

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**BARBADOS**

**SUSTAINABLE ENERGY INVESTMENT PROGRAM (SMART FUND II)**

**(BA-L1043)**

**PROJECT PROFILE**

This document was prepared by the project team consisting of: Christiaan Gischler (INE/ENE), Team Leader, Veronica R. Prado, Alternate Team Leader (INE/ENE); Virginia Snyder, Odile Johnson, Stephanie Suber (INE/ENE); Christopher Persaud (INE/TSP); Gerard P. Alleng (CSD/CCS); Sisi Larrea (INE/INE); Zachary Hurwitz (VPS/ESG); Paulo Martelli (INO/IEN); Kai Hertz, Dimas Tejero Pozo (ORP/GCM), Victoria Florez Toro (ORP/PTR); Vinicio Rodriguez; Maria Camila Padilla (FMP/CBA); Rochelle Franklin; (CCB/CBA); and Betina Hennig (LEG/SGO).

Under the Access to Information Policy, this document is subject to Public Disclosure.

## PROJECT PROFILE

### BARBADOS

#### I. BASIC DATA

<b>Country:</b>	BARBADOS
<b>Project Name:</b>	Sustainable Energy Investment Program (SMART FUND II)
<b>Project Number:</b>	BA-L1043
<b>Project Team:</b>	Christiaan Gischler (INE/ENE), Team Leader, Veronica R. Prado, Alternate Team Leader (INE/ENE); Virginia Snyder, Odile Johnson, Stephanie Suber (INE/ENE); Christopher Persaud (INE/TSP); Gerard P. Alleng (CSD/CCS); Sisi Larrea (INE/INE); Zachary Hurwitz (VPS/ESG); Paulo Martelli (INO/IEN); Kai Hertz, Dimas Tejero Pozo (ORP/GCM), Victoria Florez Toro (ORP/PTR); Vinicio Rodriguez; Maria Camila Padilla (FMP/CBA); Rochelle Franklin; (CCB/CBA); and Betina Hennig (LEG/SGO).
<b>Borrower:</b>	BARBADOS
<b>Executing Agency:</b>	The Prime Minister's Office, acting through the Energy and Telecommunications Division (ETD).
<b>Financial Plan<sup>1</sup>:</b>	IDB (Ordinary Capital): US\$ 30,000,000 Total: US\$ 30,000,000
<b>Safeguards:</b>	Policies triggered: OP-102; OP-704; OP-761; B.2; B.3; B.4; B.5; B.6; B.7; B.10; B.11; B.17 Classification: B

#### II. GENERAL JUSTIFICATION AND OBJECTIVES

##### A. Justification

- 2.1 Barbados is a densely populated<sup>2</sup> island nation that relies heavily on imported oil products to supply its energy needs. Barbados imported oil products account for 93% of total primary energy supply, 91% of the electricity is generated using liquid fossil fuels and the rest is produced with natural gas. According to the Barbados Statistical Services, Barbados spent US\$427 million in oil products imports in 2014 accounting for 9% of GDP. Barbados Light and Power (BL&P) is the sole utility of the country. The cost of electricity is directly linked to international oil prices and has been high for the last two decades with consequences on the competitiveness and the economic growth of the country. The average residential electricity tariff in Latin America and the Caribbean (LAC) is \$0.19 per Kilowatt-hour (kWh) and in Barbados in 2016 consumers pay on average \$0.21 per kWh.
- 2.2 Barbados has an installed capacity of 256.6 Megawatts (MW) and generates 950

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<sup>1</sup> The Project Team is exploring the possibility of additional resources from other donors.

<sup>2</sup> With 284,644 people living across 431 square kilometers Barbados is one of the most densely populated islands in the world.

Gigawatts-hour of electricity a year (GWh/year). The commercial and industrial consumers account for almost 53% of electricity consumption, including 84 hotels. The rest of the consumption is divided among residential sector (40%), public buildings (6%) and streetlights (1%).<sup>3</sup>

- 2.3 After the 2008 global economic crisis, the Government of Barbados (GOBA) rolled out a series of strategies, the most current one, Medium-Term Growth and Development Strategy (MGDS 2013-2020)<sup>4</sup>, has specific goals concerning economic growth, reforms, social and human development as well as energy and environmental sustainability.<sup>5</sup> Based on this, the GOBA established twenty objectives going forward, which included: (i) reduce dependence on fossil-fuels, ensure environmental sustainability and combat climate change; and (ii) upgrade and modernize the existing infrastructure. The MGDS recognizes the importance of Renewable Energy (RE) to ensure a reliable source of cleaner fuels for power generation and reduce energy costs.
- 2.4 The Electric Light and Power Act, 2013 (ELPA) sets the government's priorities in the electricity sector which are to reduce electricity prices, increase energy security, promote the use of cleaner fuels, and reduce negative environmental impacts. The GOBA is committed to reduce 22% of electricity consumption compared to business as usual by 2029<sup>6</sup> and to have 20% and 29% of RE supply by 2026, and 2029 respectively.
- 2.5 The efforts to include RE sources in the country's energy matrix have been successful. With the introduction of the Renewable Energy Rider (RER) in 2010, a growing number of solar Photovoltaic (PV) systems have been and continue to be interconnected to the grid. Total RE capacity (solar PV) stood at around 10.4MW at the end of 2015<sup>7</sup>. Nevertheless, for additional RE development, Barbados would need to consider energy storage and smart grid technology, as well as other baseload technologies to manage RE intermittency.
- 2.6 The IDB has played an active role in supporting the energy sector transformation in Barbados since 2009. Through two Policy Based Loans (2410/OC-BA and 2609/OC-BA), the Bank assisted the process of drafting and enacting policy and regulation to promote Energy Efficiency (EE) and RE that contributed to the enactment of the ELPA. Following this, the Bank approved two investment loans, a US\$10 million Energy Smart Fund (ESF I) (2485/OC-BA)<sup>8</sup> and the US\$24.6 million Public Sector Smart Energy (PSSE) (2748/OC-BA)<sup>9</sup>. The former developed financial instruments to promote the introduction of RE technologies and EE

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<sup>3</sup> Achieving Sustainable Energy in Barbados, Dossier, IDB, 2017. Hotel Consumption from CHENACT studies. Public Buildings consumption inferred from UWI audits available considering 80 public buildings.

<sup>4</sup> <http://www.economicaffairs.gov.bb/download.php?id=327>.

<sup>5</sup> Electricity is one of the major constraints for the firms according to the Ranking of the Top Business Environment Obstacle for Firms of the [World Bank Enterprise Survey](#), 2010.

<sup>6</sup> Caribbean Sustainable Renewable Energy Roadmap (C-SERMS) developed by CARICOM.

<sup>7</sup> Achieving Sustainable Energy in Barbados, Dossier, IDB, 2017.

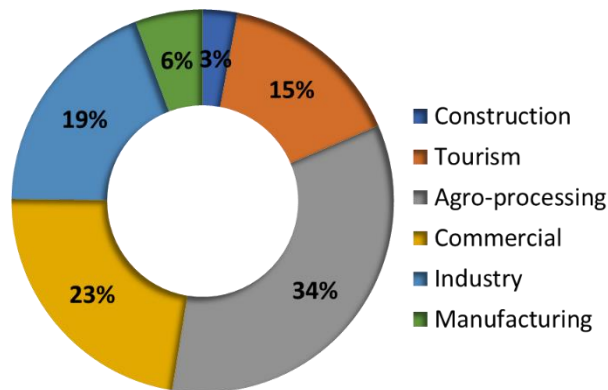
<sup>8</sup> The Project Completion Report for this operation is currently under preparation, and it is expected to be completed by March 2018.

