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**CARIBBEAN DEVELOPMENT BANK**



**EVALUATION REPORT  
ENERGY SECTOR POLICY AND STRATEGY  
WITH MANAGEMENT RESPONSE – APPENDIX 1**

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**OFFICE OF INDEPENDENT EVALUATION  
FEBRUARY 2022**

# **ENERGY SECTOR POLICY AND STRATEGY EVALUATION**

**Final Report**

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**February 2022**

# Acknowledgements

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From OIE, Serena Rossignoli undertook initial evaluation design, participated in execution and contributed to quality assurance. Denise Padmore undertook a great deal of supportive research, document and data management, and evaluation logistics.

James Melanson

Head, Office of Independent Evaluation

February 2022

# Executive Summary

## BACKGROUND

The Energy Sector Policy and Strategy (ESPS) was launched in March 2015 as a guiding framework for the support provided by the Caribbean Development Bank (CDB) to the energy sector. In 2021, CDB decided to renew the ESPS in light of continued evolution in the Caribbean region energy sector. The Office of Independent Evaluation (OIE) has undertaken an assessment of the experience with the ESPS to inform the renewal process. The main goal of the evaluation was to clearly understand ESPS performance during the 2015-2020 period, and to develop a set of recommendations based on findings and lessons learned.

The ESPS was intended to address the specific challenges and opportunities related to the energy sector in borrowing member countries (BMCs). As detailed in the ESPS, while the energy situation is not uniform across all BMCs, certain common themes are observed, including challenges related to energy security, long-term sustainability of main fuel sources, and energy sector governance. In addition to considering the regional context, the ESPS also considered global trends such as the adoption of efficient, clean, and renewable technologies and the shift toward distributed models of power generation.

The ESPS identified **four priority areas** that were chosen based on CDB's competitive advantage and a review of other interventions in the region:

1. Promoting EE for more affordable and stable energy costs and the establishment of a green economy;
2. Promoting RE for more affordable and stable energy costs and the establishment of a green economy;
3. Promoting energy infrastructure to provide cleaner and more reliable power supply;
4. Promoting sector reform, good governance, and capacity strengthening.

## OBJECTIVES OF THE EVALUATION

The main goal of the evaluation was to clearly understand ESPS performance during the 2015-2020 period by answering four overarching questions:

- To what extent did the ESPS contribute to policy and regulatory improvements in the regional and national energy sectors?
- To what extent did CDB position itself as a key energy sector development partner in BMCs?
- To what extent did CDB make appropriate internal institutional adaptations to deliver on the commitments of the ESPS?
- To what extent did the portfolio of investment projects and technical assistance (TA) inspired by the ESPS achieve their desired results?

## METHODOLOGY

A number of methodological approaches were used to gather and triangulate evidence. The evaluation started with a desk analysis, a literature review, and a portfolio analysis. The ESPS Theory of Change (ToC) was reconstructed based on sub-ToCs for each of the four priority areas. Semi-structured interviews were held with internal CDB staff and external stakeholders, mainly development partners and regional institutions working in the energy sector. In-depth analyses were conducted for six projects. Focus group discussions (FGDs) using the outcome harvesting methodology tracked the contribution of 15 additional operations (14 projects) in the ESPS portfolio. An online survey was used to gather stakeholder (BMC governments and public institutions especially utilities) perceptions about the ESPS.

## MAIN FINDINGS

**Relevance.** The ESPS was relevant in 2015 and is still very much so given the needs and opportunities in the regional energy sector. CDB is the only development finance institution that can offer financing to not only the 15 CARICOM countries, but also Anguilla, the British Virgin Islands, the Cayman Islands, as well as Turks and Caicos Islands. The level of engagement in the development of the 2015-19 ESPS among stakeholders in BMCs and development partners was minimal, but direct beneficiaries perceived that ESPS priorities/objectives addressed their main needs. Stakeholders in BMCs and development partners are interested in being consulted in the preparation of a renewed ESPS.

**Coherence.** The ESPS objectives are clearly aligned with the CDB mandate and coherent with existing financial instruments, while the CTCS and BNTF occasionally included energy sector themes in their operations, although these were not tracked separately. Synergies and complementarity between the ESPS and national policies have been demonstrated and evidenced. While major financial contributors and regional stakeholders in the energy sector were not consulted when designing the ESPS, all development partners confirmed that the ESPS provides a useful framework for cooperation, including mobilisation of financing, for energy related initiatives.

**Efficiency.** Through the Renewable Energy/Energy Efficiency Unit, CDB mounted the necessary internal arrangements to support the expanded role in the energy sector that the ESPS proposed. Nonetheless, the REEEU's resources were limited, and this may have constrained CDB in achieving even greater scale in its operations. The Special Funds and Programmes (SFPs) under the ESPS were driven for the most part by BMCs, and a number of these were perceived to be quite innovative. They successfully blended finance for specific projects, avoiding overlaps, and ensuring complementarity.

**Effectiveness.** Assessing effectiveness at the overall ESPS level was difficult due to an incomplete results framework and limited monitoring. This evaluation did however verify output and some outcome results for a sample of projects. There was not an effective approach to aggregating project level results to the strategy level over the review period. Limited capacities of the different beneficiaries and limited sustainability planning within projects also reduced the effectiveness of the strategy in delivering results in the short and medium terms. The sample of technical assistance activities for regulatory support and capacity building activities examined for this evaluation achieved their expected results. However, effectiveness of the wider TA portfolio could not be determined due to limited monitoring and completion reporting.

While a demand led approach ensured that funded initiatives corresponded closely to borrower priorities, it did mean that some ESPS priority areas remained relatively underfunded and planned results not achieved, one being enabling environments and regulatory frameworks.

**Impacts.** At this stage of ESPS implementation, impacts were difficult to assess since many projects were still being implemented. However, based on the projects analysed, some signals of potential impacts could already be foreseen in terms of contributing to energy efficiency and increasing access to affordable energy to some extent. Some limited indirect impacts on community economic development were also traced.

**Sustainability.** BMCs have been effectively supported by CDB and other development partners to implement some sustainable energy reforms and roadmaps. CDB has not managed to engage the private sector to improve the sustainability of actions developed under the ESPS.

**Cross-Cutting** Environmental and social assessments were carried out in a systematic manner. All project teams have environmental and social staff to ensure the execution of environmental and social plans. Nevertheless, these are often carried out at late stages, which means that environmental and social issues are partially or not always properly considered within projects. Gender mainstreaming remains a challenge at

both the project and strategic levels. A lack of awareness as well as weak capacity and accountability lead to limited gender analyses at both the project and strategy levels, which undermines the effective integration of gender perspectives in the ESPS and its projects.

## CONCLUSIONS

The ESPS was the first energy strategy and policy developed by CDB, leading its REEEU to support sustainable energy projects since 2016 and become a key development partner in the Caribbean energy sector and for international financing institutions and bilateral agencies. Improvement of BMC regulatory frameworks and enabling environments remains a challenge that the next ESPS should tackle to increase sustainable investment from both the public and especially the private sector. More coherent results frameworks will also enable better monitoring of ESPS and projects results.

**Conclusion 1 – Relevance and Role of CDB:** The ESPS was relevant in 2015 and is still very much so today given the needs and opportunities in the regional energy sector. Although the level of engagement in the development of the 2015 ESPS among stakeholders in BMCs was minimal, direct beneficiaries perceived that ESPS priorities/objectives addressed their main needs. Furthermore, national and regional stakeholders as well as development partners expressed interest in being engaged in the development of the next ESPS and would add value by bringing complementary experience and market knowledge.

**Conclusion 2 – Innovation in engaging partners and brokering blended finance:** While launching CDB into an important regional development space, the Bank also used the ESPS to facilitate the engagement of diverse development partners, to broker the financing of joined up initiatives, and to deploy financial instruments that appropriately blended market rate, concessional, and conditionally repayable financial elements. Stakeholders and partners recognised this innovative effort.

**Conclusion 3 – Donor Coordination:** There is room for better regional donor coordination and cooperation to align initiatives and promote efficient information sharing and use of resources and expertise. This would include working more closely with regional organisations that have technical capacities and expertise in the energy sector: the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), the Caribbean Electric Utility Services Corporation (CARILEC), the CARICOM Regional Organisation for Standards and Quality (CROSQ), and of course the CARICOM Energy Unit. Such a well functioning network would facilitate CDB's focus on effective technical assistance and financing, improve support to regional initiatives and projects, and optimise use of resources available to assist BMCs.

**Conclusion 4 – Regulatory Frameworks and Country Capacity:** While the ESPS recognised the importance of improved regulatory frameworks and enabling environments and mobilised some technical assistance in support of that objective, this area was underfinanced relative to others and made limited progress over the review period. A renewed ESPS would need to be more focused on increasing the robustness of BMC institutional capacity to regulate their energy sectors, which in turn will ensure more sustainable initiatives and project implementation from BMCs.

**Conclusion 5 – Results Monitoring and Verification:** For the project sample studied by this evaluation, most planned outputs, and some outcomes, were achieved, albeit with delays. For the Strategy as a whole, the 2015 Results Framework (RF) included four indicators with targets. One (energy efficiency) reached the originally stated level of ambition, and three (installed RE capacity, RE as a percentage of generation, newly installed clean energy for power generation and transport) did not. The remaining 11 indicators from the 2015 RF did not have targets and could not be verified. Tracking and reporting on results that summed from project to SFP and then to ESPS was not possible given insufficient alignment of results frameworks between those levels as well as limitations in the Bank's Management Information System. The advent of OP365,

greater attention to coding of EE/RE project components in that system, and revised ESPS and SFP results frameworks that include SMART indicators offer the prospect of improved results reporting going forward.

**Conclusion 6 – CDB Institutional Arrangements and Reporting:** The creation of the REEEU provided profile for CDB as it ramped up its engagement with the regional energy sector. The Unit did however have limited human resources relative to the ambitions of the ESPS, with implications for the scale of operation and achievement of ESPS targets in some priority areas, and sometimes delaying reporting to development partners. The amount of reporting required across projects and SFPs is substantial and sometimes duplicative. There is scope to streamline this reporting effort, which could economise on the use of limited staff resources and also give a more coherent overall picture of programme activity. Funding partners would have to be prepared to accept common reporting instead of tailored individual ones.

Strategic cooperation with regional organisations such as CCREEE, and use of consultancy could help offset limited REEEU human resources. Finally, there is scope for more rigorous consideration of mainstreaming RE/EE in non-energy sector projects of the Bank, through for example mandatory screening for RE/EE opportunities at the planning/appraisal stage.

**Conclusion 7 – Private Sector Engagement:** To date, the Bank has met with limited success in engaging private actors in energy sector investment. This has been due in part to the nature of its own lending instruments, and in part to slow progress in national enabling environments for renewable energy and energy efficiency (RE/EE). Policy-based lending to address energy sector enabling environment and regulatory issues took place on a limited scale over the review period but offers opportunity for facilitating reform leading to increased private investment in future. Currently, project risk analysis is focused on typical external business risks (market related). RE/EE projects in private borrower settings are more exposed to internal risks such as operation and maintenance, ability to maintain current business volumes, equipment performance. Consequently, risk analysis needs to understand better and focus more on these internal risks, the majority of which are operational or contractual in nature.

**Conclusion 8 – Gender Equality:** There is a need for greater consideration of gender equality in project implementation. Gender action plans and the gender marker system proved to be insufficient to ensure gender mainstreaming in investment and technical assistance over the review period, notwithstanding recognised gender gaps in the energy sector. There is interest in gender issues among CDB staff and an opportunity to enhance gender mainstreaming at the strategy and project levels going forward.

