basis with Light and Power Holdings (based in Barbados) and Reykjavik Geothermal. These companies began surface exploration in November 2013 and completed pre-investment studies in December 2014. The companies plan prepared and submitted a detailed technical, project, and business plan in June 2015. The Government and private partners plan to meet in August-September 2015 to carry out negotiations based on this business plan and finalize the project agreements. Though the project's partners have only signed preliminary agreements for surface exploration, the Government expects the plant to begin operations in June 2018.

As for Grenada, even though geothermal resources have not been studied extensively, preliminary surface exploration realized in 2013 suggests that Grenada's geothermal resource exceeds 30MW but it has yet to be confirmed. The Government and GRENLEC expressed interest in working together to explore the geothermal resource and develop a 10MW geothermal plant. The Government restarted exploration works in 2014 with the support of the Government of New Zealand. The Government received the results of 3G studies on July 2015 and is in the process of defining the project's next steps.

However, both local capacity and the legal framework governing the electricity sector in these countries are lagging with respect to what is required to effectively develop geothermal projects through PPP. On the one hand, 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 projects and sub loans. On the other hand, while the ECC have taken steps to improve their governance frameworks to promote the adoption of RE for power generation, significant work and changes are required for the successful implementation of RE in general and GE in particular. More specifically, the ECC countries need to undertake the following changes or reforms to their current legal and regulatory frameworks: (i) pass geothermal laws and regulations governing the exploitation of geothermal resources; (ii) establish and assign responsibility for monitoring and oversight of geothermal resource utilization to prevent overexploitation; (iii) establish tariff setting mechanisms that reflect the cost of producing electricity with geothermal and other RE sources; (iv) establish a process for geothermal developers to obtain a license that is consistent across all relevant laws (licensing regime); and (v) establish a clear process for Independent Power Producers (IPP) to sell their electricity to local utilities. These weaknesses may limit the potential for realizing RE and EE investments.

A. 5. [Incremental /Additional cost reasoning](#): describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated [global environmental benefits](#) (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project.

GEF resources will continue to be used for activities as defined in the PIF but with a greater emphasis on renewable energy in order to attain a greater impact both in terms of energy savings and GHG emissions reductions. Among RE potential, geothermal energy (GE) presents the largest potential for displacement of fossil fuels for power generation and the largest estimated installed capacity potential (over 160MW). GE is the largest available RE resource for the ECC (except A&B) with the possibility in some cases of exporting power to neighboring islands via undersea cables⁷.

Given the increased demand for RE funding and more specifically for GE projects developed through PPP, the SEF program will leverage additional co-financing resources and instead of investment in pilot projects, as was previously stated in the PIF, it now contemplates larger investments in full EE and RE projects. In addition to confirmed co-financing of \$49.4 million, and additional \$61 million from the Japan International Cooperation Agency (\$41 million) and CTF (\$20 million) will contribute to the financing of the SEF program. The SEF will provide a global credit loan that the CDB will on-lend to EE and RE subprojects in the region. An Indicative Resource Allocation (included as

⁷ Nevis could be connected to St Kitts, Dominica to Guadeloupe, and Dominica to Martinique with a 5km, 70km and 100km undersea cable respectively.

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Annex 1) has been identified that includes two EE and five RE projects that may require SEF funding; however, this is only indicative and will change based on actual demand from borrowing countries once program execution starts. EE and RE sub-projects will be identified during Program execution; EE projects could include 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. RE projects could include both intermittent RE technologies such as wind power and solar PV, and baseload technologies as GE, hydro, and waste-to-energy.

GEF grant resources are required to catalyze and facilitate planned investments in RE project development by means of addressing the identified regulatory and governance weaknesses mentioned above (A.4). By supporting the development of legal and regulatory frameworks and building local capacity to implement RE projects with an emphasis in GE, large investments contemplated in the SEF Program as a whole will be enabled.

The SEF will provide non-reimbursable technical assistance to the CDB, and to the ECC governments, including their ministries responsible for energy and electric utilities.

Support to the ECC governments will include: (i) supporting an effective legal, policy and regulatory framework for the implementation of RE and EE projects and public private partnerships (PPPs); (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 RE and EE development and execute RE and EE projects.

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.