<sup>9</sup> As of December 2017, the project disbursed approximately 23% of loan resources. One contract in the amount of US\$4.4 million was awarded on May 16, 2017, and a bidding process for a streetlight contract in the amount of US\$11 million has been finalized. As a result, 60% of the loan resources will be fully committed by the first quarter of 2018. Current projections indicate that 70% of the loan will be disbursed by the end of 2018, and the rest is expected to be disbursed during 2019.

measures in Small and Medium Enterprises (SMEs). The PSSE allows for the retrofitting with EE and RE technologies of public buildings and street lights.

- 2.7 The ESF I developed a package of financial instruments coupled with technical assistance to enable the design, preparation, and implementation of commercially and economically viable RE and EE technologies in SMEs. Since the inception of the ESF I in 2011, there has been significant interest from Barbadian companies whose main focus has been to reduce the cost of their electricity bill. The ESF I presented a solid financial performance as the amount of US\$10.0 million was fully disbursed<sup>10</sup> in a period of 5.5 years.<sup>11</sup> The proposed program, Energy Smart Fund (ESF) II, builds upon the success and lessons learned from the ESF I (2485/OC BA).

**Figure 1: Smart Fund I loans by Sector**



- 2.8 The ESF I provided 23 loans that allowed annual savings of 4,403MWh (US\$1.38 million) and installed 1.9MW of solar PV generation, distributed among various sectors. The main lessons learned from the ESF I, are: (i) Client Awareness: it is necessary to develop the necessary mechanisms to raise clients awareness on the availability and attractiveness of the financial funds; (ii) Focus on Tourism Sector: the Enterprise Growth Fund Limited (EGFL) operates as a commercial bank, requiring collaterals and securities, which in many cases makes it hard for hotels to access loans, therefore, ESF II will focus on the tourism sector and offer performance-based contracts through energy service providers that are in better financial standing and can take the credit on behalf of the hotels or restaurants; and (iii) Sector actors: preparation of the projects catalyzes associations around the clients, and ESF II will work with Smart Fund Partners or similar groups that can assist SMEs to access and structure financing under the ESF.

<sup>10</sup> By design, the ESF I generated US\$ 405,058 in reflows of repayments from the final clients to EGFL, who then used these reflows to prepare other sub loans.

<sup>11</sup> From the 23 loans, only two (2) have experienced financial challenges which are seasonal in nature. EGFL expects these financial challenges to be resolved by the 2017/2018 tourism high season.

<b>Table 1. SMART FUND I</b>				
<b>Key Components</b>				
Component	# Clients	# Projects	Average Value	Total Disbursed US\$
Technical Assistance	26	27	US\$ 8,180	US\$ 220,837
RE and EE Loans	20	23	US\$ 342,775	US\$ 7,883,823
Consumer Finance facility	2	2	US\$249,000	US\$ 499,246
EE Lighting distribution facility	2	2,705 (transactions)	US\$ 194	US\$ 525,000
<b>Key Results</b>				
Renewable Capacity Installed by the Smart Fund I			1.9 MW	
Estimated Energy Saved (annual)			4,403 MWh	
Annual savings to beneficiaries			\$1,291,882.18	
Barrel of Oil Equivalent saved (annual)			1,827	

- 2.9 Under the ESF II, the concept of management of EE savings will be introduced through private energy service providers via energy performance contracts (EPC) to promote the reinvestment of the savings into more buildings to be retrofitted, and therefore, creating a multiplicative effect.<sup>12</sup> The project is expected to help SMEs to install more than 0.6MW of renewable solar PV energy, promote annual savings of 67,5 GWh on their electricity consumption, and avoid annual emissions of 57,031 tons of CO<sub>2</sub>.
- 2.10 This project is consistent with the Updated Institutional Strategy 2010-2020 ([AB-3008](#)) and it is strategically aligned with the development challenge of: (i) productivity and innovation, by reducing energy costs for commercial and industrial customers and with the use of cutting edge RE technologies, liberating funds that can be reinvested in productivity activities. The project is also aligned with the cross-cutting themes of; (i) climate change and environmental sustainability, by reducing carbon emissions<sup>13</sup>; and (ii) gender equality and diversity, by promoting opportunities for women in RE and EE sector. The project will promote equal access to Smart Fund II grants and loans for men and women-owned business to develop EE and RE projects. The project will ensure equal access of men and women in workshops and training carried out under this project. These training opportunities will allow men and women to acquire new skills, develop networks and learn about new technologies and good practices, resulting in better job opportunities in the EE and RE sector. Additionally, the program will contribute to Corporate Results Framework 2016-2019 (GN-2727-6) indicators: (i) reduction of emissions with support of IDB financing (annual million tons CO<sub>2</sub> equivalent), by promoting a switch from liquid fossil fuels to RE sources for power generation and reducing electricity consumption by adopting EE measures; and (ii) and installed power generation from RE sources (MW). The project is consistent with the Bank's Climate Change Sector Framework Document (GN-2835-3) as it was designed with climate change considerations in mind and will reduce CO<sub>2</sub> emissions; also, this project promotes financial structures that enable coordination between the public and private sectors, and capacity strengthening to address

<sup>12</sup> A financial management instrument did not exist as part of the sub-loans under the ESFI. As a result, EE savings were not captured and reinvested.

<sup>13</sup> The Proposal for Operation Development (POD) will indicate what the estimated percentage of total IDB funding of this project invested in climate change mitigation activities is expected to be per the joint Multilateral Development Bank approach on climate finance tracking.

climate change issues. Finally, the project is in line with the Sustainable Infrastructure for Competitiveness and Inclusive Growth IDB Infrastructure Strategy (GN-2710-5) priority area of: (i) promoting access to infrastructure services. The project is aligned with the country development goals<sup>14</sup> established in the IDB Country Strategy with Barbados 2015-2018 (GN-2812) in which energy is a priority sector. The ESF II will also include gender considerations in its design, such as targeting SMEs benefited by the Program and technology suppliers managed by women.

## **B. Objectives and Expected Results**

2.11 The objective of the ESF II (the program) is to reduce Barbados's dependency on imported fossil fuel through the increased use of EE and RE technologies. The program is expected to be executed in 6 years<sup>15</sup> and includes the following components and sub-components:

### **2.12 Component 1. Promoting EE and RE in Small and Medium Enterprises (SMEs) (US\$13 million):**

- a. **Sub-component 1.1. Pre-investment studies for SMEs.**<sup>16</sup> [REDACTED]  
This subcomponent will provide the required pre-investment studies in the form of grants that will allow SME's to seek financing from the ESF II, such as: feasibility studies, detailed design and engineering, EE audits, environmental and social assessments, financial structuring and execution planning.<sup>17</sup>
- b. **Subcomponent 1.2. Implementation of RE and EE projects.**<sup>16</sup>  
[REDACTED] This subcomponent will finance the loans to the SMEs<sup>18</sup> to implement EE and RE projects that have applied and selected<sup>19</sup> to the ESF II. Given the role of the tourism industry both in energy consumption and as driver of the Barbadian economy, the tourism sector<sup>20</sup> will be a priority of ESF II, particularly for lighting replacement, EE technologies, PV installation on rooftops, and energy storage will be eligible for funding.<sup>21</sup> The project will seek promotion of innovation, such as SMEs that want to adopt electric mobility in

<sup>14</sup> See the Barbados Country Strategy Matrix; the country development goal for the energy sector is reducing dependency on LFF by promoting RE, EE and the efficient use of fossil fuels (including NG) for power generation.

<sup>15</sup> The execution period of 6 years comes justified by the monitoring and verification periods of Performance Based Contracts.

<sup>16</sup> (\*) At the request of the borrowing country, the information contained in these paragraphs will not be disclosed. The non-disclosure of this information is in accordance with the country-specific information exception in paragraph 4.1 i of the Bank's Access to Information Policy, document GN-1831-28.

<sup>17</sup> In order to improve the competitiveness.