## RECOMMENDATIONS

**Recommendation 1:** CDB should consult with regional stakeholders and development partners in the design of the next ESPS since they would add value and ensure coherence with other regional or national initiatives. CDB should consider taking on a more explicit leadership role for cooperation in the regional energy sector and outline that intention in the next ESPS. It should also deepen its engagement with select regional energy sector organisations.

**Recommendation 2:** The next ESPS should bring renewed focus to strengthening BMC institutional governance, regulatory frameworks, and capacities to facilitate increased investment in sustainable EE/RE projects as well as resilient energy infrastructure in the context of climate change and disaster management.

**Recommendation 3:** CDB should reconsider how to best manage and report on results for its energy sector programming and set out a clear intended approach in the new ESPS. Output and outcome indicators at project, SFP, and ESPS levels should be aligned, coherent, and SMART<sup>1</sup> with appropriate baselines and targets. All projects should be properly coded for their energy sector content in OP365, even where only some project components are energy related.

**Recommendation 4:** To facilitate donor coordination and better use limited REEEU staff capacities, CDB should increase its cooperation with regional organisations, and encourage development partners to accept consolidated progress reporting on all SFPs and projects to save time and better track ESPS outputs and outcomes.

**Recommendation 5:** The next ESPS should bring greater emphasis to the crowding in of private-sector energy investments. It should address possibilities for both more flexible financing approaches to facilitate engagement of the private sector, as well as the use of policy-based lending to encourage strong enabling and regulatory environments. The REEEU should collaborate with the PSDU in the design and deployment of private-sector programmes that are aligned with the ESPS, promoting the inclusion of RE/EE components whenever possible. It should also work with the Chief Risk Officer to identify, quantify, and describe RE/EE specific risks as well as the Bank's appetite to take them on.

**Recommendation 6:** The energy sector presents unique opportunities for the advancement of gender equality in a number of areas, including greater female participation in STEM disciplines and the labour force; better household energy security and labour saving; and even enhanced personal security through better public lighting. A renewed ESPS should emphasise opportunities and outline expected results for gender equality over the strategy period and provide guidance for greater mainstreaming of gender equality in energy sector projects. This emphasis should extend to TA projects, which can provide targeted approaches to more gender equal participation in the sector.

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<sup>1</sup> Specific, measurable, achievable, relevant, and timebound



# Acronyms

BMC	Borrowing member country
BNTF	Basic Needs Trust Fund
CALC	Climate Action Line of Credit (ESPS funding source)
CARICOM	Caribbean Community
CARILEC	Caribbean Electric Utility Services Corporation
CCCCC	Caribbean Community Climate Change Centre
CCREEE	Caribbean Centre for Renewable Energy and Energy Efficiency
CDB	Caribbean Development Bank
CEP	CARICOM Energy Policy
CIF	Caribbean Investment Facility
CREF	Caribbean Renewable Energy Forum
CSD	Corporate Strategy Division
C-SERMS	Caribbean Sustainable Energy Roadmap and Strategy
CSES-C	Canadian Support to the Energy Sector in the Caribbean Fund
CTCS	Caribbean Technological Consultancy Services
CTF	Clean Technology Fund
CVA	Climate Vulnerability Assessment
DER	Development Effectiveness Review
DFC	Development Finance Corporation of Belize
DFI	Development finance institutions (in member countries)
EE	Energy efficiency
EID	Economic Infrastructure Division
EQ	Evaluation question
ESCO	Energy service company
ESIA	Environmental and Social Impact Assessment
ESP	Energy Sector Policy
ESPS	Energy Sector Policy and Strategy
ESS	Energy Sector Strategy
ESU	Environmental Sustainability Unit
EU	European Union
FGD	Focus group discussion
GAC	Global Affairs Canada
GDP	Gross Domestic Product
GE	Geothermal energy
GEF	Global Environment Facility
GHG	Greenhouse gas

GIZ	Gesellschaft für Internationale Zusammenarbeit
IDB	Inter-American Development Bank
IPP	Independent power producer
JPSCo	Jamaica Public Service Company
KPI	Key performance indicator
LED	Light-emitting diode
LPG	Liquefied petroleum gas
M&E	Measurement and evaluation
MDB	Multilateral development bank
MSME	Micro, small, and medium enterprise
M&V	Measurement and Verification
OCR	Ordinary Capital Resources (ESPS funding source)
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
OECS	Organisation of Eastern Caribbean States
OIE	Office of Independent Evaluation
PPA	Power purchase agreement
PPP	Public-private partnership
RE	Renewable energy
REEEU	Renewable Energy/Energy Efficiency Unit
RPP	Report on Portfolio Performance
SDF	Special Development Fund
SEEC	Sustainable Energy for the Eastern Caribbean (programme)
SEF	Sustainable Energy Facility
SFPs	Special Funds and programmes
SKN	St-Kitts and Nevis
SMART	Specific, measurable, achievable, relevant, and timebound
SSD	Social Sector Division
SVG	Saint-Vincent and the Grenadines
T&D	Transmission and distribution
TA	Technical assistance
TAPSEC	Technical Assistance Programme for Sustainable Energy in the Caribbean
TDEP	Targeted Dialogue on Energy Policy
ToC	Theory of change
TOR	Terms of Reference
UOF	Use of funds
USD	United States Dollar
WB	World Bank



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# Introduction

The Energy Sector Policy and Strategy (ESPS) was launched in March 2015 as a guiding framework for the support provided by the Caribbean Development Bank (CDB) to the energy sector<sup>2</sup>. In 2021, CDB decided to update the ESPS in light of continued evolution in the Caribbean region energy sector. The Office of Independent Evaluation (OIE) is therefore undertaking an assessment of the experience with the ESPS to date to inform the updating process (see the Terms of Reference in APPENDIX 1).

## CONTEXT

This section highlights some important elements of the energy context in the Caribbean that affect the ESPS. A more detailed version of the context analysis is presented in APPENDIX 3.

Since the onset of the first oil crisis in 1973, the Caribbean region has been plagued by high and volatile fuel prices with limited economies of scale and diversity in electricity supply. In particular, the region continues to grapple with the challenge of managing its dependence on imported oil and oil products for electricity generation and transportation despite some notable progress made in transforming the energy sector in some countries over the last decade or so.

All Caribbean countries are net oil importers except for Trinidad and Tobago, the only net exporter of oil and natural gas. For importers (other than Suriname and Belize), over 80% of primary energy generation is from imported petroleum products. Imports are mostly diesel fuel for electricity generation, gasoline for transportation, and liquefied petroleum gas (LPG) used as cooking fuel in households. Of the net oil importing countries, only Barbados has installed capacity that uses natural gas for electricity generation, which has partly contributed to its higher efficiency rates. Hydroelectric power harnessed through facilities in Suriname, Belize, Dominica, and St. Vincent and the Grenadines supplies about 6% of regional electric energy consumption. Excluding Haiti, biomass represents around 11% of the Caribbean energy supply, mostly concentrated in Jamaica.<sup>3</sup>

Electricity prices in the Caribbean are among the highest in the world, and they fluctuate greatly with global oil prices. The primary cause is that most Caribbean countries continue to use mainly imported fossil fuel resources as their primary energy source for electricity generation and transportation needs, which are the two most energy-intensive sectors in the region. When oil prices peaked in 2014, the average cost of electricity for Organisation of Eastern Caribbean State (OECS)<sup>4</sup> countries was as high as USD 0.40/kWh. While prices have declined somewhat since then, the cost of electricity has remained on average above USD 0.30/kWh.

Reform of the legal and regulatory frameworks for the Caribbean power sector is a prerequisite for sustainable and affordable energy solutions. Although independent generation is permitted in many Caribbean economies, no clear framework governs the licensing of utility-scale independent power

<sup>2</sup> The originally expected time frame of the ESPS was 2015-2019.

<sup>3</sup> IMF Working Paper (2016) Caribbean Energy: Macro-related challenges

<sup>4</sup> The OECS is an eleven-member grouping of islands spread across the Eastern Caribbean: Antigua and Barbuda, St. Kitts and Nevis, Montserrat, Anguilla and the British Virgin Islands; and the Windward Islands, namely Dominica, St. Lucia, St. Vincent and the Grenadines, Grenada, Martinique, and Guadeloupe. It should be noted that not all BMCs of CDB are part of the OECS and not all OECS members are members of CDB.



producers (IPPs) and their ability to sell to the grid. The creation of independent national and/or regional regulators would help to promote a predictable and transparent regulatory environment for energy investors.

The CARICOM Energy Policy (CEP) and the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) provide a framework for coordinated actions among Caribbean countries to transform economies toward more sustainable paths. The objectives and targets outlined in those documents align with national energy policies and targets for renewable energy (RE) and energy efficiency (EE) developed by individual member states.

### OBJECTIVES OF THE EVALUATION

The main goal of the evaluation was to clearly understand ESPS performance during the 2015-2020 period, and to develop a set of practical and targeted recommendations based on findings and lessons learned.

The evaluation aimed to answer four overarching questions:

- To what extent did the ESPS contribute to policy and regulatory improvements in the regional and national energy sectors?
- To what extent did CDB position itself as a key energy sector development partner in borrowing member countries (BMCs)?
- To what extent did CDB make appropriate internal institutional adaptations to deliver on the commitments of the ESPS?
- To what extent did the portfolio of investment projects and technical assistance (TA) inspired by the ESPS achieve their desired results?

The ESPS evaluation covered two main dimensions: (1) The policy and strategy; and (2) the portfolio of interventions and their results. The ESPS set the framework for CDB strategic positioning in the energy sector, the effectiveness of its development process, the way in which it could evolve, the way in which it is promoted internally, and the visibility of CDB actions and strategies. The evaluator was required to assess the results of portfolio interventions, any operational difficulties encountered, and the general effectiveness of the process of identifying, supporting, and monitoring interventions.

The report includes the following:

- An overview on the ESPS and CDB organisation to fulfil ESPS objectives;
- A summary of the evaluation methodology;
- The findings for each key evaluation question presented by evaluation criterion (relevance, internal coherence, external coherence, efficiency, effectiveness, impacts, sustainability and cross-cutting issues);
- Conclusions;
- Lessons learned and recommendations;
- Appendixes detailing relevant aspects of the evaluation.

# 1 ESPS Description

## 1.1 ESPS Background, Design, and Objectives

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### 1.1.1 Background

The ESPS was launched in March 2015 as the guiding framework for CDB to provide support to the energy sector.

CDB's mission is to reduce poverty and transform lives through sustainable, resilient, and inclusive development in the region by working in an efficient, responsive, and collaborative manner with its 19 borrowing member countries (BMCs).<sup>5</sup>

CDB's 2019 Annual Report highlights the importance of promoting renewable energy (RE) and energy efficiency (EE) as a key component of the ESPS to assist BMCs in achieving their carbon emission reduction targets. In 2019, CDB provided over USD36 million in loans for projects in the power, energy, water, and sanitation sectors. Among the projects supported specifically related to energy were the design and installation of transmission cables in Belize, geothermal energy development in St. Vincent and the Grenadines, and energy efficient street lighting projects across the region. CDB also funds technical assistance projects to improved governance and increase resilience in the energy sector.

Approvals supporting the environment, RE, EE, and climate change (as a % of total financing) increased from 10.5% in 2014 to 22% in 2019.<sup>6</sup> CDB intends to adopt a target of committing between 25% and 30% of its financing toward climate adaptation and mitigation activities by 2024 along with associated monitoring and reporting activities.<sup>7</sup>

### 1.1.2 Design and Objectives

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#### DEVELOPMENT CONTEXT

The ESPS includes two components, the Energy Sector Policy (ESP) and the Energy Sector Strategy (ESS).