Global Environmental Benefits: The SEF program is expected to increase RE investment to 60MW and not 3MW as indicated in the PIF. RE will displace about 446,000MWh of electricity generation combined per year, instead of 5,000MWh as contemplated in the PIF. This will result in direct emissions reductions of 338,420 tCO₂ per year relative to the baseline scenario instead of 4,000 tCO₂ per year as per the PIF. Therefore, RE investments will result in a direct emissions reduction of 10.15 Million tCO₂ over an assumed thirty (30) year lifetime of the project. In order to calculate the replication effect, the project team assumed that other geothermal projects that are likely to occur, for example phase 2 in Dominica (110MW) and phase 2 in Nevis (25MW), would be implemented; this would be equivalent to a 2.25 replication factor. Therefore the indirect bottom up approach results in estimated CO₂ emission reductions of 22.84 Million tCO₂ (over 30 years). An additional 37,509 tCO₂ per year of CO₂ emissions reductions will be obtained by implementing EE measures for a total of 187,545 tCO₂ avoided over an assumed five (5) year lifetime of lighting EE technologies. With EE, the total CO₂ emissions avoided by the program are 375,390 tCO₂ per year and 10.34 Million tCO₂ over a thirty (30) year period; The cost effectiveness of the program is given by the ratio of GEF's cost of the program divided by the total direct emission reductions, which is equal to 0.30US\$/tCO₂, in other words, the program is highly cost effective (When diving by the total direct and indirect bottom up emissions reductions, the cost per tCO₂ avoided is reduced to 0.09US\$/tCO₂). Annex 2 contains CO₂ emissions reduction estimations.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved and measures that address these risks:

TYPE OF RISK	RISK	PROBABILITY CLASSIFICATION	IMPACT CLASSIFICATION	RISK CLASSIFICATION (HIGH, MEDIUM OR LOW)	MEANS OF MITIGATION
Development Risk	Exploratory risk perceived by investors can deter investments in GE or increase the cost of capital for GE projects to levels that make projects and/or power generation cost reductions unfeasible	3	2	6 (High)	The use of contingent grants to fund exploratory drilling will reduce the risk for project developers. Under this instrument, the CTF would take over the payments owned by the projects in case the exploratory drillings fail (a commercial geothermal resource is not confirmed)
					The use of grants to support governments in the pre-investment phase (surface studies and slim holes) will ensure that there is enough technical and scientific information for developers, governments, lenders, and investors to make sound investment decisions.
					For GE projects to be eligible for SEF funding there should be a contractual and/or regulatory mechanism that reflects the concessionality granted through this program on the electricity tariffs to end users.
Monitoring and Accountability Risk	Duplication of efforts due to multiple actors in the region	1	2	2 (Low)	Continuous coordination with the governments and other donors to avoid duplications and rather complement efforts. To do so, the CDB will map out the interventions of other donors in the RE and EE sectors in the Eastern Caribbean countries, with support from the other donors and during the execution of the first three years of the Program. The CDB will use this analysis to guide its interventions and ensure that the Facility complements rather than duplicates the support provided by other donors to specific projects or countries. The CDB is well suited to coordinate and collaborate with other actors, agencies, and donors.
					Deploy different financial instruments under a phased approach to address the financing needs present in each stage of geothermal development and not covered by other actors.
					Also, mechanisms for donor coordination in the ECC are already in place 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.
Macroeconomic and Financial Sustainability Risk, and Development Risk	Decreased commitment from potential beneficiaries to promote SE due to recent decrease in oil prices.	1	2	2 (Low)	The Caribbean Region is very motivated to pursue as much RE as possible, even with reduced oil prices. The Regional Caribbean Energy Policy, and the Policies at individual countries, shows that commitment. The EC countries have set targets for RE penetration as high as 100 percent, due to their potential for geothermal power.

					Offer concessional financing at rates below commercial lending rates. This lower cost of capital reduces the overall cost of the geothermal projects and ensures the geothermal projects remain economically viable despite reduced oil prices.
Development Risk, Macroeconomic and Financial Sustainability Risk	Inadequate access to RE development sites.	1	2	2 (low)	Establish in the SEF Operating Manual that the loans for subprojects must include a pre-disbursement condition requiring private sponsors and/or beneficiary governments to identify the investments needed, if any, for access roads and establish an action plan with timelines for ensuring that the access roads will be completed when needed.
					Access roads are eligible to be financed by the Facility.
Macroeconomic and Financial Sustainability Risk	Pass through or on-lending mechanism does not maintain the concessionality to beneficiaries required to ensure uptake of geothermal projects and achieve reductions in the cost of electricity for customers	1	2	2 (Low)	Establish in the SEF Operating Manual the on-lending mechanisms for the CDB to ensure that concessionality is maintained for beneficiaries for expected results to be materialized.
Fiduciary Risk	Insufficient capacity of the CDB for implementing and managing the SEF, particularly for lending to private sector	2	3	6 (High)	Through Component II of the SEF, the CDB will retain an expert consulting firm that will help the CDB develop the required capacity. The expert consulting firm will be retained for a number of years, but only used as needed. The expert consulting firm will train the CDB staff and source the required staff, on a needs basis, to evaluate geothermal projects and prepare the loans.
					The CDB will add a financial analyst to the SEF team. This analyst will be part of CDB staff.
					The CDB will have a special, independent account through which the SEF funds will be managed. This account will receive the funds from donors and any income from the investment of its funds, as well as the repayments, interest payments, and other fees charged to sub
Public Management and Governance	Insufficient local geothermal and other technical expertise to accompany the pace of development of geothermal projects through PPPs	2	1	2 (Low)	Through Component II of the SEF, provide technical assistances to: <ul style="list-style-type: none"> develop local competence in the scientific, analytical, and technical skills needed to implement and operate a geothermal plant develop the legal and regulatory framework to develop geothermal energy (GE) and other renewable energy (RE) develop electricity sector regulations, policies, strategies, and integrated resource plans develop local competence in project financing, financial modelling, and PPPs provide transaction advisory support to governments to structure the projects and negotiate with private partners.
Environmental and Social Sustainability Risk	Adverse environmental or social impacts related to geothermal projects	2	3	6 (High)	An Environmental and Social Management Report (ESMR) will be done to identify risks, impacts, and mitigation measures to be undertaken by all projects. The ESMR will be consistent with IDB safeguard policies and country regulations.
					Each project will conduct an Environmental Impact Assessment (EIA) that follows IFC guidelines.