<sup>18</sup> This subcomponent will focus on the provision of loans for EE and RE projects via enhanced and innovative financial mechanisms that address SME in the tourism sector current inability to access competitive financing. This sub-component will address the limited capacity SME in the tourism sector has in accessing competitive financing. Based on 144 investment grade audits and 30 walkthrough audits performed under the CHENACT, the estimated savings potential for Barbados is 18,290,715 kWh/year, which represents 14.22% of the total energy used in Barbados. This projection is based on a sample of 2,207 hotel rooms out of a total of 5,850, and it represents approximately 30 % of the total savings potential in Barbados

<sup>19</sup> Process of selection according to the existing Smart Fund Operating Guide (BA-L1020).

<sup>20</sup> The tourism sector includes, hotels, restaurants, leisure services and suppliers of the tourism sector. The project CHENACT (RG-T2015) identified that out of the 96 hotels audited, 65% of potential energy savings come from A/C and lighting replacement. Other measures identified were light control, solar hot water, window films, pool pumps, water pumps, exhaust fans

<sup>21</sup> The POD will detail the type of project developers and type of technologies that can access the ESF II.

their fleets. This subcomponent will be executed by EGFL following the same executing mechanism as in Energy Smart Fund I.

- c. **Subcomponent 1.3. A/C Rebate Facility.**<sup>16</sup> [REDACTED] This subcomponent will finance an A/C renewable plan for SMEs with a trade-in rebate scheme that could provide up to 50% rebate of the cost of the A/C system.

**2.13 Component 2. Promoting EE and RE in Public Sector (US\$14.8 million):**

- a. **Sub-Component 2.1. Pre-investment Studies for Government programs**<sup>16</sup>. [REDACTED] This subcomponent will finance pre-investment studies for public entities to carry out: (i) retrofitting of buildings with RE and EE technologies, including necessary audits<sup>22,23</sup>, hazardous material management studies<sup>24</sup> and the design of the optimum contractual mechanisms<sup>25</sup> for the implementation and sustainability of the retrofits; and (ii) technical studies for the deployment of innovative RE and EE technologies (smart grids, and/or electricity storage), including feasibility analysis, detailed design engineering, implementation scheme, environmental and social assessments, and financial structuring in the form of Private Partnership (PPP). Through this component, the GOBA plans to lead by example and achieve multiple benefits by improving energy efficiency, reducing expenses in energy in public buildings, reducing air pollution and greenhouse gas emissions, improving energy independence and creating jobs.
- b. **Sub-component 2.2. Implementation of EE and RE projects for the public sector.**<sup>16</sup> [REDACTED] This subcomponent will finance the retrofitting of public buildings with EE measures and RE technologies.<sup>26</sup>
- c. **Sub-component 2.3. Electric Mobility.**<sup>16</sup> [REDACTED] This subcomponent will finance electric mobility vehicles and charging stations for government fleet.

**2.14 Component 3. Capacity Building and Institutional Support (US\$650,000).** This component will provide capacity building and institutional strengthening activities for the Project Execution Unit (PEU) of the program, the Fund Manager of the Smart Fund, and other government entities with responsibilities related to EE and RE development. These activities include: (i) the preparation of a Communications Program; (ii) capacity building for the Building Managers of Public Buildings; and (iii) the preparation of sector studies.

**2.15 Project Management and other cost (US\$1.55 million).** The Project will finance the cost of management, monitoring and evaluation, as well as audits among other things.

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<sup>22</sup> Walk through and investment grade level.

<sup>23</sup> It is expected 30 public buildings will be audited. Existing Audits, of 17 buildings in the University of West Indies show that 45% of savings would come from small and large air conditioners replacement and 31% from fluorescent lights replacement by LED.

<sup>24</sup> Audits from building can potentially show the existence of hazardous materials that will have to be handled. Particularly management of ozone depleting substances from Air Conditioning (A/C), mercury from old lighting systems or eventual asbestos findings.

<sup>25</sup> For example, performance-based contracting.

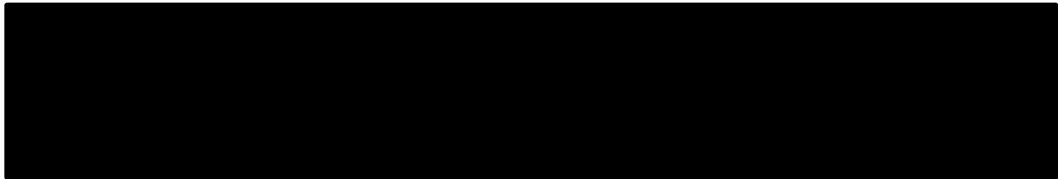
<sup>26</sup> RE and EE measures include lighting retrofit, cooling and heating systems retrofit, as well as energy management systems.

- 2.16 **Expected Results.** The ESF II is expected to finance: (i) EE retrofits and installation of RE systems in at least 70 public buildings; (ii) 21.5GWh reduction in annual electricity consumption in retrofitted SMEs, public buildings; and (iii) savings in electricity consumption of approximately US\$4.47 million per year<sup>27</sup>. The expected impacts are: (i) reduction in fuel imports for electricity generation (and transportation) of approximately 18,000 BOE annually, which would imply annual savings for the GOBA of US\$900,000<sup>28</sup>; (ii) reduction of the national electricity bill of public sector buildings from introducing EE technologies and RE; and (iii) annual emissions reduction of 16,300-ton CO<sub>2</sub>eq.

### III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

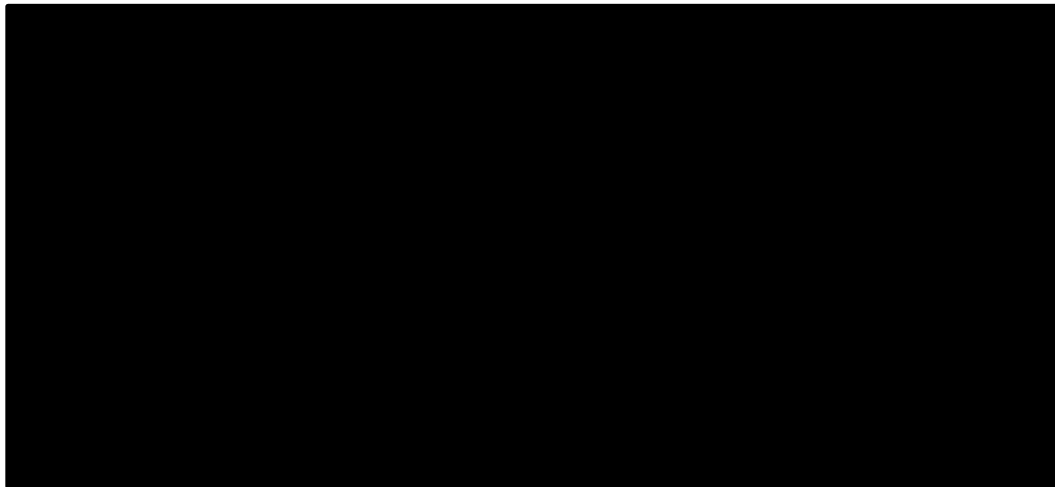
- 3.1 The final evaluation of the Smart Fund I (2485/OC-BA) was completed in December 2017. It will provide inputs for the development of this program. The Operating Guide of the Smart Fund was developed for Smart Fund I, will be updated for this operation.

3.2



16

**Diagram 1: Responsibilities execution diagram<sup>16</sup>**



<sup>27</sup> Considering electricity tariffs at 0.21 US\$/kWh in 2016.

<sup>28</sup> Considering US\$50 per BOE as forecasted for 2018 by the US Energy Information Administration.