The ESPS was developed to address the specific challenges and opportunities related to the energy sector in BMCs. As detailed in the ESPS, while the energy situation is not uniform across all BMCs, certain common themes are observed, including challenges related to energy security, long-term sustainability of main fuel sources, and energy sector governance. In addition to considering the regional context, the ESPS was also developed by considering global trends such as the adoption of efficient, clean, and renewable technologies and the shift toward distributed models of power generation.

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<sup>5</sup> <https://www.caribank.org/countries-and-members/borrowing-members>, which represents all CARICOM member states and associate members with the exception of Bermuda.

<sup>6</sup> Development Effectiveness Review 2019.

<sup>7</sup> SDF 10 resolution.

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

The ESPS states that all BMCs have RE sources and thus can benefit from increasing the exploitation of their potential in combination with increased EE. BMCs have established targets for the contribution of RE to total electricity generation as well as for the improvement in EE through the Caribbean Community (CARICOM) Energy Policy and the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS). The ESPS states that CDB is committed to supporting the BMCs in reaching these targets.

Considering these challenges and opportunities in BMCs, CDB identified areas to be supported through the ESPS, which include energy infrastructure investments, sectoral and market reforms, RE and EE interventions on the supply and demand sides, capacity strengthening, energy service business development in micro, small, and medium enterprises (MSMEs), and energy services for vulnerable groups.

## ENERGY SECTOR POLICY (ESP) OBJECTIVES AND PRIORITY AREAS

The goal of the ESP is to transform the energy sector to significantly increase energy security and sustainability while enabling economic growth. To achieve this goal, the ESP lists the following three **objectives**:

- Assist BMCs with the timely provision of adequate, affordable, reliable, sustainable, and clean energy services to all segments of society;
- Establish the energy sector as a dynamic economic subsector advancing the development of a green economy and supporting climate resilience;
- Be a key regional energy sector development financier to serve as a catalyst for attracting concessionary resources to the region and be an intermediary for financial and technical assistance resources for BMCs.

The ESP also identifies **four priority areas** that were chosen based on CDB's competitive advantage and a review of other interventions in the region:

1. Promoting EE for more affordable and stable energy costs and the establishment of a green economy;
2. Promoting RE for more affordable and stable energy costs and the establishment of a green economy;
3. Promoting energy infrastructure to provide cleaner and more reliable power supply;
4. Promoting sector reform, good governance, and capacity strengthening.

For each of these priority areas, the ESPS presents a results framework that covers activities and expected outcomes.

## ENERGY SECTOR STRATEGY (ESS) OBJECTIVES

The focus of the ESS is to implement practical, near-term interventions that align with the goals, objectives, and priorities of the ESP. The ESS identifies five strategies that are detailed in Table 1 below.

*Table 1: Energy Sector Strategies*

Strategies		Notes
1	Increased, systemic engagement through the Targeted Dialogue on Energy Policy (TDEP)	Phase 1: Introductory visits to BMCs to identify areas where CDB could provide support for infrastructure projects, reforms, and capacity building. Phase 2: Full rollout through energy sector review programme visits. All BMCs will be targeted to conduct energy sector assessments to develop roadmaps of actions to be supported by CDB.
2	Use existing instruments to stimulate investments and support resilience in the power sector	Technical assistance (TA) support. Loans to public and private utilities on the same terms offered to the public sector.
3	Design and development of Smart Facilities and Programmes (SFPs) to overcome selected barriers and expand energy business opportunities	Development of a comprehensive suite of programmes to support EE and RE. Following a review of the current situation in BMCs, some ideas for programmes were identified in the ESS for sectors such as street lighting, geothermal energy, energy service company (ESCO) development, etc.
4	Strengthening of internal capacity and awareness to support energy sector projects	Building internal staff awareness by mainstreaming integrating EE and RE considerations into relevant projects across CDB operations and expanding the Caribbean Technological Consultancy Services (CTCS) network to provide support around energy services to MSMEs.
5	Mobilising resources and enhancing cooperation with partners for EE and RE	Expanding collaboration with regional and international development partners through playing a greater role in coordinating energy initiatives, co-financing with partners, participating in conferences relevant to the ESPS, etc.

## ROLES AND RESPONSIBILITIES FOR ESPS DEVELOPMENT AND IMPLEMENTATION

The Renewable Energy/Energy Efficiency Unit (REEEU) was created in 2014 specifically to meet the need for CDB to be present in the energy sector. Also drawing on consultant resources, it authored the ESPS, which was approved by the Board in 2015.

The REEEU is responsible for overseeing ESPS implementation and SFPs as well as developing projects. SFPs are created according to the needs and requests of BMCs. Projects can also be developed by other divisions. Until March 2021, the REEEU reported to the Vice President of Operations but was then brought under the Economic Infrastructure Division (EID) in the Projects Department. The EID is responsible for project appraisals as well as for monitoring implementation and results. The Social Sector Division (SSD) ensures that social and gender aspects are addressed, result frameworks are gender sensitive, and CDB social safeguards are followed. The Environmental Sustainability Unit (ESU) provides support for implementing environmental safeguards and monitors their implementation.

## 1.2 ESPS Actions and Initiatives

### 1.1.3 Smart Facilities and Programmes (SFPs)

CDB assembled a range of funding sources to fulfil the objectives defined in the ESPS.

The table below briefly presents the SFPs that served to finance energy projects from 2015 to 2020.<sup>8</sup>

*Table 2: Smart Facilities and Programmes*

SFP Name	Source of Funds	Country Coverage	Features	Eligible Stakeholders
Sustainable Energy for the Eastern Caribbean (SEEC) Programme	CDB-OCR, EU-CIF, UK-DFID	Antigua, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines	<ul style="list-style-type: none"> <li>Institutional strengthening and capacity building of local and regional actors.</li> <li>Technical assistance for supporting RE and EE projects.</li> <li>Investments and financial mechanisms for RE &amp; EE pilot projects.</li> </ul>	Government, public, and statutory institutions Private sector through development financial institutions
Climate Action Line of Credit (CALC)	EIB	All CDB Borrowing Member Countries	<ul style="list-style-type: none"> <li>Interest subsidy on loans for a portion of the investment/project cost.</li> <li>Grant-funded climate risk and vulnerability assessments for eligible projects.</li> </ul>	Creditworthy public-sector entities or private-sector companies established in BMCs
Canadian Support to the Energy Sector in the Caribbean (CSES-C) Fund	GAC	All CDB Borrowing Member Countries	<ul style="list-style-type: none"> <li>Development of legislative and regulatory frameworks and associated institutional capacity in the Caribbean.</li> <li>Support to increase the deployment of EE and RE technologies in the Caribbean.</li> <li>Workshops/training/professional attachments, including in Canada.</li> </ul>	Public and private sectors
Regional RE and EE Programme for Public Sector	Various	All CDB Borrowing Member Countries	<ul style="list-style-type: none"> <li>Public-sector EE improvement promotion programme over a two-year period utilising a combination of instruments and approaches.</li> </ul>	Governments and public entities
Regional Efficient Street Lighting Programme	Various	All CDB Borrowing Member Countries	<ul style="list-style-type: none"> <li>Programme targeting early replacements of existing lamps by light-emitting diodes (LEDs).</li> </ul>	Governments and public entities in charge of street lighting

<sup>8</sup> Note that while the original ESPS adopted a 2015-19 time frame, this evaluation has considered portfolio information up to the end of 2020.

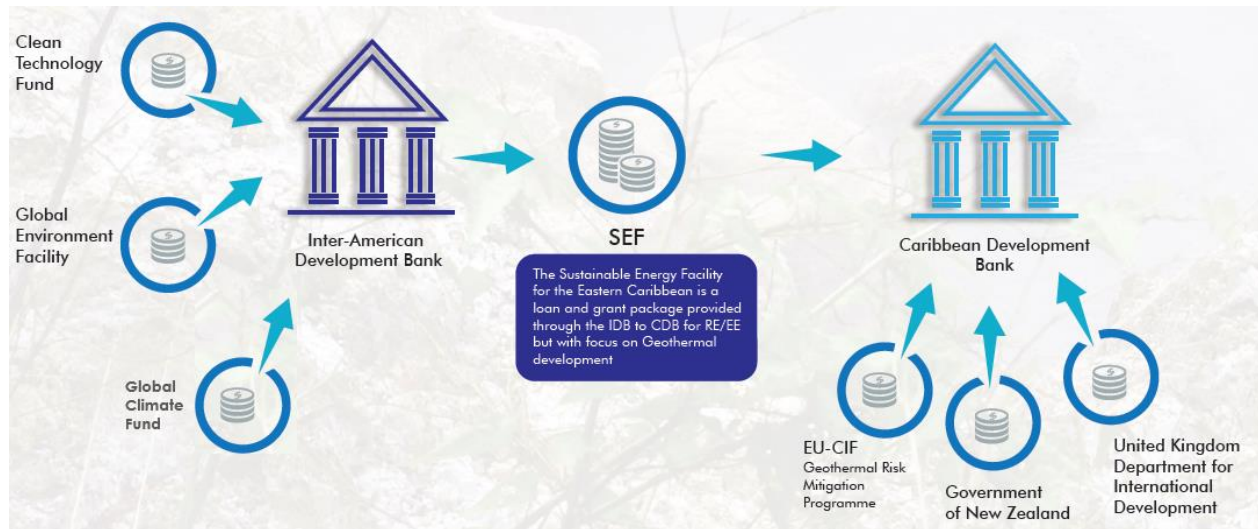
SFP Name	Source of Funds	Country Coverage	Features	Eligible Stakeholders
Regional ESCO Development Line of Credit	Various	All CDB Borrowing Member Countries	<ul style="list-style-type: none"> <li>CDB builds on existing efforts to establish a framework for the ESCO industry and further seeks to provide the requisite financing through appropriately designed lines of credit to support project implementation.</li> </ul>	Governments and public entities
Sustainable Energy Facility (SEF) <sup>9</sup>	GEF, CTF, IDB, Italian government GCF since Dec. 2019 (SEF expanded)	Antigua and Barbuda (GEF only), St. Kitts and Nevis, Dominica (CTF only), Grenada, St. Lucia, and St. Vincent and the Grenadines	<ul style="list-style-type: none"> <li>EE, RE and regulatory framework/capacity building components.</li> <li>Grant convertible to a loan to finance expenses associated with geothermal exploration activities to be carried out by eligible beneficiaries.</li> <li>Guarantees on sub-loans provided to eligible beneficiaries to mitigate the financial risk of eligible sub-borrowers that received sub-loans associated with geothermal exploration activities.</li> </ul>	Governments and public entities
Geothermal Risk Mitigation Programme (GRMP) for the Eastern Caribbean	Caribbean Investment Facility (CIF) from EU	Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines	<ul style="list-style-type: none"> <li>Aimed at the development and implementation of geothermal energy (GE) projects.</li> <li>Blend of grant and loan.</li> <li>CDB leads the development of GE in Grenada, St. Kitts and Nevis, and St. Vincent and the Grenadines.</li> <li>The World Bank operates in Dominica and St. Lucia.</li> </ul>	Governments and public entities

## GEOSMART INITIATIVE

The CDB GeoSmart Initiative makes grants available for Eastern Caribbean Governments to enable them to support early-stage, exploratory drilling to help determine the country's true geothermal energy potential. Figure 1 below highlights the resources mobilised so far under the initiative. CDB and IDB also contribute their own resources; SFPs including the SEF and GRMP are also part of this initiative.

<sup>9</sup> More details on the SEF are presented in Table 5 of the TOR of the evaluation in **Error! Reference source not found.** herein.