Macroeconomic and Financial Sustainability Risk	The ECC have limited fiscal space and limited resources to make contributions to PPP for GE development. At the same time the fiscal situation can be significantly alleviated by the implementation of GE potential in the region but could also be adversely affected in GE projects are not successful.	2	2	4 (Medium)	The grants, risk mitigation instruments and concessional funds included in the program mitigate the risk that the macro situation could be adversely affected by GE project outcomes.
					This program provides resources that can help overcome the fiscal space limitation without requiring sovereign guarantees thus making PPP possible and crowding in private sector investments. The risk that macro situation could be adversely affect the as it could do so through contingent liabilities, bailouts or unforeseen fiscal implications associated with the geothermal energy projects and institutional reform.

A.7. Coordination with other relevant GEF financed initiatives.

While no relevant GEF funded initiatives have been identified, there are other donors supporting the region's energy 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.

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.

Additional organizations including DFID Caribbean's (DFIDC), the European Development Fund (EDF), CARICOM, OLADE, the German International Cooperation (GIZ), Organization of American States (OAS), the Government of New Zealand (GNZ), and the Clinton Climate Initiative (CCI) will provide overall support to the Eastern Caribbean region's energy development

Mechanisms for donor coordination in the ECC are already in place. 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. The 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.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

The CDB will be the borrower and the Executing Agency of the program and will work in close collaboration with IDB. The IDB will provide a Global Credit Loan (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 of Antigua and Barbuda (A&B), Dominica (DOM), Grenada (GRE), Saint Kitts and Nevis (SKN), Saint Lucia (SL), and Saint Vincent and the Grenadines (SVG). GEF resources will be allocated to three of these countries (A&B, GRE, and SVG).

Individual sub-projects will be implemented by ECC government agencies in case of EE and RE public sector projects and by legally established PPPs in the case of GE projects.

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.

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 Operating Manual (OM)⁸ which will be agreed upon by the IDB and CDB. The OM establishes the rules and procedures for implementing the SEF, to ensure that the individual projects are completed successfully. The OM guides the IDB, the CDB, other donors, and the beneficiary countries in executing the SEF.

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

The development of approximately 60MW of RE in the ECC and the implementation of EE measures (street lighting and public buildings retrofitting), will displace liquid fossil fuel based electricity generation which is costlier than generation with sustainable energy 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 and cost savings for customers as well as in a reduction in CO₂ emissions of 375,930 metric tons per year.

In terms of gender, the program will incorporate in its components elements which will contribute to the achievement of the first strategic gender objective in the Implementation Guidelines for the Operational Policy on Gender Equality in Development that is empowering women economically by facilitating women's access to economic opportunities and promoting women's entrepreneurship. The companies will be encouraged to adopt practices such as hiring under equal conditions, review of hiring requirements to detect criteria that potentially exclude women, and the possibility of setting targets related to women participation. Besides, the program will promote the inclusion of local women in training activities for the construction, operation and maintenance work that does not require specific qualifications. When possible the program will support a shift from the informal to the formal sector for women's businesses that provide services such as cleaning, food services, textile production for uniforms, etc. to the geothermal facility. The projects will promote an environment free from sexual harassment in which this type of attitude and behavior is prevented, and where conflict reporting and resolution are facilitated.

B.3. Explain how cost-effectiveness is reflected in the project design:

A Cost Benefit Analysis was developed for each of the sub projects identified in the Indicative Resource Allocation for the SEF program. The projects have an aggregate Economic Net Present Value (ENPV) of approximately US\$163 million and all of them are financially and economically viable; the Economic Internal Rate of Return (EIRR) is greater than 12% for all projects. A sensitivity analysis was conducted and indicates that the program's economic viability is maintained despite changes in the values of some key variables.

⁸ The objective of the Operating Manual is to ensure the successful implementation of the SEF and RE and EE projects. To achieve this, the Operating Manual establishes the rules and procedures that govern the implementation of the SEF. This Operating Manual guides the CDB as it works with governments and utilities to achieve the objectives of the SEF and implement their RE energy and EE projects. More specifically, the Operating Manual ensures the successful completion of the SEF by: establishing operating, institutional, and financial arrangements; by defining roles and responsibilities of each stakeholder, and by establishing key milestones to be achieved.