#### **IV. ENVIRONMENTAL SAFEGUARDS AND FIDUCIARY SCREENING**

- 4.1 **Environmental and Social Safeguards Aspects.** In accordance, the Bank's Policy OP-703, Component 2 has been classified as Category B. It is likely to be associated with local negative environmental and social impacts that can be addressed with an adequate management plans and mitigation measures. Such impacts are associated to solid waste from the replacement of EE retrofitting of buildings, including A/C equipment and light bulbs, potentially containing hazardous gases and mercury.

#### **V. RESOURCES AND TIMETABLE<sup>16</sup>**

5.1



CONFIDENTIAL

<sup>1</sup> The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.



## Safeguard Policy Filter Report

### Operation Information

Operation		
BA-L1043 Sustainable Energy Investment Program (SMART FUND II)		
Environmental and Social Impact Category	High Risk Rating	
B	{Not Set}	
Country	Executing Agency	
BARBADOS	BA-ETD - Division of Energy and Telecommunications)	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE	
Team Leader	ESG Primary Team Member	
CHRISTIAAN GISCHLER BLANCO	ZACHARY DANIEL HURWITZ	
Type of Operation	Original IDB Amount	% Disbursed
Loan Operation	\$30,000,000	0.000 %
Assessment Date	Author	
28 Sep 2017	zacharyh ESG Primary Team Member	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	8 Sep 2017	
QRR (Estimated)	24 Oct 2017	
Board Approval (Estimated)	{Not Set}	
Safeguard Performance Rating		
{Not Set}		
Rationale		
{Not Set}		

### Potential Safeguard Policy Items

[No potential issues identified]

### Safeguard Policy Items Identified

[B.1 Bank Policies \(Access to Information Policy– OP-102\)](#)



# Safeguard Policy Filter Report

The Bank will make the relevant project documents available to the public.

## B.1 Bank Policies (Disaster Risk Management Policy– OP-704)

The operation is in a geographical area exposed to [natural hazards \(Type 1 Disaster Risk Scenario\)](#). Climate change may increase the frequency and/or intensity of some hazards.

## B.1 Bank Policies (Gender Equality Policy– OP-761)

The operation has the potential to affect negatively women or gender equality ([Negative gender impacts may include the following](#))

## B.2 Country Laws and Regulations

The operation is expected to be in compliance with laws and regulations of the country regarding specific women's rights, the environment, gender and indigenous peoples (including national obligations established under ratified multilateral environmental agreements).

## B.3 Screening and Classification

The operation (including [associated facilities](#)) is screened and classified according to its potential environmental impacts.

## B.4 Other Risk Factors

The borrower/executing agency exhibits weak institutional capacity for managing environmental and social issues.

## B.5 Environmental Assessment Requirements

An environmental assessment is required.

## B.6 Consultations

Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation by women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.

## B.7 Supervision and Compliance

The Bank is expected to monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.

## B.10. Hazardous Materials

The operation has the potential to impact the environment and occupational health and safety due to the production, procurement, use, and/or disposal of hazardous material, including organic and inorganic toxic substances, pesticides and persistent organic pollutants (POPs).

## B.11. Pollution Prevention and Abatement

The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases).

## B.17. Procurement



## Safeguard Policy Filter Report

Suitable safeguard provisions for the procurement of goods and services in Bank financed operations may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.

### Recommended Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

### Additional Comments

[No additional comments]



## Safeguard Screening Form

### Operation Information

Operation		
<b>BA-L1043</b> Sustainable Energy Investment Program (SMART FUND II)		
Environmental and Social Impact Category	High Risk Rating	
B	{Not Set}	
Country	Executing Agency	
BARBADOS	BA-ETD - Division of Energy and Telecommunications)	
Organizational Unit	IDB Sector/Subsector	
Water & Sanitation	ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE	
Team Leader	ESG Primary Team Member	
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Loan Operation	\$30,000,000	0.000 %
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28 Sep 2017	zacharyh ESG Primary Team Member	
Operation Cycle Stage	Completion Date	
ERM (Estimated)	8 Sep 2017	
QRR (Estimated)	24 Oct 2017	
Board Approval (Estimated)	{Not Set}	
Safeguard Performance Rating		
{Not Set}		
Rationale		
{Not Set}		

### Operation Classification Summary



## Safeguard Screening Form

Overridden Rating	Overridden Justification
Comments	

### Conditions / Recommendations

Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements)

The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.

### Summary of Impacts / Risks and Potential Solutions

[Moderate Greenhouse Gas Emissions](#) are predicted.

**Greenhouse Gas (GHG) Assessment:** The borrower should promote the reduction of project-related greenhouse gas emissions in a manner appropriate to the nature and scale of project operations and impacts. The borrower should quantify direct emissions from the facilities owned or controlled within the physical project boundary and indirect emissions associated with the off-site production of power used by the project. Quantification and monitoring of GHG emissions should be conducted annually in accordance with internationally recognized methodologies (i.e. IPCC - <http://www.ipcc.ch/>). In addition, the borrower should evaluate technically and financially feasible and cost-effective options for the reduction/offset of emissions that may be achieved during the design and operation of the project. The Sustainable Energy and Climate Change Initiative (SECCI) can help with this task (<http://www.iadb.org/secci/>).

Generation of solid waste is [moderate](#) in volume, does not include [hazardous materials](#) and follows standards recognized by multilateral development banks.



## Safeguard Screening Form

**Solid Waste Management:** The borrower should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.

Likely to have [minor](#) to [moderate](#) emission or discharges that would negatively affect [ambient environmental conditions](#).

**Management of Ambient Environmental Conditions:** The borrower should be required to prepare an action plan (and include it in the ESMP) that indicates how risks and impacts to ambient environmental conditions can be managed and mitigated consistent with relevant national and/or international standards. The borrower should (a) consider a number of factors, including the finite assimilative capacity of the environment, existing and future land use, existing ambient conditions, the project's proximity to ecologically sensitive or protected areas, and the potential for cumulative impacts with uncertain and irreversible consequences; and (b) promote strategies that avoid or, where avoidance is not feasible, minimize or reduce the release of pollutants, including strategies that contribute to the improvement of ambient conditions when the project has the potential to constitute a significant source of emissions in an already degraded area. The plan should be subject to review by qualified independent experts. Depending on the financial product, this information should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.).

The negative impacts from production, procurement and disposal of [hazardous materials](#) (excluding POPs unacceptable under the Stockholm Convention or toxic pesticides) are [minor](#) and will comply with relevant national legislation, [IDB requirements on hazardous material](#) and all applicable International Standards.

**Monitor hazardous materials use:** The borrower should document risks relating to use of hazardous materials and prepare a hazardous material management plan that indicates how hazardous materials will be managed (and community risks mitigated). This plan could be part of the ESMP.

The Project might impact [critical cultural sites](#), or significantly affect non-critical cultural sites

**Protection of Cultural Sites:** Where impacts to critical cultural sites are anticipated, the borrower shall take, acceptable to the project team, measures to mitigate such impacts and integrate into the project's ESMP. Where noncritical cultural sites are significantly impacted, appropriate measures to protect, mitigate, or compensate the noncritical cultural sites need to be integrated into the ESMP. Projects likely to encounter chance finds, should develop and implement specific procedures to handle chance finds occurrences, integrated into the project's ESMP. Category A projects should include in their EIA, when applicable, an analysis of the archeological potential of the areas of direct influence, and, as necessary, propose chance find procedures, based on internationally accepted practices.

Transport of [hazardous materials](#) (e.g. fuel) with [minor](#) to [moderate](#) potential to cause impacts on community health and safety.





## Safeguard Screening Form

**Hazardous Materials Management:** The borrower should be required develop a hazardous materials management plan; details of grievances and any independent health and safety audits undertaken during the year should also be provided. Compliance with the plan should be monitored and reported. Depending on the financial product, this information should be referenced in appropriate legal documentation (covenants, conditions of disbursement etc). Consider requirements for independent audits if there are concerns about commitment of borrower or potential outstanding community concerns.