*Figure 1: CDB GeoSmart Initiative Resources<sup>10</sup>*



## 1.1.4 Portfolio Analysis

The REEEU maintains a database of CDB financed energy projects in the form of an Excel spreadsheet containing the approval year, name, country, funding source, project type, intervention type, approved amounts, disbursed amounts, beneficiaries, and executing agencies. The database does not include investment projects from other sectors that may include energy components.

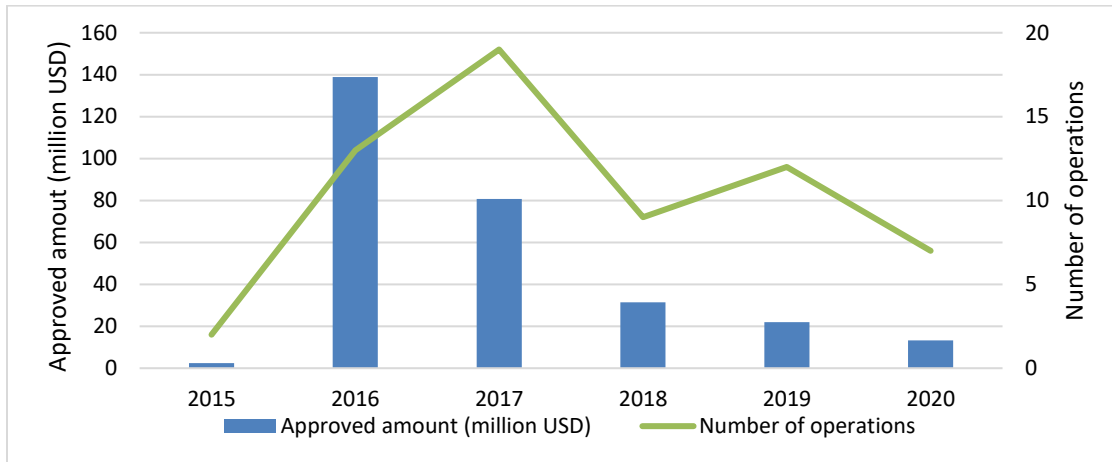
### NUMBER OF APPROVED OPERATIONS<sup>11</sup> AND AMOUNTS

Since the establishment of the ESPS, 63 operations have been financed in different countries with a total approved amount of USD289 million. Of those 63 operations, 16 have disbursed almost the entirety (at least 95%) of their approved amounts. The figure below presents the evolution of the number of operations and approved amounts over time. The number of approved operations per year reached a high in 2017 and has been on a downward trend since. Similarly, the amount approved per year peaked in 2016 and has steadily declined since.

<sup>10</sup> Adapted from CDB GeoSmart Initiative, <https://www.caribank.org/publications-and-resources/resource-library/booklets-brochures/cdb-geosmart-initiative> .

<sup>11</sup> One project might include several operations in the ESPS portfolio.

*Figure 2: Number of Approved Operations per year and Approved Amounts from the ESPS (2015-2020)*



### APPROVALS BY BMC

The number of ESPS-funded operations in each BMC along with their approved amounts are presented in Table 3.



*Table 3: Geographical Distribution of the Number of Operations and Approved Amounts*

Country	Number of Operations	Approved Amounts (USD millions)
Anguilla	4	14.1
Antigua and Barbuda	4	11.0
Barbados	1	14.6
Belize	2	0.1
British Virgin Islands	0	0.0
Cayman Islands	0	0.0
Dominica	2	15.9
Grenada	6	1.1
Guyana	0	0.0
Haiti	1	0.7
Jamaica	3	31.3
Montserrat	0	0.0
St. Kitts and Nevis	6	6.5
St. Lucia	2	10.7
St. Vincent and the Grenadines	6	58.7
Suriname	4	95.0
SVG and SKN	1	0.0
The Bahamas	1	14.6
Trinidad and Tobago	1	0.0
Turks and Caicos Islands	0	0.0
Regional	18	1.9
<b>TOTAL</b>	<b>63</b>	<b>288.7</b>

## PROJECT TYPES

Figure 3 illustrates that investment projects and recovery and reconstruction loans (RRLs) have accounted for almost all approved amounts since 2015.

*Figure 3: Project Types Over Time by Approved Amount*

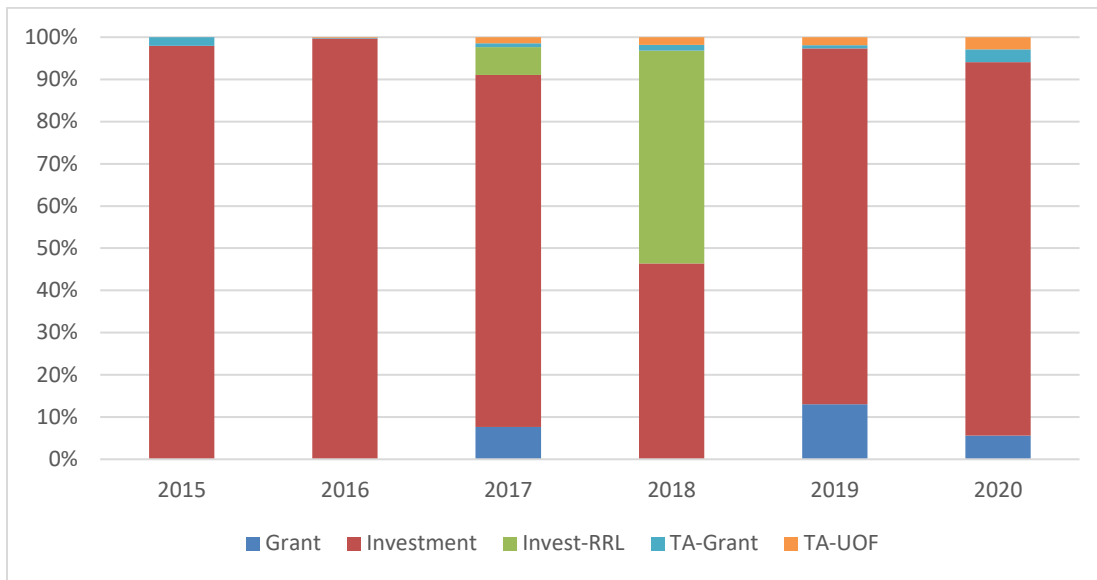
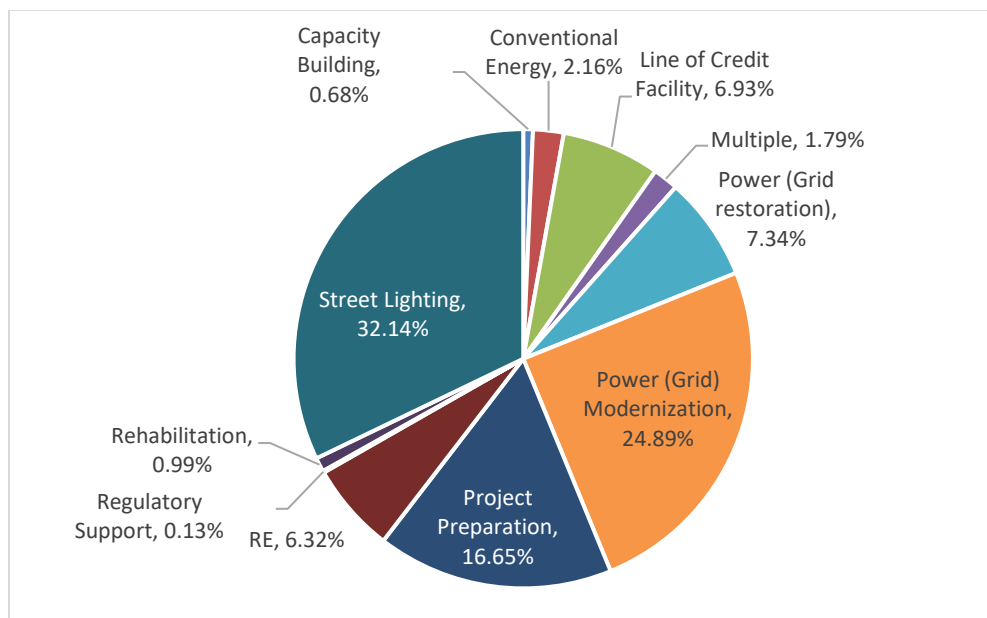


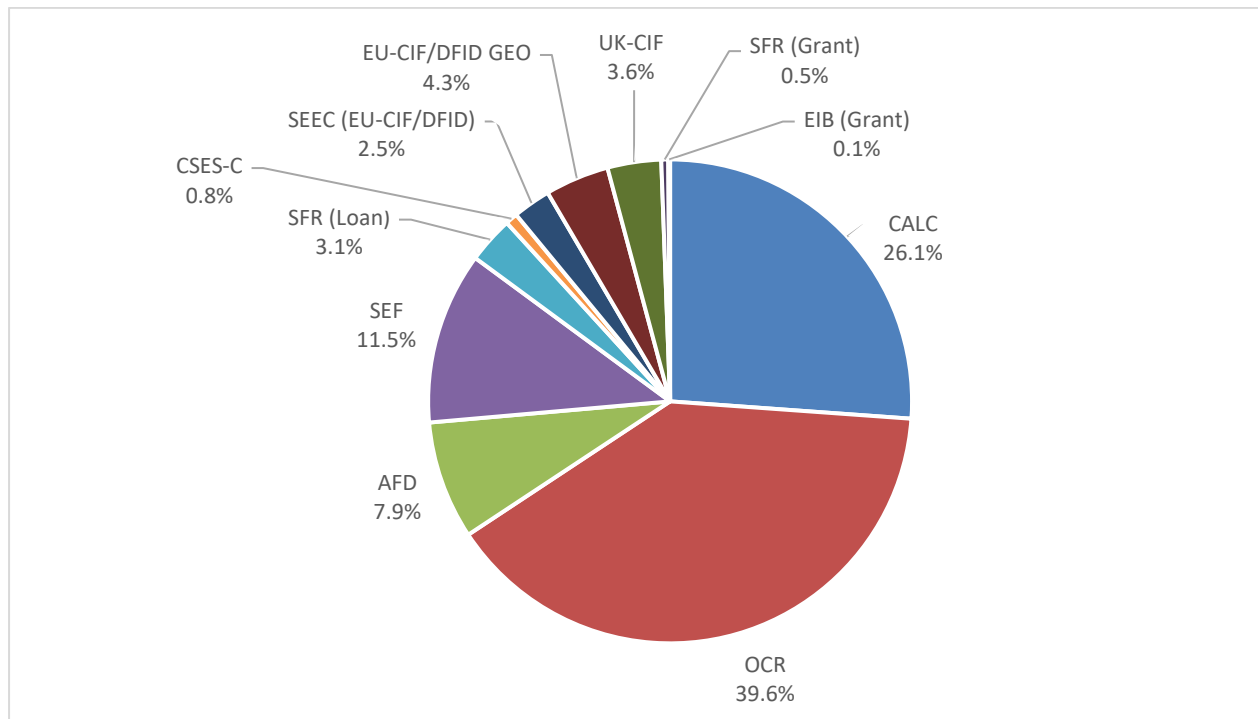
Figure 4 below illustrates the evolution over time of the amounts allocated by thematic area (identified as project type in the REEU portfolio Excel database). Street lighting and power grid modernisation projects have benefited from the largest amounts of funding since 2015.

*Figure 4: Approved Amount for each thematic area*



## FUNDS

Figure 5 illustrates the proportion of approved amounts supported by each ESPS funding source. Combined, the CALC and OCR funds provided the majority of approved amounts.