C. DESCRIBE THE BUDGETED M &E PLAN:

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 GEF and CTF.

The Program will be monitored by tracking a set of indicators that measure performance. The following table presents the indicators that will be used to measure whether the Program's outputs are fulfilled.

OUTPUT INDICATORS

Indicator	Description	Frequency of Measurement	Source of Verification
Component I: Energy Efficiency			
Loans provided to energy efficiency projects with resources from the Program.	Measures the number of loans provided for energy efficiency projects	Semi-annually and at completion of the execution period	Reports from CDB
EE projects appraised by the CDB	Number of EE projects	Semiannually and at the end of the execution period	Report from CDB.
Component II: Regulatory Framework, Institutional Strengthening, and Capacity Building			
Energy policy reforms or recommendations for energy policy reform provided to and implemented by governments in ECC.	Measures the number of ECC receiving and/or implementing policy reforms	Semi-annually and at completion of the execution period	Reports from CDB
Trainings provided to the EA and/or government employees with resources from the Program	Measures the number of trainings provided to the EA and/or government employees	Semi-annually and at completion of the execution period	Reports from CDB
Grants provided for technical assistance to Governments in EC countries with resources from the Program	Measures the number of EC countries receiving grants	Semi-annually and at completion of the execution period	Reports from CDB
Component III – Renewable Energy			
Loans provided to geothermal projects at any stage of development with resources from the Program	Measures the number of loans granted for geothermal projects	Semi-annually and at completion of the execution period	Reports from CDB
Loans provided to finance transmission lines required for	Number of loans for transmission and distribution projects	Semi-annually and at completion of the execution period	Reports from CDB

Indicator	Description	Frequency of Measurement	Source of Verification
connecting geothermal plants to the power grid			
RE projects appraised by the CDB.	Number of RE projects	Semiannually, and at the end of the execution period	Report from CDB.

The IDB will use four instruments to monitor the Program's progress in completing the expected outputs: (i) Semi-annual Reports; (ii) Due Diligence and Annual Supervision Missions; (iii) Field Inspections; and (v) Audited Financial Statements.

Semi-Annual Reports. Semi-Annual Reports are designed to monitor the progress in implementing the energy efficiency ('EE') and renewable energy ('RE') projects and the technical assistance funded, and measure their impact through various indicators. The EA is responsible for preparing them, with input from the Governments, private sponsors, utilities, and projects in EC countries. The IDB is responsible for reviewing the Semi-Annual Reports and giving its non-objection. As their name suggests, these reports are due every six months. The EA will deliver the reports within 60 calendar days after the end of each semester.

Due Diligence and Annual Supervision Missions. There will be due diligence for each Category A proposed renewable energy project. There will be one due diligence mission at the beginning of the projects. Following that, there will be annual supervision missions for the following five years, ending in year six of the Program. The IDB will be responsible for hiring external consultants to carry out the due diligence and supervision missions for the renewable energy projects financed through the Program. The due diligence missions should occur during year 1 of the Program, prior to the first disbursements made to the projects. The supervision missions will occur on an annual basis until program completion, starting in year two.

Field Inspections. Field Inspections are designed to monitor the progress in implementing the EE and RE projects and the technical assistance activities funded. Field Inspections provide an opportunity for the IDB to validate in the field the progress reported in the Semi-Annual Reports. The IDB is responsible for coordinating them with support from the EA, ECC Governments and private sponsors. Other donors of the SEF that may want to participate in the field inspections will coordinate it with the IDB. Field inspections are to be carried out semiannually, within a 60 day period after the Semi-Annual Reports are submitted.

Audited Financial Statements. The EA will submit to the IDB: (a) Annual Audited Financial Statements (AFS) of the CDB. These reports are to be presented to the IDB within 180 days following the end of CDB's fiscal year end, December 31st; (b) Assurance Reports on the Process of Preparation and Submission of Disbursement Requests (Assurance Reports) to be conducted by an independent audit firm that is eligible to the IDB, 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; and (c) 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.

The following table presents the indicators that will be used to measure whether the Program achieved its intended outcomes. Due to the long maturities associated to these projects, projects financed from early exploration may not be fully operational until past the timeframe of evaluation. Therefore, for those cases, some indicators will be estimated based on expected future outcomes. A note is included signaling the indicators for which this is the case. The basis for estimating indicator values is included in the source description.