### Disaster Risk Summary

Disaster Risk Level

**Low**

Disaster / Recommendations

No specific disaster risk management measures are required.

### Disaster Summary

Details

The project is classified as low disaster risk because the occurrence of the hazard event does not impact in the achievement of project outcomes.

Actions

Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.

<b>ENVIRONMENTAL AND SOCIAL STRATEGY (ESS)</b>	
<b>Operation Name</b>	Sustainable Energy Investment Program (Smart Fund II)
<b>Operation Number</b>	BA-L1043
<b>Operation Details</b>	
<b>IDB Sector</b>	Energy
<b>Type of Operation</b>	Financial intermediary & Specific Investment Loan
<b>Impact Categorization</b>	FI-II (Components 1 and 3); B (Component 2)
<b>Disaster Risk Rating</b>	Low
<b>Borrower</b>	Government of Barbados
<b>Executing Agency</b>	The Prime Minister's Office, acting through the Energy and Telecommunications Division (ETD), with Enterprise Growth Fund Limited (EGFL) as a sub executing agency.
<b>IDB Loan US\$ (and total project cost)</b>	30,000,000 (total project cost 40,000,000)
<b>Applicable Policies/Directives</b>	B.13 (Components 1 and 3); OP-102, OP-703 (B.2, B.3, B.4, B.5, B.6, B.7, B.9, B.10, B.11, B.17), OP-761 (Component 2).
<b>Operation Description</b>	
<p>The activities that would be eligible for financing from the sub-executing agency under Component 1 include installation of distributed generation using Renewable Energy (RE), energy storage and energy efficient technologies, including electric fleet mobility. The activities to be financed by Component 3 include (i) preparation of EE and RE manuals and building codes; (ii) data collection; (iii) communication and raising awareness of EE and RE benefits; and (iv) capacity building for all Building Managers of Public Buildings. Components 1 and 3 are categorized as B.13, and are expected to be classified as FI-II (moderate risk). The activities of Components 1 and 3 would take place in residential and business areas in Bridgetown District, Barbados.</p> <p>The activities to be financed by Component 2 include: (i) retrofitting of public buildings with energy service company (ESCO)-type arrangements implementing Energy Efficiency (EE) measures and RE technologies, including the installation of EE measures in buildings (window replacement, automatic door closers, air seals on doors, occupancy sensors, cool roof installations, light timers, solar heaters), lighting (replacement of interior and external lights from fluorescent to LED) and HVAC (chiller replacement, split systems replaced by inverter driven units, Variable Frequency Drive (VFD) installation and installation of Building Automation System-BAS), and the installation of photovoltaic (PV) solar panels on rooftops; (ii) implementation of RE and EE measures in low income households, particularly solar water heaters (SWHs), including the installation of the panel, the pipes, the pumping system and the water storage system; and (iii) the creation of an Air Conditioning (A/C) renewal plan in households or Small- and Medium-sized Enterprises (SMEs) with a trade-in rebate scheme through retailers, including the replacement and installation of old A/C chillers by new, more efficient ones. The activities of Component 2 would take place in residential and business areas in Bridgetown District, Barbados.</p> <p>The potential targets of the activities of Component 2 have not been confirmed, but include a list of 80 public buildings that will undergo energy audits during the execution of the operation to determine their eligibility. As a result, no sample projects have been identified.</p>	

The populations in Bridgetown District who are expected to benefit from the activities and thus would be located in project areas of direct influence include residential and business property owners. Vulnerable populations may be located in the areas of influence of services related to the management and final disposition of waste, including hazardous materials, required for the operation; this will be confirmed during Due Diligence. The majority of Barbadians are of Afro-Caribbean and/or mixed descent (known as “Bajan”), while small minorities of Indo-Guyanese, Euro-Bajan, Chinese-Barbadian, Lebanese and Syrian, Jewish, and Muslim-Indian populations also inhabit the island. British English and English-based creole, also known as “Bajan,” are spoken widely on the island.

Barbados is geographically located in an area of high disaster risk, including seismic activity (see Figure 2), severe storms (see Figure 3), storm surge, flooding, drought, and seawater risk associated with climate change. However, since the limited scope of the activities to be financed by the operation presents a low probability of increasing vulnerability to any of these natural disasters, Disaster Risk has provisionally been classified as “Low.”

### Key Potential ESHS Risks and Impacts

The potential ESHS risks and impacts associated with the infrastructure to be financed by Component 2 include (i) contamination related to the replacement of old equipment and the storage and final disposal of waste, including fluorescent light bulbs (containing Hg) and A/C chillers (containing refrigerant gas); (ii) potential release of asbestos related to roof covers; and (iii) livelihood impacts associated with the Right of Way related to construction of access roads, easements, and/or worker camps.

Client capacity to identify and manage these and other impacts and risks is currently insufficient. Components 1 and 3 would be managed by the Enterprise Growth Fund Limited (EGFL), a private sector led institution in which Government plays a catalytic role by offering tax concessions and seed capital, while the private sector plays an active role in the capitilisation and the governance of the institution. EGFL does not have a dedicted environmental and social management management unit or staff. Component 2 would be executed by the Government of Barbados, which has the capacity to manage environmental and social risks and impacts through its Town and Country Development Planning Office, Office of Coastal Zone Management, and Environmental Protection Department.

To mitigate this insufficient capacity, the loan will support capacity-building for the clients related to management of environmental, social, health, and safety risks, in accordance with IDB policies.

### Information Gaps and Strategy for Analysis and Management

The loan would support the development of environmental and social assessments for Components 1 and 2 in accordance with IDB policies, the Terms of Reference of which will be developed with the support of the IDB. These environmental and social assessments will be prepared and disclosed prior to Analysis Mission.

For Component 1, the IDB requires a fit-for-disclosure Environmental and Social Management System (ESMS) to be disclosed on the IDB website prior to Analysis Mission. The ESMS must include an environmental and social policy commitment, a set of procedures for classifying, evaluating, managing and monitoring environmental and social aspects of investments/projects, a determination of roles, responsibilities and resources, capacity building, reporting and documentation, a procedure for continual improvement, and a procedure for consultation and stakeholder engagement. In the case that any subprojects involve physical or economic resettlement, the ESMS must include a Resettlement Framework.

For Component 2, the IDB requires a fit-for-disclosure Environmental and Social Assessment (ESA) and Environmental and Social Management Framework (ESMF) to be delivered to the IDB and disclosed on the IDB website prior to Analysis Mission. The ESA must include, at a minimum, a Disaster Risk Assessment, an analysis of applicable local legislative requirements, environmental and social baseline studies, and an assessment of potential impacts and risks, including specifically in relation to possible impacts and risks of hazardous materials and contamination related to the disposal of energy infrastructure. The ESMF must include, at a minimum, a Waste Management Framework, and a Stakeholder Engagement Framework. Public consultation is required for the ESA and ESMF, and must be documented in accordance with OP-703 B.6 and international best practices prior to Analysis Mission, and their results incorporated into the ESA and ESMF that are published on the IDB website.

The IDB will confirm the preliminary assessment of ESHS impacts and risks prior to and during Analysis Mission, and where possible, will attend public consultations.

### **Opportunities for IDB Additionality (if any)**

### **Annex Table: Operation Compliance with IDB Safeguard Policies**

See below.