*Figure 5: Fund Distribution by Approved Amount*

## 1.1.5 ESPS Theory of Change

The reconstructed ESPS theory of change (ToC) is based on a review of the ESPS document, including its results framework. Shortcomings of the ESPS results framework have constrained the reconstruction of the ToC due to:

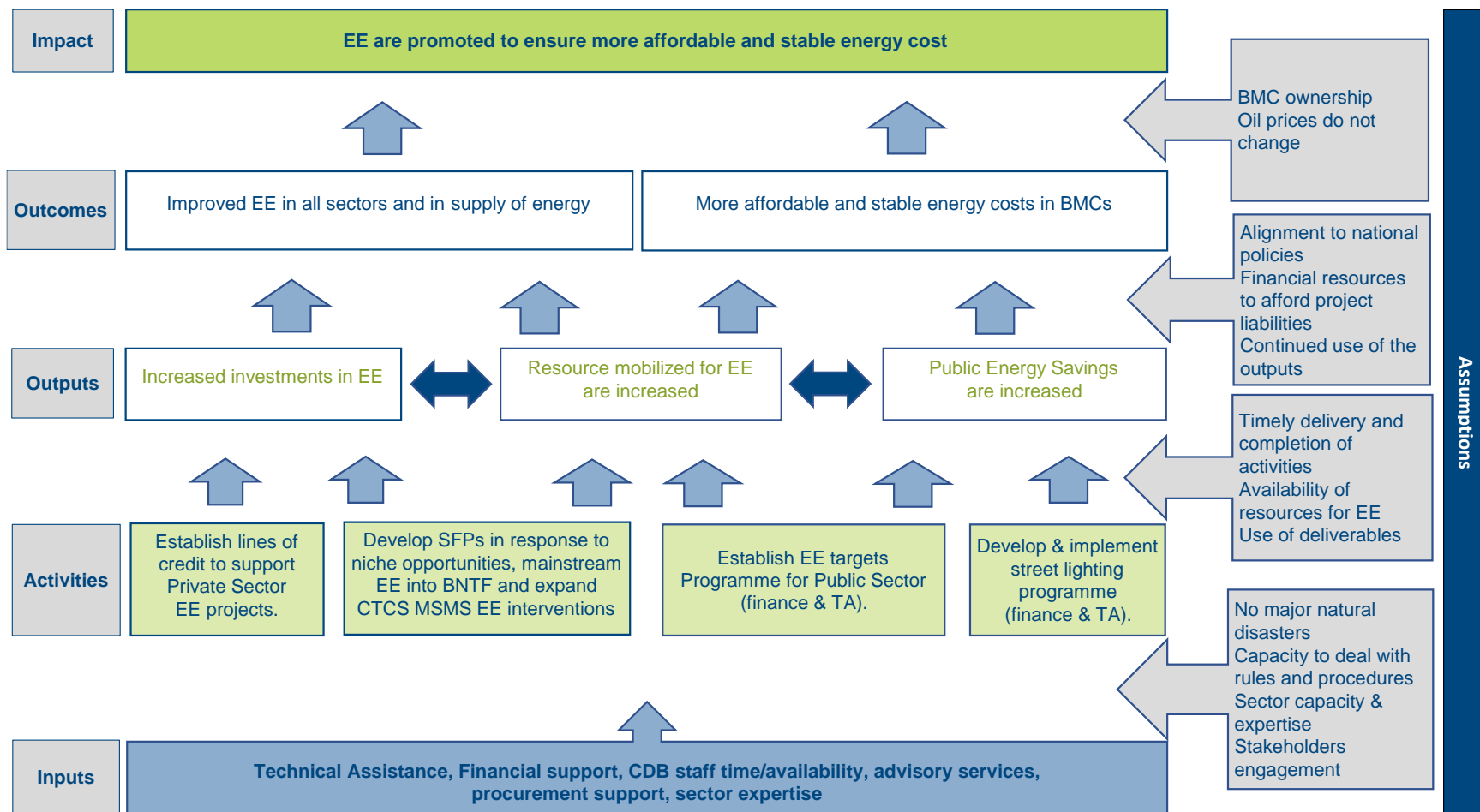
- A lack of clear assumptions, and overlaps in the outcome and impact statements.
- The definitions of outcome and output indicators are not sufficiently precise, and not all indicators include targets.
- Outputs are not quantified, and they are described in a very general manner, similar to activity descriptions (e.g., Resource mobilisation for RE).
- The number of expected outcomes exceeds the number of outputs, and indicators are not always valid measures of the outcomes with which they are associated.
- Some outcome indicators in fact measure outputs (e.g. Number of BMCs issuing request for proposals [RFPs] for energy supply).
- Some activities are not related to the appropriate expected outcomes. For example, the activity “Establish public sector EE targets programme and benchmarks” is related to the promotion of RE outcome instead of the promotion of EE outcome.

Within this context, the ESPS ToC was facilitated by reconstructing sub-ToCs by priority areas:

- Energy efficiency;
- Renewable energy;
- Power infrastructure;
- Sectoral reform, governance, and capacity building.

The reconstructed ToC for EE is presented in Figure 6 below, while the others are included in APPENDIX 5.

Figure 6: Theory of Change of EE Priority Areas



## 1.3 ESPS Relation with Other Strategies

BMCs have set targets related to the energy sector through CARICOM and the C-SERMS. In addition, the ESPS is linked with several CDB strategies and policies, as illustrated in Table 4.

*Table 4: ESPS Relation with CDB Other Strategies*

Strategy	Description	Relation with ESPS and Energy Sector
Strategic Plan 2015-2019	<ul style="list-style-type: none"> <li>The strategic framework for the 2015-2019 period sets three strategic objectives: (1) Supporting inclusive and sustainable growth and development, (2) promoting good governance, and (3) enhancing organisational efficiency and effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>The ESPS aligns with several of the objectives listed in this plan, including the promotion of environmental sustainability through climate change resilience, environmental management, and disaster risk management.</li> <li>CDB also states that the two main objectives listed in the Strategic Plan will be supported by mainstreaming energy security.</li> <li>CDB expects that 25% of new commitments will be in newer areas of focus, notably in EE and RE, which are also key focus areas in the ESPS.</li> </ul>
Strategic Plan (SP) 2020-2024	<ul style="list-style-type: none"> <li>The strategic framework for the 2020-2024 period sets three strategic objectives: (1) Building social resilience, (2) building economic resilience, and (3) building environmental resilience.</li> </ul>	<ul style="list-style-type: none"> <li>Similar to the previous strategic plan, CDB plans to incorporate energy security considerations in all activities.</li> <li>The SP states that CDB will intensify its efforts to support the energy sector, and many of these efforts will be driven by the ESPS.</li> <li>Targeted areas for support in the energy sector include energy infrastructure investments, sectoral and market reforms, RE and EE interventions on the supply and demand sides, capacity strengthening, energy service business development in MSMEs, and more.</li> </ul>
Climate Resilience Strategy 2019-2024	<ul style="list-style-type: none"> <li>The actions under this strategy are organised under three main priorities: (1) Scaling up climate resilience actions in climate vulnerable sectors, (2) mobilising concessionary resources, and (3) supporting an enabling environment for climate action.</li> </ul>	<ul style="list-style-type: none"> <li>This strategy is focused on adaptation and resilience since efforts targeting climate mitigation are promoted and implemented through the ESPS.</li> </ul>
Gender Policy and Operational Strategy (GEPOS) 2019	<ul style="list-style-type: none"> <li>The strategy identifies strategic pillars of action with the objective of enhancing gender equality in BMCs and within CDB.</li> </ul>	<ul style="list-style-type: none"> <li>One of the desired outcomes of the GEPOS is to ensure equitable access to infrastructure services, including for RE and EE. This is coherent with Principle 5 of the ESPS (“Ensuring compatibility of interventions with gender equality, and social and environmental performance standards”).</li> </ul>

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Strategy	Description	Relation with ESPS and Energy Sector
Gender Equality Action Plan (GEAP) 2020-2024	<ul style="list-style-type: none"> <li>The action plan for the 2020-2024 period lays out the strategy to enhance gender equality in BMCs.</li> </ul>	<ul style="list-style-type: none"> <li>One of the desired outcomes of the GEAP is to ensure equitable access to infrastructure services, including for RE and EE infrastructure projects. Therefore, RE and EE projects include components on gender defined actions. This is coherent with Principle 5 of the ESPS (“Ensuring compatibility of interventions with gender equality, and social and environmental performance standards”).</li> </ul>
Private-Sector Development Strategy (PSDS)	<ul style="list-style-type: none"> <li>The strategy is comprised of three main pillars: (1) Improving the investment and business climate, (2) expanding access to social and economic structure, and (3) enterprise development.</li> </ul>	<ul style="list-style-type: none"> <li>The PSDS states that within the scope of its infrastructure policies (second pillar), it plans to promote private-sector involvement in the energy sector. To do so, CDB strategy is focused on developing mechanisms and SFPs to unlock private investments in RE and EE (through the ESPS).</li> </ul>

## 2 Evaluation Methodology

This evaluation has both summative and formative elements. It served to assess progress on ESPS results to date as well as examine possibilities for improved execution and performance going forward.

The ESPS evaluation was focused on evaluative questions to assess the ESPS relevance, coherence, efficiency, effectiveness, impact, and sustainability. Each of the overarching questions was supplemented by in-depth questions as presented in the evaluation matrix in Appendix 11.

A number of methodological approaches were used to gather and triangulate evidence:

- Desk analysis and literature review (a bibliography is provided in APPENDIX 6).
- Theory of Change: While not a full-fledged theory-based evaluation, an ESPS ToC based on sub-ToCs (energy efficiency, renewable energy, power infrastructure, sector reform, governance and capacity building) was reconstructed to examine the logic of the ESPS and the extent to which its inherent assumptions have proved valid (see APPENDIX 5).
- Portfolio analysis for initiatives from 2015 to 2020 quantifies the overall level and characteristics of ESPS investments (see Subsection 1.1.4 and APPENDIX 4).
- In-depth analyses were conducted on six projects that represented eight operations in total (hereinafter referred to as the six in-depth project analyses) to assess the achievement of outputs and outcomes as well as identify operational lessons learned. A desk analysis was conducted and at least two interviews with project stakeholders were held for each project. The results of the six in-depth project analyses are presented in APPENDIX 7. The six projects were:
  - Street Lighting Retrofit in Jamaica (USD25 million);<sup>12</sup>
  - GE Drilling Project in St. Vincent and the Grenadines (3 operations) (USD28,176,371);
  - The Regional Certified Energy Manager (CEM) Training Programme (USD96,405);
  - Energy Audits and Partial Condition Surveys in Public Facilities (Antigua & Barbuda) (USD120,440);
  - Sixth Power Project – Solar PV Plant in Anguilla (USD2,341,000);
  - Capacity Strengthening of Caribbean Utility Regulators in Grant Funding Proposal Development and Writing (Regional) (USD47,140).
- Semi-structured interviews with internal CDB staff and external stakeholders, mainly development partners and regional institutions working in the energy sector, to gather information. A list of interviewees is presented in APPENDIX 9.
- Focus group discussions (FDGs) were conducted under the outcome harvesting methodology. This data-collection tool served to track the contribution of 15 additional operations (14 projects) in the ESPS portfolio (different than the abovementioned six projects) to achieve specific and concrete expected and unexpected outcomes. Two FDGs were organised under this approach:
  - One external FGD with executing agencies and/or direct beneficiaries;
  - One internal FGD with energy project managers and the head of the REEUU.

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<sup>12</sup> Amount disbursed for each project are mentioned.