Results Indicator	Unit /Description	Frequency of Measurement	Source of Verification
Component I: Energy Efficiency			
Reduction in electricity consumption from Public Lighting sectors with EE projects financed by the Program	GWh/year Electricity saved by EE applications, measures and programs	Semiannually and at the end of the execution period	EA report based on utility sales reports
Reduction in imports of fossil fuels for electricity generation in EC countries due to EE projects financed at any stage by the Program	Thousand barrels of oil Reduction in imports of fossil fuels for electricity generation	Semiannually and at the end of the execution period	IDB estimations made based on number and efficiency levels of installed lamps. Figures to be checked with the utilities and the Governments in the EC countries (ex-post CBA)
Greenhouse gas (GHG) emissions avoided by EE projects financed at any stage by the Program	ktCO ₂ e/yr Greenhouse gas (GHG) emissions avoided	Semiannually and at the end of the execution period	IDB estimations made following IDB methodology, based on number and efficiency levels of installed lamps and an average conversion factor of 0.76 (ex-post CBA)
Component II: Regulatory Framework, Institutional Strengthening, and Capacity Building			
ECC with legal and regulatory frameworks that enable GE development	Number of countries that have GE legal and regulatory frameworks	Semiannually and at the end of the execution period	EA report based on information from Governments
Women trained in construction, operation and/or maintenance of RE and EE infrastructure and projects	% Measures the percentage of women trained, out of the total trainees, in construction, management and/or maintenance of SE infrastructure/projects	At the completion of the execution period	EA report based on information from Governments and private project sponsors
Component III – Renewable Energy			
Greenhouse gas (GHG) emissions avoided by geothermal projects financed at any stage by	ktCO ₂ e/yr Greenhouse gas (GHG) emissions avoided	Annually, and at the end of the execution period	IDB estimations made following IDB methodology, based on installed capacity,

Results Indicator	Unit /Description	Frequency of Measurement	Source of Verification
the Program			electricity generation, and an average conversion factor of 0.84 (ex-post CBA)
Reduction in imports of fossil fuels for electricity generation in EC countries with geothermal projects financed at any stage by the Program	Thousand barrels of oil Measures the reduction in imports of fossil fuels for electricity generation	Annually, and at the end of the execution period	IDB estimations made based on estimated installed capacity and electricity generation. Figures to be checked with the utilities and the Governments in the EC countries (ex-post CBA)
Geothermal power generation capacity installed in projects facilitated or financed at some stage by the Program	MW Measures the MW of geothermal capacity that is ready to be generating electricity in the year	Once, at the end of the SEF execution period (Yr 8).	EA report with info from the projects in the EC countries
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 geothermal projects Measures the number of geothermal projects financed that moved to the following stage of development	Annually, and at the end of the execution period	EA report with info from the projects in the ECC
Women participate in consultation processes related to the projects.	% Measures the percentage of women who participate in consultations	At the completion of the execution period	EA report based on information from Governments and private project sponsors

There are five instruments that the IDB will use to evaluate the Program's results: (i) Baseline Values Study; (ii) Mid-Term Evaluation and Final Evaluation – GEF; (iii) Mid-Term Evaluation; (iv) Ex-post Cost Benefit Analysis ('CBA'); and (v) Project Completion Report.

Baseline Values Study. The Baseline Values Study will establish the baseline values of the indicators that will be used to evaluate the Program. This study is a key input of the Evaluation Plan and so must be measured at the start of the Program. The IDB is responsible for carrying out the Baseline Values Study with support from the EA, and the Governments, utilities, private sponsors, and projects in EC countries.

Midterm and Terminal evaluation – GEF. A mid-term and a terminal evaluation will be conducted according to GEF guidelines to review and evaluate the achievements attained during the implementation of the GEF grant as regards the fulfillment of its objectives, outputs, results framework and work plan.

Mid Term Evaluation. The Mid-term Evaluation is designed to assess the performance of the Program, by reviewing whether the Program has met the targets set for the evaluation indicators. Specifically, the evaluation will verify the reported progress of the Program, assess Program's performance against the planned results, and assess the EA's performance in coordinating and executing the Program. These evaluation will also identify ways that the Program's operations could be improved and will identify lessons learned. A Final Evaluation will be completed as part of the Project Completion Report discussed in further detail below and presented in Paragraph 3.12 of the Proposal for Development.

Expost Cost Benefit Analysis. The ex-post Cost Benefit Analysis ('ex-post CBA') is designed to measure the economic impact of the Program. The ex-post CBA will measure whether the actual economic benefits of the Program exceeded its actual economic costs and how these compared to estimations made when the Program was designed. It will also assess the financial costs and benefits of the geothermal projects to private investors or PPP. Comparing the ex-post CBA with the ex-ante CBA will identify what factors led to discrepancies between the estimated costs and benefits included in the ex-ante CBA and the actual costs and benefits observed at the Program's completion. For this reason, the ex-post CBA will follow the same methodology used for preparing the ex-ante CBA presented in Section 3.2 and in the Cost Benefit Analysis Report which is an Optional Electronic Link of the POD. The CDB is responsible for hiring the independent consultant that will prepare the ex-post CBA, and reviewing and approving the final draft of the ex-post CBA. The EA is responsible for providing the independent consultant with the information needed to complete the ex-post CBA. In addition, the EA will coordinate with local authorities in EC countries to obtain any information that the external consultant may require to complete the ex-post CBA. The ex-post CBA will be developed as part of the Project Completion Report completed for the Program.