**Table: Operation Compliance with IDB Safeguard Policies**

<b>Policies / Directives</b>	<b>Relevant Aspect of Policy / Directive</b>	<b>Is This Policy / Directive Applicable?</b>	<b>Rationale for Applying Policy / Directive Rationale</b>	<b>Actions required during Preparation &amp; Analysis</b>
<b>OP-703 Environment and Safeguards Compliance Policy</b>				
B.2 Country Laws and Regulations	Obtention of environmental licenses and permits	Yes	Projects to be included in the operation will require environment licences.	Incorporate eligibility criteria into the Operating Manual requiring all necessary licenses and permits be obtained prior to commencement of civil works.
B.3 Screening and Classification	Environmental and social risk categorization	Yes	Component 1: As per B.13, Financial Intermediary operations are not classified as A/B/C.  Component 2: The component has been classified as B.	None. Subprojects will be classified according to IDB policies, as defined in the ESMS.
B.4 Other Risk Factors	Institutional capacity	Yes	Potential low borrower capacity for management of environmental and social impacts and risks.	Assess borrower capacity and propose measures as needed.
B.5 Environmental Assessment and Plans Requirements	Assessment of environmental impacts and risks, and mitigation action plans and strategy	Yes	No ESAs or ESMPs exist for the operation.	Require an ESA and ESMF be developed prior to Analysis Mission.
B.5 Social Assessment and Plans Requirements	Assessment of social impacts and risks, and mitigation	Yes	No ESAs or ESMPs exist for the operation.	Require an ESA and ESMF be developed prior to Analysis Mission.

	action plans and strategy			
B.6 Consultation	Prior consultation with project-affected communities regarding impacts, risks, and mitigation strategy	Yes	Components 1 and 3: No consultation is required prior to Board Approval by the IDB.  Component 2: No consultation has yet taken place on any of the projects.	Require documented consultation on the ESA and ESMF prior to Analysis Mission.
B.7 Supervision and Compliance	Program and project supervision and monitoring.	Yes	Client resources for supervision and monitoring have not yet been identified. IDB will supervise the program according to final risk classification.	ESHS requirements will be included in the loan agreement. Supervision and monitoring will be carried out during program execution.
B.8 Transboundary Impacts	N/A	No	N/A	
B.9 Natural Habitats	Natural habitat and critical natural habitat	No	Project activities will take place exclusively in urban neighborhoods of Bridgetown.	
B.9 Invasive Species	Use of invasive species for reforestation of suppressed vegetation	No	No vegetation will be suppressed or reintroduced into project areas of influence.	
B.9 Cultural Sites	Demarcated and declared indigenous lands, cultural and archaeological heritage.	Yes	Project construction may negatively impact cultural sites.	Require an ESA and ESMF be developed prior to Analysis Mission that includes a chance find procedure. Review TORs.
B.10 Hazardous Materials	Avoid impacts associated with	Yes	Hazardous waste will be generated, stored,	Verify the borrower's capacity to manage

	production, acquisition, use, and final disposal of hazardous materials		and disposed of as a result of project activities.	hazardous waste and inclusion of requirements in the ESMF in compliance with B.10.
B.11 Pollution Prevention and Abatement	Reduce or eliminate emissions, including gas, liquid, and solid	Yes	Solid, liquid, gas, noise, visual, or other pollution may be generated during project installation activities.	Verify the borrower's capacity mitigate emissions and inclusion of requirements in ESMF in compliance with B.11.
B.12 Projects Under Construction	Demonstrate that projects under construction comply with relevant provisions of the Environment and Safeguards Compliance Policy	No	Projects are not currently under construction.	
B.13 Noninvestment Lending and Flexible Lending Instruments		Yes	Component 1: The Component has been classified as a B-13 operation (FI-II, moderate risk).	Develop an ESMS and disclose it on the IDB website prior to Analysis Mission.
B.14 Multiple Phase and Repeat Loans	N/A	No	N/A	
B.15 Co-financing Operations	N/A	No	N/A	
B.16 In-Country Systems	N/A	No	N/A	
B.17 Procurement	N/A	Yes	There is the potential that sustainable procurement may not be incorporated into ESMPs.	Include in loan conditions the sustainable procurement of goods in compliance with B.17.
<b>OP-704 Natural Disaster Risk Management Policy</b>				

Disaster Risk Assessment	Determination of disaster risk during Program preparation	No	The projects are located in an area of high disaster risk, but the scope of activities of the operation is limited, and presents a low probability of increasing vulnerability related to disaster risk.	
Disaster Risk Management Plan	Prevent and reduce vulnerability related to disaster risk	No	The projects are located in an area of high disaster risk, but the scope of activities of the operation is limited, and presents a low probability of increasing vulnerability related to disaster risk.	
<b>OP-710 Operational Policy on Involuntary Resettlement</b>				
Resettlement Minimization	Avoid or reduce resettlement to the maximum extent possible	No	Project activities will take place exclusively at existing properties in urban neighborhoods of Bridgetown, and require no additional access roads; thus, no economic or physical displacement will occur.	
Resettlement Plan Consultations	Consultation, availability of information, transparency, and	No	Project activities will take place exclusively at existing properties in urban	



	participation of resettled populations in action plan		neighborhoods of Bridgetown, and require no additional access roads; thus, no economic or physical displacement will occur.	
Impoverishment Risk Analysis	Avoid impoverishment through resettlement to the greatest extent possible	No	Project activities will take place exclusively at existing properties in urban neighborhoods of Bridgetown, and require no additional access roads; thus, no economic or physical displacement will occur.	
Resettlement Plan or Resettlement Framework (Prior to Analysis Mission/Board Approval	Resettlement Plan or Resettlement Framework (Prior to Analysis Mission/Board Approval	No	Project activities will take place exclusively at existing properties in urban neighborhoods of Bridgetown, and require no additional access roads; thus, no economic or physical displacement will occur.	
Livelihood Restoration Program	Restore livelihoods of resettled populations to equal or better conditions	No	Project activities will take place exclusively at existing properties in urban neighborhoods of Bridgetown, and require no additional access roads; thus, no	

			economic or physical displacement will occur.	
Consent (Indigenous Peoples and other Rural Ethnic Minorities)	Obtain Free, Prior, and Informed Consent from Indigenous Peoples that are involuntarily resettled or economically displaced	No	Project activities will take place exclusively at existing properties in urban neighborhoods of Bridgetown, and require no additional access roads; thus, no economic or physical displacement will occur.	
<b>OP-765 Operational Policy on Indigenous Peoples</b>				
Sociocultural Evaluation	Identify potential affected indigenous peoples, lands, and resources and assess potential risks and impacts	No	There is no risk that Indigenous Peoples would be affected by the operation.	
Good-faith Negotiations		No	There is no risk that Indigenous Peoples would be affected by the operation.	
Agreement with Affected Indigenous Peoples		No	There is no risk that Indigenous Peoples would be affected by the operation.	
Indigenous Peoples Protection, Compensation, and Development Plan or Framework prior to Board Approval	Indigenous Peoples Protection, Compensation, and Development Plan or Framework prior to Board Approval	No	There is no risk that Indigenous Peoples would be affected by the operation.	