A complete list of the 15 operations and results of the FGDs are presented in APPENDIX 9.

- An online survey was used to gather stakeholder perceptions about ESPS relevance, coherence, efficiency, effectiveness, and impacts. The survey targeted BMC governments (energy focal points or Ministers of Energy for example) and public institutions (direct or indirect beneficiaries such as utilities). The survey protocol is presented in APPENDIX 10. The survey results are outlined in APPENDIX 11.

In total, 20 projects representing 23 operations (more than 35% of the portfolio) out of the 63 portfolio operations, were analysed at different levels of detail to provide information on project expected results.

The limitations of the evaluation are described in the table below.

*Table 5: Limitations of the Evaluation*

Limitation	Description and Mitigation Strategies
Pandemic effects on evaluation	Considering the COVID-19 crisis and the need to comply with the instructions issued by competent health authorities, the evaluation team conducted interviews virtually and no field visits to projects were possible.
Energy project database	The CDB Management Information System does not explicitly track the energy sector portfolio. The REEEU recently developed a portfolio database tailored to internal purposes and included only energy-related operations (energy projects that are part of large infrastructure projects are excluded from this portfolio). The evaluation team asked for additional information to be incorporated into the database, but some information could not be provided, such as if project beneficiaries are in the private or public sector and in which priority actions (EE, RE, infrastructure, sector reform) projects fall under.
Attribution of outcomes to the ESPS as opposed to other initiatives	Attribution analysis of ESPS impacts was not possible due to the complexity of the ESPS, especially in relation to energy sector governance. To overcome this limitation, the evaluation included a qualitative assessment on the influence of the ESPS on specific elements such as energy sector governance or the energy mix of BMCs.
Results information	Due to the lack of a comprehensive energy project portfolio database, the evaluation team was not able to quantitatively assess the output indicator realisation rates at the ESPS level. The qualitative and quantitative impacts of sample projects were evaluated and outcome harvesting focus groups were organised to qualitatively assess ESPS portfolio impacts using a project sample.

# 3 Findings

## Relevance

**WAS THE 2015 ESPS RELEVANT IN ITS DESIGN AND MANDATE BY BEING ALIGNED WITH BMC ENERGY NEEDS AND BY TACKLING THEIR MAIN CHALLENGES?**

**Finding 1: CDB is the only funding organisation that is active in the energy sector across the entire Caribbean region. Most other development banks and development partners have a bilateral rather than regional approach to supporting the energy sector, with limited coverage of borrowing member countries.**

Multilateral development banks (MDBs) and bilateral institutions have been supporting sustainable energy projects in the region for several years.<sup>13</sup>

The Inter-American Development Bank (IDB) works bilaterally and regionally (39 ongoing projects) in the eight IDB member countries (the Bahamas, Barbados, Belize, Guyana, Haiti, Jamaica, Suriname, and Trinidad and Tobago) and, via the Sustainable Energy Facility (SEF) executed by CDB, in the countries of the OECS. Its main priorities in the regional energy sector<sup>14</sup> are similar to those of CDB:

- Energy Access – Coverage, Reliability, and Affordability;
- Energy Sustainability – EE, RE, and Climate Change;
- Energy Security – Quality of Service Delivered, Energy Infrastructure and Regional Energy Integration;
- Energy Sector Governance – Institutional Framework, Sectorial Organisation, and Policies.

The World Bank (WB) works mainly in Belize, Guyana, Jamaica, Suriname, and the independent states of OECS. It has a Regional Partnership Strategy established in 2014 for the OECS as well as a Country Partnership Strategy for Belize, Guyana, Jamaica, and Suriname, but these are not energy specific. WB support is focused mainly on RE development at the country level. Certain countries have limited access to financing if they are not eligible for International Development Association (IDA) support.<sup>15</sup>

The GIZ Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC) covers all the 15 CARICOM countries.<sup>16</sup> It provides technical assistance to CARICOM countries but no direct financing. The programme also works with regional institutions including the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), CDB, the Caribbean Development Fund (CDF), and CARICOM.

<sup>13</sup> The CARICOM Sustainable Energy Financing Landscape is properly summarised in Subsection 3.3 of the Sustainable Energy Financing in the CARICOM Region – Gap and Opportunity Analysis report prepared by CADMUS in May 2021.

<sup>14</sup> Energy Sector Framework Document, October 2018, <https://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=EZSHARE-715548541-11>.

<sup>15</sup> <https://ida.worldbank.org/about/borrowing-countries>. In the Caribbean: Dominica, St Vincent, Grenada, Guyana, Haiti, and St Lucia.

<sup>16</sup> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

Global Affairs Canada (GAC) works with CDB to channel money into the regional energy sector. Its support is focused on the preparation of bankable projects and fostering private-sector innovation. It also supports the IDB Lab through the EcoMicro Programme. GAC is waiting for the results of this evaluation to finalise the design of its next phase of energy sector support.

Notwithstanding the efforts of these partner agencies, capacity gaps remain, and sector reforms are still much needed across CDB's BMCs. Hence, increased CDB involvement in the energy sector was perceived as extremely positive across BMCs, regional organisations, and development partners.

CDB is the only development finance institution active across the entire Caribbean region and that can offer financing not only to the 15 CARICOM countries, even if IDA ineligible, but also to Anguilla, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands where it is particularly appreciated due to their non-eligibility for other MDB financing.<sup>17</sup>

**Finding 2: The 2015 ESPS clearly highlighted the main challenges of the energy sector to be addressed in the region. It continues to be relevant in the regional sustainable energy field and has prompted the initiation of EE/RE mainstreaming in CDB's wider operations.**

CDB carried out a baseline study on BMC energy sector needs and challenges and reviewed the approaches and strategies of other development banks (IDB/WB) and bilateral agencies (GIZ, AFD, GAC) to establish a mapping. That baseline study allowed CDB to identify the ESPS priorities aligned with BMC needs and gaps in support from other partners. The 2015 ESPS document includes an accurate assessment of the main challenges of BMCs using qualitative and quantitative data. It took account of the CARICOM Strategic Plan, the CARICOM Regional Energy Policy, and the C-SERMS Framework, among others.

The needs of the Caribbean energy sector are enormous. By addressing EE, RE, infrastructure, and sector reform, the ESPS was aimed at addressing a large part of them at the country level.

There is evidence that CDB has started mainstreaming EE/RE in infrastructure projects, such as a GIZ supported Guyana school upgrade that included EE/RE measures. That said, there is scope for a more formal approach to mainstreaming through the possible adoption of regular screening to assess the potential for RE/EE inclusion in projects outside the energy sector.

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<sup>17</sup> This statement was reinforced by Prime Minister Gaston Browne from Antigua and Barbuda, ineligible for WB support, during a panel discussion at CREF 2021 on October 28, 2021.

**Finding 3: Direct beneficiaries perceived that the ESPS priorities and objectives addressed their main needs.**

Survey results and interviews with regional organisations suggest respondents felt that the needs of the energy sector are either fully (55% of respondents) or partially (35% of respondents) addressed in the ESPS (see Figure 21 in APPENDIX 11 for details). Those who found that needs were only partially addressed identified gaps such as “knowledge and capacity building,” “the upgrades needed to the regulatory environment”, and “the need for competitive financing among all multilaterals”. Several regional organisations felt that ESPS implementation was focused too much on executing projects and not enough on enabling environments that would result in more sustainable project results.

**Street Lighting Programme Coherence**

In the case of the streetlight retrofit project in Jamaica, the project addressed the needs of the direct beneficiary JPSCo by improving its street lighting operational efficiency. It also addressed the needs of indirect beneficiaries (e.g. Government of Jamaica) by lowering the energy consumption costs for public street lighting and enhancing the quality and reliability of public street lighting.

According to the results of the six in-depth project analyses, direct beneficiaries’ needs were properly addressed by projects carried out under the ESPS and by the ESPS itself.

**Finding 4: The level of engagement in ESPS development among the main energy sector stakeholders in BMCs, regional organisations, and development partners was minimal but all expressed interest in being engaged in the development of the next ESPS.**

Only over half of survey respondents (55%) reported being aware of the CDB ESPS, which suggests that the awareness level of the policy and strategy is moderate among key stakeholders and only 9% of respondents reported that they were quite familiar with the ESPS. Furthermore, most respondents (70%) were not involved in the development of the ESPS. In total, 15% were “not so engaged” and only 5% reported being “moderately engaged” and shared inputs and ideas for the design of the ESPS.

Although CDB reviewed the approaches and strategies of MDBs and bilateral agencies to establish a baseline, major financial contributors and regional organisations active in the Caribbean energy sector were not consulted in 2015 in during ESPS development. A draft was however shared with key partners to obtain general comments and ensure no important aspects were overlooked.

All interviewed development partners and regional organisations expressed interest in sharing their views for the next ESPS. The survey results indicated that BMC stakeholders would also like to be involved in the development of the next version of the ESPS by taking part in consultations.

## Coherence

**WAS THE 2015 ESPS COHERENT WITH THE CDB MANDATE AND EXISTING PROGRAMMES SUCH AS THE CARIBBEAN TECHNOLOGICAL CONSULTANCY SERVICES (CTCS) AND BASIC NEEDS TRUST FUND (BNTF) AND COMPLEMENTARY TO OTHER ONGOING OR PLANNED NATIONAL POLICIES, ACTION PLANS, OR MEASURES IMPLEMENTED BY BMCs OR REGIONALLY?**

**Finding 5: The 2015 ESPS objectives and results, intended to address energy sector challenges, were clearly aligned with the CDB mandate, sector specialisation, and expertise.**

The CDB Draft Strategic Plan 2015-19 identified energy security as one of the three cross-cutting areas to be mainstreamed in CDB operations. It also mentioned that CDB support for achieving inclusive and sustainable growth and development in BMCs would be provided through investments in climate resilience, EE, and RE among others. The plan stipulated that, in the context of the proposed CDB goal for the energy sector,<sup>18</sup> significant opportunities were expected to emerge for supporting initiatives leading to lower energy costs and enhanced competitiveness in tourism and other industries. Finally, the REEEU was established for the purpose of promoting CDB participation in the RE and EE fields in BMCs, and the unit was charged with preparing the CDB ESPS.

The ESPS objectives outlined in Subsection 1.1.2 above are clearly in line with the CDB mandate. By establishing the REEEU in the Office of the Vice-President of Operations with technical staff for in-house expertise, it provided importance and credibility to the REEEU.

Furthermore, most BMC survey respondents (65%) found that the ESPS was complementary with other ongoing or planned national policies, action plans, or measures implemented by the relevant countries, which demonstrates the external coherence of the ESPS. According to survey results, the influence and synergy of the ESPS were the greatest on RE (30% of respondents) and EE (25% of respondents) regulations and policies in the BMCs, (see Figure 22 in APPENDIX 11).

**Finding 6: Energy sector themes such as RE/EE were included at the strategic level in CTCS and BNTF, occasionally included in their operations, but not reported on.**

Both CTCS and BNTF include energy sector themes in their operations (as outlined in their respective operations manuals), although these are not their primary focus.

### BNTF

The main goal of BNTF is poverty reduction by improving access to basic public services for vulnerable communities. The BNTF operations manual flags sustainable energy as a **priority**, part of “water and sanitation system enhancement,” as a **key consideration**, part of “environmental sustainability, climate change resilience, and disaster risk management”, and as a **standalone consideration**.