Project Completion Report for the Program. The Project Completion Report (PCR) is designed to assess and document the performance of the Program. A PCR will be completed for the Program as a whole including the results of each sub-project financed through the Program. The PCR evaluates three main areas: whether the Program and sub-projects met their targets for results indicators, whether the results are sustainable, and the issues that affected how successful the Program and sub-projects were in achieving their intended results. In evaluating whether the Program and sub-projects met the targets for results indicators, the PCR uses a before and after methodology that compares the baseline values of the results indicators against the indicator values after the Program and/or Project is completed. As part of the PCR completed for the Program, an ex-post Cost Benefit Analysis (CBA) will be developed.

The following tables show the M&E budget.

MONITORING WORK PLAN

Activity	2016		2017		2018		2019		2020		2021		2022		2023		2024		Resp	US\$
	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2		
Semi-Annual Reports																			CDB	0
Field Inspections																			IDB & CDB	0
Audited Financial Statements																			CDB	0
Assurance Reports																			CDB	195,000
E&S Due Diligence and Annual Supervision Missions by External Consultant																			IDB	0
Total																				195,000

EVALUATION WORK PLAN

Activity	2015	2016		2017		2018		2019		2020		2021		2022		2023		2024		Res.	US\$
	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2		
Baseline Values Study																				IDB	0
Mid-term & Terminal Eval.																				GEF	70,000
Ex-post CBA																				CDB	40,000
PCR																				CDB	0
Total																					110,000

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):**
 (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this form. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Timothy Antoine	Permanent Secretary and Operational Focal Point	MINISTRY OF FINANCE, PLANNING, ECONOMY, ENERGY AND COOPERATIVES OF GRENADA	02/16/2012
Yasa Belmar	GEF Operational Focal Point	MINISTRY OF HEALTH, WELLNESS AND ENVIRONMENT	04/05/2013
Diann Black-Layne	Chief Environment Officer	MINISTRY OF AGRICULTURE, LANDS, MARINE AFFAIRS, PHYSICAL PLANNING AND THE ENVIRONMENT OF ANTIGUA AND BARBUDA	07/16/2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Michael Collins, IDB		09/03/2015	Christiaan Blanco Gischler	(202) 623-3411	christiaang@iadb.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

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. The SEF is a financial facility funded by loans and grants, including a Global Credit Loan from the IDB to the Caribbean Development Bank (CDB), which would on-lend the resources to finance eligible sub-loans in Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.
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Impact Indicators	Units	Base Level (2015)	Target Level	Source of Verification	Comments
Average electricity tariff for customers in ECC.	US\$/K Wh	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 ₂ e/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). KtCO ₂ e = thousands of tons of CO ₂ equivalent.

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.
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 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/p rojects.	%	0	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.
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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	1	0	0	0	3	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 ₂ e/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). KtCO ₂ e = Thousands of tons of CO ₂ equivalent.

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
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 facilitated or financed at some stage by the program.	MW of geothermal capacity.	MW	0	0	0	0	0	0	0	0	60	60	Source: Report from CDB. Estimations of 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	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.

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
or production drilling to construction of plants and/or electricity generation.													
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).
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.

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.

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 geothermal projects). If the projects financed by the SEF change over time, then the targets would need to be adjusted to reflect the expected results of the actual projects funded.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

STAP comments

1. This is a good project that aims to support EE and RE in 3 Caribbean islands. The main problem with this proposal is its lack of strategic approach supporting EE and RE development in the region. One of the main impediments facing energy systems in the region is their relatively small scale. While many, if not most, Caribbean countries have significant RE potential, their demand is small. Instead of focusing support on site-specific projects, investment institutions such as IADB could divert more resources to addressing the issue of scale. Regulatory frameworks and harmonization issues could be addressed using CARICOM's Caribbean Renewable Energy Development Programme (CREDP), while co-operation via Caribbean Electric Utility Services Corporation (CARELIC) could help to scale up capital investments and attract interest of international developers and independent power producers. STAP recommends that project proponents dedicate a share of project funds and plan appropriate activities to support a regional approach to energy development in the Caribbean and hence achieve economies of scale.