Discrimination Issues Assessed and Addressed		No	There is no risk that Indigenous Peoples would be affected by the operation.	
Transborder Impacts Addressed	N/A	No	No transborder impacts are associated with the projects.	
Impacts on Isolated Indigenous Peoples Addressed	N/A	No	No isolated indigenous peoples exist in Barbados.	
<b>OP-761 Operational Policy on Gender Equality in Development</b>				
Unequal Access to Project Benefits/ Compensation Measures	Introduce measures to prevent, avoid, or mitigate any adverse impacts and/or risks of gender-based exclusion identified in the project risk analysis.	Yes; more information needed.	Gender-based exclusion may not be addressed in project activities.	Contract an ESA and ESMF and require a Gender Action Framework as needed. Review TORs.
Uneven Introduction of Unpaid Work	Take care that conditions do not limit the access of women or men, as the case may be, to project participation and benefits.	Yes; more information needed.	Equal access to project benefits/compensation measures may not be addressed in project activities.	Contract an ESA and ESMF and require a Gender Action Framework as needed. Review TORs.
Increased Risk of Gender-Based Violence, including sexual exploitation, human trafficking and sexually transmitted diseases	Incorporate a gender analysis into its social impact and risk assessments. Where the analysis so indicates, include measures in a timely	Yes; more information needed.	Uneven impact burden may not be addressed in project activities.	Contract an ESA and ESMF and require a Gender Action Framework as needed. Review TORs.

	manner to prevent or mitigate these impacts in the risk management plans and monitor those measures.			
Disaggregation of Impact Data by Gender	Disaggregate project impacts and beneficiaries by sex (number and percentage)	Yes; more information needed.	Impact data may not be disaggregated by gender in project activities.	Contract an ESA and ESMF and require a Gender Action Framework as needed. Review TORs.
<b>OP-102 Access to Information Policy</b>				
Disclosure of relevant Environmental and Social Assessments <sup>1</sup> Prior to Analysis Mission, QRR and submission of the operation for Board consideration <sup>2</sup>	Disclosure of Environmental and Social Assessments Prior to Analysis Mission	Yes	<p>Component 1: IDB policies do not require the disclosure of specific project ESAs prior to Analysis Mission for Financial Intermediary operations</p> <p>Component 2: An ESA will be disclosed prior to Analysis Mission.</p>	Disclose fit for disclosure environmental and social assessments and fit for disclosure Preliminary RPs or Livelihood Restoration Plans as needed, and documentation of public consultations, prior to the Analysis Mission.
Provisions for Disclosure of Environmental and Social Documents during Project Implementation	Disclosure of Final ESMP/ESMF, RP/RF, IPP/IPF before Board Approval	Yes	Environmental and social documents, including all specific project ESAs, will be disclosed on the IDB website during Project Implementation.	Disclose environmental and social assessments during Project Implementation.

<sup>1</sup> Environmental and Social Assessments include ESIAs, ESMPs, RPs, RFs, and ESMFs.

<sup>2</sup> Please refer to the Protocols for ESHS Documentation and Information Disclosure for more details on the disclosure timing of the different Environmental and Social Assessments.

## Additional Annexes

Figure 1. Location of Bridgetown District in St. Michael's Parish, Barbados

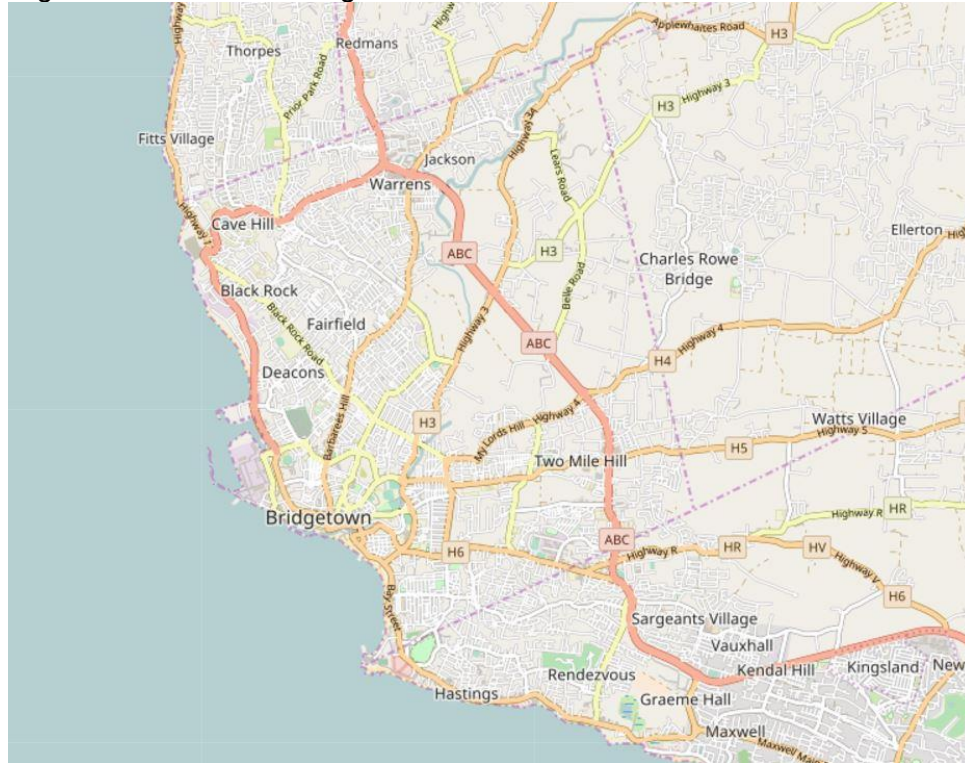
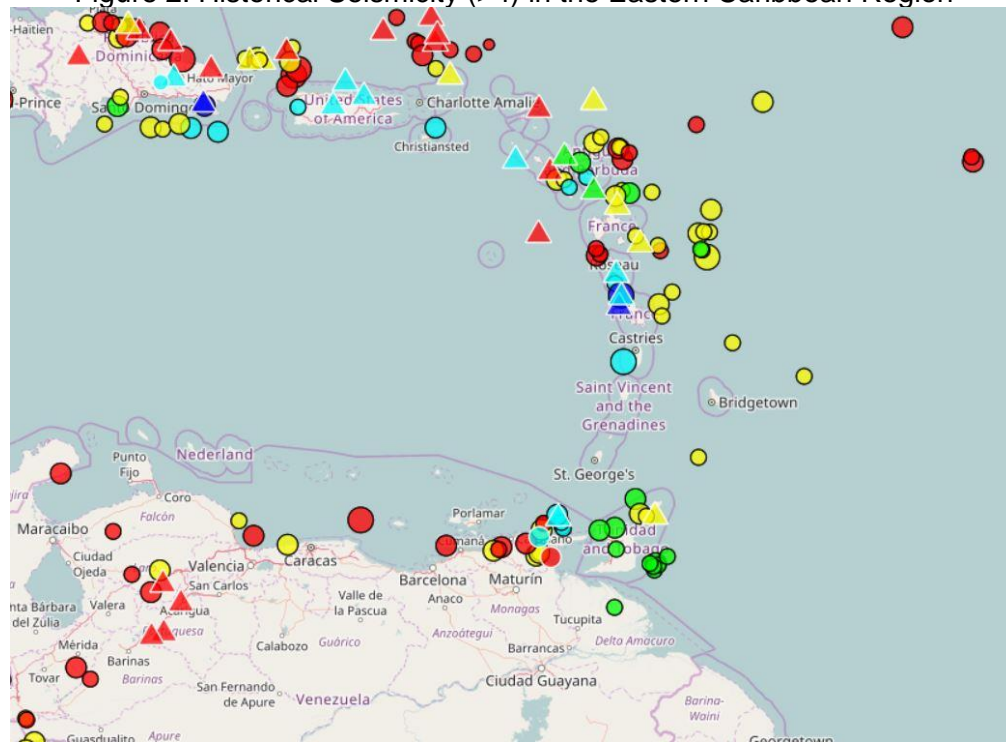
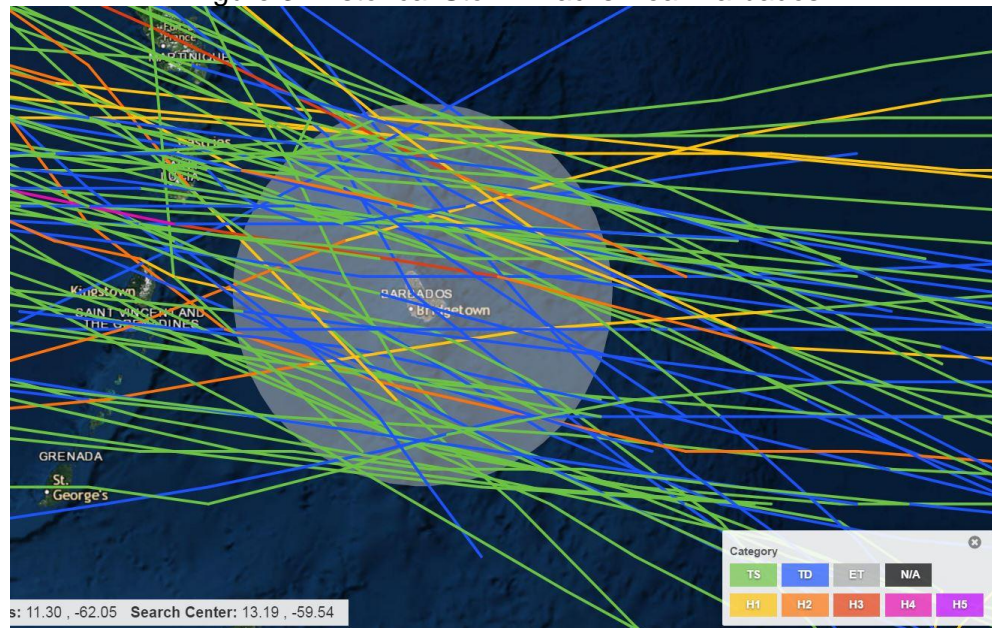