Projects implemented under BNTF did not need SFP support and, consequently, there has been very limited collaboration between the REEEU and BNTF. When assessing projects with RE or EE components, BNTF

<sup>18</sup> The proposed goal of CDB for the energy sector in BMCs is to significantly increase energy security and sustainability in all BMCs by establishing an energy sector that ensures least cost, affordable, and reliable energy services for all segments of society through more diversified, clean, and sustainable energy options to support citizens’ well-being and internationally competitive industries and by driving growth.

occasionally reached out to the REEEU for project assessment assistance. As energy is not at the core of BNTF, the fund does not track energy themes separately, so it is not possible to quantify the portion of energy projects in its project portfolio. Since access to energy and the provision of affordable sustainable energy is a key aspect of poverty alleviation, it is reasonable to expect that some projects from the “Basic Community Access” category may have embedded energy components.

## CTCS

Caribbean Technology Consultancy Services (CTCS) is a small fund (\$800,000 for 2017) and does not have the same magnitude as SFPs or the BNTF. However, its support activities are coherent with ESPS. Energy sector themes are included in the CTCS. It has supported the development of EE projects by financing energy audits.<sup>19</sup> One of the subject areas of CTCS skills training is “**energy production and conservation**”<sup>20</sup> whereby it provided support on energy audit training. The CTCS operation manual provides **case studies of EE/RE investments** and refers to **addressing energy security via sustainable energy**. CTCS reports and tracks its projects separately from the SFPs, does not report energy themes distinctly, and does not have a great deal of cooperation with REEEU.

**Finding 7: The use of CTCS, BNTF, and national development finance institutions (DFIs) supported ESPS implementation as well as almost all SFPs.**

CTCS and BNTF support the ESPS by including energy sector themes in their operations manuals. Some of their activities supported energy sector themes, but energy objectives were not tracked separately in their portfolios as this is not their core focus.

The SFP portfolio of CDB includes only one credit line extended to a DFI – the Development Finance Corporation (DFC) of Belize, which was very supportive of the credit line and the objectives of the ESPS. In fact, the DFC took a step further by investing considerable efforts to align the product with the market, building the necessary internal and external capacity to deploy it, and optimising its internal lending processes to make them more conducive to EE and RE investments.

The CDB complementary instruments (TA support) were all supportive of the ESPS and focused on key ESPS priorities such as capacity building of market stakeholders (including for the DFIs of Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines) and project preparation.

**Finding 8: There were synergies and complementarities, particularly between the ESPS and other ongoing or planned national policies, action plans, and measures implemented by BMCs and other regional stakeholders. The ESPS provided a useful framework for cooperation with development partners, including by successfully blending different finance sources for specific projects and avoiding overlaps. Nevertheless, increased engagement from regional actors could be sought for project identification/preparation and to foster private-sector innovation.**

CDB plays its part as a coordination hub for multilateral (WB, IDB, EU, UK, GAC, GIZ) funds to enable blended financing and avoid overlap. CDB also now leads the sustainable energy finance pillar in CARICOM. All development partners confirmed that the ESPS provides a useful framework for bilateral cooperation on energy related initiatives. Several mentioned that it is easier for them to justify developing

<sup>19</sup> E.g. Energy Audit of Carrod’s Cottages and Rodney’s Wellness Retreat (p.19 CTCS [Operations Manual](#)).

<sup>20</sup> P.20 CTCS [Operations Manual](#).

SFPs and securing complementary funding for sustainable energy related projects since they are being developed and implemented under the framework of the ESPS and not as ad hoc and isolated initiatives.

An example of synergy among institutions for a sustainable energy initiative is the Sustainable Energy Facility (SEF) involving CDB and IDB. For the latter to operate in the EEC (the independent countries of the OECS), it must work through CDB since OECS countries are not members of the IDB. Moreover, CDB is not accredited by the GEF,<sup>21</sup> does not have access to CTF<sup>22</sup> resources, and was only recently accredited by the GCF, while IDB was. IDB was able to secure CTF and GEF resources in 2015 and GCF resources later in 2019, which CDB was unable to do.<sup>23</sup> The SEF was a win-win arrangement for both banks.

CDB played a strong coordinating role by putting together SFPs to blend finance for specific projects and avoid overlaps. In total, 33 out of 63 operations (53%) benefitted from blended finance from one of the 15 SFPs CDB could use to provide the best possible financing conditions. The table on the next page illustrates examples of different types of projects from various countries that have received funding from three or four SFPs, including grants and loans.

Increased engagement from regional actors such as CCREEE (with which CDB has recently formalised a cooperation agreement) could be sought for project identification and preparation (CCREEE has a project preparation facility) to prepare bankable projects and foster private-sector innovation (public-private partnerships, or PPPs, for example). The same could be accomplished with CARILEC to enable CDB to work more closely with utilities and independent power producers (IPPs) and ensure a more cohesive approach through Integrated Resources Planning (IRP)<sup>24</sup>. A closer relationship with CARICOM Regional Organisation for Standards and Quality (CROSQ) would ensure that CDB support is more coherent with the regional EE regulations, standards and labels, and building codes.

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<sup>21</sup> <https://www.thegef.org/partners/gef-agencies>.

<sup>22</sup> <https://climatefundsupdate.org/the-funds/clean-technology-fund/>.

<sup>23</sup> IDB started the process for requesting GCF resources in June 2015 when CDB was not yet accredited. Also, the GCF contribution to the SEF is considered a medium-sized project while CDB is only accredited for small size projects. More at: <https://www.greenclimate.fund/project/fp020> and <https://www.greenclimate.fund/ae/cdb>.

<sup>24</sup> The goal of an IRP is to develop a least-cost expansion plan for a region's electricity sector over a finite, long-term time horizon. The plan is developed in response to a need and so must begin with characterization of electricity demand and projection of demand over the study horizon. It then considers the demand-side, supply-side and transmission and distribution (T&D) resource options which can adequately and reliably contribute to meeting that demand. The ESPS priority areas also cover the demand-side, supply-side and transmission and distribution (T&D) resource options.

*Table 6: Example of projects that have benefitted from multiple SFP funding*

BMCs	Year	Title	Project Type	Type	Intervention	Beneficiary	CALC	OCR	AFD	IDB/SEF (loan)	CSES-C (GAC)	SEF/GEF	SEF/CTF	SEEC EU (EU-CIF)	EU-CIF GEO	SEEC UK (DFID)-(FCDO)	DFID (GEO)	EIB Grant
A&B	2016	Street lighting Retrofit	Street Lighting	Investment	Capital		✓	✓						✓		✓		
SLU	2016	Street lighting Retrofit	Street Lighting	Investment	Capital	GOSL	✓	✓										✓
JAM	2017	Street lighting Retrofit	Street Lighting	Investment	Capital	JPSCo	✓	✓	✓									
SVG	2020	SVG Electricity Service Ltd Utility BESS & Grid-tied PV Project	RE	Investment	Capital	VINLEC	✓	✓						✓				
SVG	2017	SEEC Public Sector - EE Measures and Solar Plant, Street lighting	Multiple	Investment	Capital	GOSVG	✓	✓						✓				
SVG	2016	GE Drilling Project	Project Preparation	Investment	Capital	SVGCL & GOSVG						✓	✓				✓	
SVG	2019	GE Drilling Project Add	Project Preparation	Investment	Capital	SVGCL & GOSVG						✓			✓		✓	
DOM	2018	Rehab/Reconstruction Hurricane Maria	Power (Grid restoration)	Invest-RRL	Capital	DOMLEC	✓			✓								✓
REG	2017	Capacity Building Workshop for Planning Professionals (EE)	Capacity Building	TA-UOF	Workshop	OECS Member Countries					✓			✓		✓		

The above table clearly illustrates that for similar project types, for example street lighting, there is a possibility of blending different SFPs according to the best possible conditions for a specific country, beneficiary and investment size.



**Finding 9: CDB appropriately participated in programme-specific coordination mechanisms but has not yet taken a formal lead on energy sector donor coordination in the Caribbean.**

There is no formal and effective regional donor coordination mechanism on energy for the region as a whole and CDB has not taken the opportunity to take a formal lead. There was, however, a formal donor coordination mechanism in place for the OECS between 2014 and 2018. The IDB has recently been making efforts to revive a region-wide donor coordination mechanism in which CDB is actively participating.

CDB coordination at the bilateral level was seen as fluid and efficient by most development partners, with weekly or biweekly calls taking place. ESPS managers were considered very responsive to queries from development partners. CDB participates in the SEEC coordination mechanism that provides for visibility and information sharing to identify potential synergies. CDB also participates in the steering committee of the GIZ-TAPSEC programme along with other regional organisations, opening opportunities to participate more actively in some aspects of the programme such as financing specific projects.

## Efficiency

**WAS CDB EFFICIENT IN ADAPTING ITS PRIORITIES, INTERNAL CAPACITY, AND PROCESSES TO SUPPORT ESPS IMPLEMENTATION TO DEPLOY INSTRUMENTS APPROPRIATE TO THE NEEDS OF BMCs?**

### Internal Organisation and Procedures

**Finding 10: CDB undertook the necessary internal organisational arrangements to support the implementation of the ESPS through the creation of a new unit, the REEEU, and with first steps in mainstreaming of energy considerations.**

A new unit, the REEEU, was created and staffed to catalyse ESPS implementation and to mainstream energy considerations within CDB. Recently, the unit was embedded within the Economic Infrastructure Division (EID). Four energy specialists and a senior specialist/coordinator are working to identify and manage energy-related projects. The Bank has adopted energy security as a cross cutting theme in its Corporate Strategic Plan with a stated intention that RE/EE be mainstreamed in its investments. It should be noted however that formal screening processes to ensure the integration of RE/EE in non-energy infrastructure investments have not yet been put in place.

Several development partners confirmed that having dedicated CDB counterparts (in the REEEU) provides an efficient framework for bilateral cooperation on energy related initiatives. Furthermore, some development partners believe that moving the REEEU into the EID might improve the efficiency and coordination of energy project management and supervision.

**Finding 11: Using a bottom-up approach, the bank responded to BMC demand in developing new projects and SFPs that aligned with ESPS priorities. This demand-led approach did, however, mean that there were some gaps in achieving results relative to the original ESPS framework.**

The development of the ESPS was a learning process for CDB. The Bank used a bottom-up approach (i.e. structuring projects and SFPs based on the expressed interest of BMCs and then verifying that the instruments were aligned with the ESPS). However, there was not a strategic or top-down effort to focus

projects in particular priority areas of the ESPS, thus leaving some gaps in result achievements in the overall ESPS results framework over the period reviewed.

There were no structured/formalised internal approaches to ensure the ESPS objectives by priorities are reflected across CDB investments. Such alignment is at the discretion of REEEU project officers, and it is based on their best judgement during the planning phases of the different programmes and their coordination with BMCs. Having a formalised approach to match programmes and projects with ESPS objectives and assessing how well such programmes and projects support ESPS implementation would prompt project officers to design projects and programmes with quantifiable impacts that are better aligned with the ESPS results framework.

**Finding 12: The REEEU has limited human resources focused on the implementation of the ESPS, which may have constrained CDB from reaching ESPS targets in some priority areas, and sometimes delayed reporting to development partners.**

In general, the internal measures put in place to implement the ESPS were perceived as sufficient to launch the energy theme in CDB. However, development partner organisations reported REEEU understaffing relative to the coordination and management needs of SFPs, including reporting. They reported that project appraisals and execution took longer than expected due to limited CDB human resources. This limitation may have prevented reaching some ESPS targets due to the reduced number of projects that could be appraised, managed, and monitored. This suggests that obtaining external support from regional organisations such as CCREEE, and/or the strategic use of consultancy services, could help offset limited REEEU human resources.

External stakeholders considered REEEU ESPS managers very responsive although the timeliness of some routine reports could have been improved. The REEEU prepares bi-annual reports for the SEEC, CSES-C, and SEF as well as annual reports for the EU-CIF, among others.