IDB response: As mentioned in the project document, the Sustainable Energy Facility (SEF) program for the Eastern Caribbean will leverage additional co-financing resources and instead of investment in pilot projects, as was previously stated in the PIF, it now contemplates larger investments in full EE and RE projects, therefore addressing the issue of scale. The SEF program has been strategically designed to leverage resources that will lead to a transformation, especially as it will enable increasing baseload generation capacity. The SEF will also provide financing mechanisms to unlock investments in RE and mobilize private sector capital and expertise required for developing RE projects in the region. Geothermal (GE) development, which has the largest potential for the displacement of oil consumption, suffers from special challenges that require participation of both the 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. Therefore, the program will provide concessional financing that will crowd in private sector capital to develop and implement GE initiatives. Additionally, there is an entire component to support regulatory frameworks. The majority of the GEF resources is now allocated to regulatory components, as the project has increased in magnitude (investment loans from IDB, JICA, GCF and CTF are expected) and therefore results obtained in terms of carbon emission reductions and new power generation has increased substantially. The SEF program complements the CREDP Program and the lessons learned from CREDP will feed into the SEF program. Furthermore, the IDB is currently supporting CARILEC with a technical assistance program which will also feed into the SEF Program.

2. In addressing investment costs barrier and developing new financial mechanisms, project proponents are advised to learn from earlier experiences in the region including IADB's own support for RET and EE in Barbados and Jamaica, together with IFC work with the BHD bank supporting wind energy in the Dominican Republic and others.

IDB response: The IDB will certainly use the lessons learned in Barbados, Jamaica and the Bahamas, particularly to support the component in energy efficiency and regulatory frameworks. The new focus of the project is in geothermal power which is something relatively new to the region.

3. Technical assistance is to be provided by GEF to support NAMAs and study smart-grid options. The choice of technologies for supporting EE and RE remains unknown. Specific sectors and technologies should be prioritized during project preparation taking into account emission reduction potential, cost-effectiveness, market potential including scaling up to regional markets. Note Component II (in Section B Table page 2 and elsewhere) includes legal

and financing options under the heading "Technical Assistance" which is somewhat confusing and could be amended. The funding allocation for this Component may need reviewing if so.

IDB response: The objective of the SEF 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. Given the potential for Geothermal to reduce the region's dependency on liquid fossil fuels and its cost effectiveness, this is the main RE technology prioritized. EE technologies include support of smart grid applications and use of appliances such as efficient AC systems and lighting. As mentioned below, the SEF Program will provide support for (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.

As for component II, the focus has been revised to support institutional strengthening (including supporting legal and regulatory frameworks that enable geothermal energy development and capacity building).

4. UNDP and IDB projects already exist so this could be some overlap which needs to be identified and resolved. Ongoing liaison with UNDP, IDB and GEF should be part of the project management if GEF funding is to complement existing projects as stated. On page 12 it says the SEEC Program will "closely coordinate" with UNDP and UNEP projects but exactly how this will be managed is not clear.

IDB response: Agreed. The SEF Program will build on lessons learned from the Caribbean Renewable Energy Development Programme (CREDP) funded by GEF through UNDP. CREDP assisted in the strengthening of the Energy Unit of Caribbean Community (CARICOM) Secretariat. The IDB communicates and collaborates with CARICOM, more specifically, through technical assistance that will be provided separately through another IDB Program. The GIZ's Renewable Energy and Energy Efficiency Technical Assistance (REETA) program is being housed in the Energy Unit of CARICOM, which today is the main coordination entity in the region. The IDB and the Caribbean Development Bank have been in constant coordination with CARICOM.

5. There are multiple business models supporting RE projects including third-party energy services, property-assessed clean energy loans, utility-based models, "anti-turn-key" models and many others (REN21 Renewables Global Futures Report 2012, Paris: REN21; <http://www.ren21.net/>). STAP recommends that different business models be explored during project preparation and documented later on.

IDB response: 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, customized for each stage of geothermal development to support development of GE projects in each of the ECC with geothermal potential. The activities to be financed are: (i) pre-investment activities for which a mix of grants and/or loans are best suited to unlock investments will include: (a) surface studies (geology, geophysics and geochemistry-3Gs) and Environmental and Social Impact Assessments (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, will include: (a) exploration drilling program (full size wells); and (b) feasibility studies for targeted reservoirs, including 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 (c) access roads, substations and transmission lines. In addition, performance based contract models for EE and RE retrofits will be included in the Operations Manual making this knowledge available to SEF sub-projects

6. Training will be provided but by whom? Who will train the trainers?

IDB responses: The IDB and the CBD, with the support of a consulting firm will identify potential trainers and will ensure quality control of trainings (particularly in geothermal power project in all stages). In case trainers require additional preparation the IDB and CBD will take the necessary measures. The IDB has experience in training programs in the region, particularly, the BRIDGE Program being carried out in Barbados, Jamaica and Trinidad and Tobago provide a model for training, partnering with industry experts who can provide hands on training opportunities. In addition, CARICOM and other stakeholders are working to develop a center of excellence for renewable energy, and part of it may focus on geothermal energy. The center would also be a venue to target some of the training of the SEF Program.