Figure 2. Historical Seismicity (>4) in the Eastern Caribbean Region



OpenQuake, 2017.

Figure 3. Historical Storm Tracks Near Barbados



US National Oceanic and Atmospheric Administration, 2017.

# ANNEX IV – INDEX OF COMPLETED AND PROPOSED SECTOR WORK

Area	Study/Technical Support	Description of works	Dates	References and electronic links
Knowledge	Unlocking Geothermal Power: How the Eastern Caribbean could be a Geothermal Powerhouse	This document presents a strategy for developing geothermal potential through public-private partnerships (PPPs) in the Eastern Caribbean. The five countries of study are Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines. It also presents the factors that enabled geothermal development in key geothermal markets, specifically Costa Rica, Nicaragua, El Salvador, the United States, Kenya, Iceland, and Guadeloupe.	2017	<a href="https://publications.iadb.org/handle/11319/8346">https://publications.iadb.org/handle/11319/8346</a>
Knowledge	Sustainable Energy in the Eastern Caribbean: Achieving an Unrealized Potential.	This paper focuses on how the Eastern Caribbean can achieve its unrealized potential to implement economically viable renewable energy and energy efficiency projects that displace fossil fuel-based electricity.	2015	<a href="https://publications.iadb.org/handle/11319/7967?locale-attribute=en">https://publications.iadb.org/handle/11319/7967?locale-attribute=en</a>
Knowledge	Study of Situation for Geothermal Energy Development; FINAL REPORT; April 2014; JICA, West Japan Engineering Consultants, Inc.	This study analyzes the situation of geothermal development in Dominica, St. Lucia, St. Vincent, and Grenada in order to identify challenges these countries face in developing geothermal resources.	2014	Not published.
Knowledge	Caribbean Regional Energy Integration Assessment: Scenarios and Opportunities	This study analyzes options for Caribbean countries, especially small ones that have not been able to benefit from cheaper fuel costs and other advantages of larger-scale markets, to address their energy problems through integration in the energy sector.	2014	Not published.
Knowledge	Strategy for Developing Geothermal Potential through Public-Private Partnerships in the Eastern Caribbean.	This document analyzes factors that enabled geothermal development in key geothermal markets, the potential for developing geothermal resources in the Eastern Caribbean, and proposes strategy for developing geothermal potential through Public-Private Partnerships (PPPs).	2014	Not published.



Bank Operations	Deployment of Cleaner Fuels and Renewable Energies in Barbados (BA-L1012, ORC US\$34 mill)	the objective of this project is to enhance Barbados' energy security and sustainability by diversifying its energy matrix through promoting the use of cleaner fuels for power generation, and increasing the use of Renewable Energy (RE) sources. Specific objectives include: to (i) upgrade existing natural gas infrastructure to ensure NG service continuity; (ii) increase Energy Efficiency (EE) and RE applications within the NPC's and Barbados National Oil Company Limited (BNOCL)'s operations to reduce Greenhouse Gas (GHG) emissions; (iii) enable implementation of a Public Private Partnership project to import and supply liquefied natural gas for power generation; and (iv) provide technical support to NPC/BNOCL to foster organizational and operational efficiency	2016	<a href="http://www.iadb.org/en/projects/project-description-title,1303.html?id=BA-L1012">http://www.iadb.org/en/projects/project-description-title,1303.html?id=BA-L1012</a>
Bank Operations	Sustainable Energy Facility (SEF) for the Eastern Caribbean	The SEF, approved by the IDB in October, 2015, includes an array of financing mechanisms using resources from: (i) the ordinary capital of the Inter-American Development Bank (IDB) (US\$ 20 million); (ii) the Clean Technology Fund (CTF) (US\$ 19.05 million); (iii) the Global Environment facility (GEF) (US\$3.01 million); and (iv) the Caribbean Development Bank (CDB) (US\$ 29 million), to unlock investments in Sustainable Energy (SE) and mobilize private sector capital and expertise required for developing SE projects in the region.	Approved Oct 2015	<a href="http://www.iadb.org/en/projects/project-description-title,1303.html?id=RG-L1071">http://www.iadb.org/en/projects/project-description-title,1303.html?id=RG-L1071</a>
Bank Operations	The Sustainable Energy for the Eastern Caribbean Program (SEEC) led by the CDB which includes grant funding from the EU's Caribbean Infrastructure Fund (EU-CIF) and UK Department for International Development (DFID) (~ US\$ 10 million).	The SEEC programme is a four-year multi-donor trust facility. It will provide non-reimbursable resources for energy efficiency and intermittent renewable energy for power generation in the Eastern Caribbean; geothermal energy is not considered in this operation.	2015	<a href="http://www.caribank.org/seec">http://www.caribank.org/seec</a>



Bank Operations	The regional technical cooperation Support for Cofinancing of Renewable Energy and Energy Efficiency (RG-T2480)	Support for Cofinancing of Renewable Energy and Energy Efficiency (RG-T2480) aims to reduce dependency on fossil fuels in Central America and the Caribbean regions; EC countries can benefit from this TC subject to existing Bank rules.	Approved May 2015	<a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39609162">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39609162</a>
Bank Operations	The 2012 IDB - CDB Global Loan Program for IDA-Eligible OECS Member Countries (RG-L1018, US\$ 20 million), which included SE as an eligible area.	The objective of the program is to contribute to accelerate the social and economic development of the four IDA-eligible OECS member countries This would be achieved via the financing of a Global Loan to the CDB, which would on-lend the funds for the financing of public sector projects in said eligible countries.	2012	<a href="http://www.iadb.org/en/projects/project-description-title,1303.html?id=RG-L1018">http://www.iadb.org/en/projects/project-description-title,1303.html?id=RG-L1018</a>
Bank Operations	Sustainable Energy Investment Programn (BA-L1020, IDB US\$10 mill loan)	This project aim to promote the increased use of renewable energy (RE) and the implementation of energy efficiency (EE) measures through the design and implementation of the Sustainable Energy Investment Program, also known as the “Smart Fund”, a Government initiative comprising a package of financial instruments and technical assistance to support investments in RE and EE. Ultimately, the project will help reduce Barbados’ fossil fuel dependency and promote sustainable energy supply as well as carbon emission reductions	2010	<a href="http://www.iadb.org/en/projects/project-description-title,1303.html?id=ba-l1020">http://www.iadb.org/en/projects/project-description-title,1303.html?id=ba-l1020</a>

CONFIDENTIAL

<sup>1</sup> The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.