7. There are a number of methods of supporting EE measures in commercial, public and residential sectors. The PIF is vague in justifying what sectors and technologies will be targeted as well as what would be the most cost-effective and impactful measures to support EE measures: e.g. standards and labels, building codes, targeting of particular systems (such as motors, pumps) etc. The overall maturity of EE markets in selected countries should be explored and appropriate measures designed taking into account national circumstances as well as regional perspectives during project preparation. The GHG emission reductions calculations are somewhat indicative. For EE the recently published STAP methodology could be a valuable tool - see <http://stagef.org/node/792>

IDB responses: Under the SEF program sub-loans and grants will be provided to Eastern Caribbean countries (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 in the ECC are estimated at US\$58.4 million. The SEF will finance EE investment of approximately US\$ 8 million in EE projects. The GHG emission reductions calculations have been updated

8. Selection of RE pilot projects by each country has not yet been done. On what basis will they be selected and how will the funding allocation be divided? This is a gap in the proposal. Also on page 9 it states the SEEC will invest in 3MW of RE projects -solar PV and SWH. How does this match with the statement made above that RE pilot projects are yet to be identified? There appears to be a disconnect here. It is good solar cooling has been included as a technology.

IDB response: The CEO endorsement has a focus in geothermal power more than any other technology, particularly for St Vincent and the Grenadines and Grenada. For Antigua and Barbuda the focus is energy efficiency and solar power in government buildings. The project team has been in communication and will continue the communication with country authorities to prioritize investments.

9. The PIF is silent on whether off-grid or on-grid solutions or both will be supported and why. This information and appropriate justification is requested at the CEO endorsement.

IDB response: The SEF program will mainly focus on on-grid solutions for instance the financing for transmission lines required for connecting GE plants to the power grid.

10. In Section A, the PIF mentions a long list of barriers that all sound legitimate. However, the risk mitigation description (Section A3) is rudimentary and missing a range of important risks associated with the existing barriers, so it could be revised accordingly.

IDB response: A new list of risk mitigation actions has been provided in the CEO endorsement.

11. The project is lacking MRV - needs indicators and milestones to assess whether or not the project could be successful.

IDB response: The Program will be monitored by tracking a set of indicators that measure performance. A table containing detailed information has been provided on the CEO endorsement document.

Japan's comments

In implementing this project, please utilize the lessons learnt by the some of the projects indicated and financed by the Japan UNDP Partnership Fund in order to maximize synergy effect.

IDB response: The SEF program, with GEF funding, will provide non-reimbursable technical assistance to the CDB, and to the ECC governments, including their ministries responsible for energy and electric utilities. Additionally as the new focus is on geothermal power, the project team is using Japan International Cooperation Agency's (JICA) lessons learnt in geothermal power worldwide, as JICA is a financial partner of the SEF together with IDB. Based on that, successful experiences and lessons from similar activities focusing on capacity building and institutional strengthening will be incorporated as required during program implementation. Therefore the lessons learnt by the projects under the Japan UNDP Partnership Fund and JICA's geothermal projects will be taken into consideration according to their relevance and alignment with the SEF program. As an example lessons from the project "Support to Indonesia's Energy Efficiency Testing and Certification Facilities and Expertise" under BRESL will be analyzed given their focus on capacity building for EE activities.

At the same time the program will be delivering training and workshops that could benefit from the experiences taken from the UNDP/UNITAR/KIWC Training Workshop on Biodiversity in Asia and the Pacific. For instance, the lessons on how to effectively design training workshops focusing on the development of training methodologies in order to facilitate the acquisition of ready to-use knowledge in a limited time (less than one week) among its participants could add value to the trainings offered under the SEF.

Canada's comments

As with project 5388, Canada requests an explanation of how the current project builds on the lessons learned from GEF project 840 (Caribbean Renewable Energy Development Program), and ask that this information be included in the final project proposal.

IDB Response: The Caribbean Renewable Energy Development Programme (CREDP), an initiative of the Energy Ministers of the CARICOM, funded by GEF through UNDP, aims for "Improved political, regulatory and institutional framework conditions, and the development of specialist technological and economic competencies favourable to investment in RE/EE within the Caribbean region".

CREDP assisted in the strengthening of the Energy Unit of Caribbean Community (CARICOM) Secretariat. The IDB and the Caribbean Development Bank have been in constant coordination with CARICOM.

The CREDP is still finalizing activities, expected to be completed in March 2016, which will be complementary to the SEEC Program, as follows:

- The reports from CREDP will be very useful for informing this SEEC Program, for example, with more details on project pipeline for faster implementation and on lessons learned. The information from CREDP is expected to be provided to the Caribbean Development Bank (CDB) and other partners for implementation. Note that the CDB is an essential partner and also a leading institution in this project;
- The Technical Assistance being provided from CREDP to the CDB and their Partner Banks (Development Banks in Member States) strengthens the CDB's knowledge about RE and EE.

- CREDP has been cooperating with the GIZ's REETA program, with which the IDB is also collaborating, for example in terms of capacity building and the SEEC Program would assist in following up with capacity building and knowledge sharing, also in collaboration with CARICOM.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS⁹

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: N/A			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Total	0	0	0

⁹ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

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ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)

N/A