**Finding 13: The CDB management information system does not currently code the energy subcomponents of other sector projects.**

Projects in other sectors (especially infrastructure, education and agriculture) that have an energy component, such as PV panels in schools or EE measures in buildings, are not coded as contributing to the ESPS in the current CDB management information system and are therefore not counted toward expected ESPS outputs and outcomes. Moreover, REEEU staff are not necessarily involved in the design or supervision of such subcomponents of larger projects.

CDB units dealing with infrastructure, education, and agriculture would benefit from more training on sustainable energy. Also, as noted above, there is scope for a more formalised screening process to encourage sustainable energy mainstreaming across CDB supported projects.

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## Smart Facilities and Programmes (SFPs)

**Finding 14: The ESPS SFPs were tailored and adapted to the needs of BMCs.**

All respondents were satisfied with the adaptability of CDB operations to BMC needs, which they characterised as either “very good” (7%) or “good” (80%), as outlined in Figure 27 in APPENDIX 11.

The SFPs were tailored to the needs of the BMCs either via a market analysis prior to designing the mechanism, or by requests for support from the BMCs specifying the required type of support and the market barriers it was aimed at overcoming. The majority of the SFPs were developed based on direct requests from BMCs and their needs at the time. In some cases, SFPs were identified based on fact finding desk studies carried out by CDB. The resulting recommendations were structured in potential SFPs that were discussed, adapted, and finalised with the respective BMCs. An example of such an approach is the street lighting retrofit projects, which were developed on the basis of baseline studies. Another example is the solar PV project for St. Vincent and the Grenadines (BD47/17).

None of the SFPs needed to be adapted/redesigned in terms of scope or stakeholder involvement in the course of implementation. This attests to their proper alignment with the market dynamics in the different countries and with BMC needs. Some SFPs (e.g. CSEC and SEEC) needed time extensions due to changes in fund management and COVID-19. Other instruments (e.g. the CDB GeoSmart Initiative funded by the SEF-GEF, SEF-CTF, EU-CIF and DFID-GEO) benefited from additional resources. Nevertheless, all were deemed to be well aligned and did not need improvements/adaptations in the course of their implementation.

**Finding 15: CDB ensured good coordination, complementarity, and synergies among the different SFPs and donor funds.**

The designs of the SFPs were complementary and, since managed by the REEEU, the decision on which fund was best to use for a specific project was made at the unit level. There is not much documentation on the decision-making process regarding which SFPs were used for specific projects.

At the regional level, coordination to develop SFPs and projects takes place with other development partners. This has been a learning process since CDB was not really present in the energy sector prior to 2015.

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## Innovation

The ESPS, focussed on sustainable energy investment, innovated on several levels – portfolio refocusing, programme design, and programme implementation modalities.

At the program design level, CDB demonstrated innovative financial engineering and product structuring to better tailor financial support to the needs of BMCs. For example, the SEF mechanism with IDB for the rehabilitation and reconstruction of the power grid due to Hurricane Maria in the Dominica was innovative as it included a grant convertible into a loan. The street lighting projects financed by CDB were specifically designed with OCR, CALC, as well as SEEC resources to address the need for more rapid disbursements.

CDB also became proficient in designing blended finance mechanisms. For example, SEEC was initially designed as a blended finance mechanism with a grant and loan component, which CDB had not done before in the energy sector. However, this design was later dropped due to constraints on the part of the EU. CDB started not only blending different sources of funds and different types of funding (grants, loans), but also using more innovative hybrid mechanisms (e.g. grants convertible into loans), with strong de-risking impacts on projects. Another example of the use of convertible grant is in CDB's geothermal investments. SEF was perceived as innovative by all development partners and regional organisations since it provided a grant for exploratory phases (high-risk projects) and a conversion into a loan in case of success (contingent recoverable grant) using concessional funds to avoid indebtedness for very small countries. By comparison, the IBRD only provides loans for geothermal exploration and project implementation in Saint Lucia.

Recently, CDB reorganised a dedicated unit for financing private-sector projects (Private Sector Development Unit). This is an innovation in the CDB business model, intended to drive internal processes to be able to address private-sector investment demand without adverse impacts on the loan portfolio quality.

**Finding 16:** At the program design level, CDB demonstrated innovative financial engineering and product structuring to better tailor financial support to the needs of BMCs. Some SFPs were considered to be innovative by stakeholders.

Most external stakeholders agreed that the SEF was very innovative in the way it was structured, and the overall CDB GeoSmart initiative was innovative in the way it blended funds from SEF-GEF, SEF-CTF, EU-CIF, and DFID-GEO.

It should be noted that, before the ESPS, CDB did not have instruments dedicated to projects promoting sustainable energy in its portfolio. The various SFPs created under the ESPS led CDB to brokering sources and types of funding aligned with the needs of BMCs. Hence, creating and managing several instruments to implement energy related projects was perceived by external stakeholders as innovative.

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## Timeliness of Implementation

**Finding 17:** ESPS output and outcome results were not achieved within the expected timeframe.

For certain projects studied as part of the six in-depth project analyses, output and outcome results were not achieved within the expected timeline mainly due to negotiation delays between the government and the concerned utility as well as technical challenges. COVID-19 also played a role. The output and outcome results of capacity building projects were the only ones achieved within their expected timelines.

Some project delays were identified and were due to procurement processes or technical challenges. For example, the street lighting project in Jamaica experienced significant delays partially due to procurement challenges experienced by the beneficiary JPSCo. In the geothermal drilling project, delays related to negotiations for a private-public partnership and technical challenges experienced during well drilling.

Some ESPS results (see Table 7 below) were tracked as part of CDB corporate objectives and presented annually in the Development Effectiveness Review (DER). The table below indicates that the targets were not met within the timeline foreseen in the ESPS.

*Table 7: Output Indicator Tracking*

Indicator Description	DER 2019 Actual Results 2019	Output Indicator in the ESPS	Target in the ESPS by 2019	Comments
CDB Corporate Development Outcome Level 2, Indicator 15: Conventional energy or RE power generation capacity installed (MW) - of which renewable (MW)	2.74 (of which 1.24 RE)	Clean energy for power generation and transport (MW)	5.5	The targets set in the ESPS were not met in 2019.
		RE capacity Installed (MW)	8.5 <sup>25</sup>	
SDG 7 Goal: Renewable energy as a % of total energy mix produced	11.7	RE contributes to total energy mix produced	20	The targets set in the ESPS were not met in 2019.
CDB Corporate Development Outcome Level 2, Indicator 17: Energy savings as a result of EE and RE interventions (GWh)	23.5	Energy savings as a result of EE (GWh)	20	It is not possible to state if the ESPS target related specifically to EE was met as available corporate reporting tracked both RE and EE together.

## Relations with BMCs

**Finding 18:** Relations between CDB and BMCs were favourable to the implementation of the ESPS and to the achievement of project results, although several BMCs lacked capacities to effectively follow CDB rules and procedures.

Based on survey results, relations between CDB and BMCs were rated as very good and favourable to the implementation of projects and the ESPS when BMC governments were directly involved in projects or were the direct beneficiaries. As illustrated in Figure 28 in APPENDIX 11, respondents described relations as “very good” (15%) or “good” (55%).

Although BMC stakeholders confirmed they maintain very good relations with CDB staff, they expressed concern regarding CDB’s rules and procedures that lack clarity, leading to delays in the project appraisal phase. This situation is related to the capacities of BMC stakeholders, in particular executing agencies, and was mentioned in both FGDs as an obstacle to enhanced efficiency in project development.

## Financing Gaps

**Finding 19:** The ESPS priority area promoting sector reform, good governance, and capacity strengthening was underfinanced.

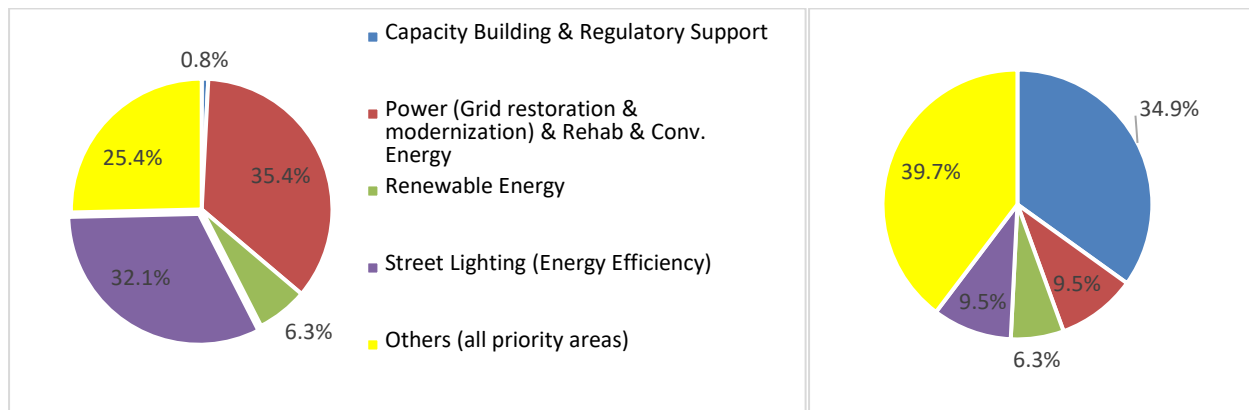
Regulatory support and capacity building have been underfinanced in the last five years. Although ESPS priority actions included sector reform and governance, not enough support was provided in this area to

<sup>25</sup> By the end of the ESPS in 2021.

address BMC capacities to implement the required energy sector reform and regulations that would have created an enabling environment for the increased development of EE and RE projects. For example, several countries still lack proper regulations to allow distributed generation using RE (e.g. allowing the installation of solar PV panels on building roofs and ensuring that surplus electricity can be sold back to the electricity distribution companies through a net-metering/net-billing scheme) or allowing IPPs to generate electricity.

Evidence suggests that not enough financing was provided for strengthening institutional capacity, promoting energy sector reform, and enhancing good governance. Figure 7 below presents investments according to project type and by priority area when possible (“Others” include Line of Credit Facility, Multiple and Project Preparation).

**Figure 7: Breakdown of Operations and Financing Resources Invested per ESPS Priority Area**



**A) Resources invested**

**b) Number of Operations**

The figures indicate that, although regulatory support and capacity building were addressed in 22 projects (34.9% of the total), they represent less than 1% of the approved amount under the ESPS, while street lighting projects captured around 32% of resources invested in only six projects (less than 10% of projects). Some stakeholders mentioned that the limited financial resources allocated to capacity building had a direct impact on the number of stakeholders that could participate in such events, hence leaving behind either certain countries or types of stakeholders. Furthermore, short capacity building events are not sufficient to engage countries in energy sector reforms; TA is also needed to assist countries that are serious about implementing reforms and new regulations.

REEEU staff perceive insufficient funding in some priority areas:

- Governance and regulatory reform have been insufficiently addressed and are a challenge to finance.
- Renewable energy investments were limited, which might be due to in part to the regulatory framework not being conducive enough as well as the inadequacy of financing instruments.
- There was scope for more investment in electricity transmission and distribution (T&D) infrastructure improvements.

Among SFPs, the CSEC tracked the amount invested by priority area. The table below indicates that the CSEC has not reached its objectives in supporting governance and regulatory projects by only investing 8% of the funds compared to the target of 36%.

Component	Target in % of Investment	% of Investment as of May 2021
Strengthened legislative and regulatory frameworks for the energy sector	36	8
Increased use of EE and RE technologies in the energy mix	N/A	45
Increased public and private-sector capacity/decision-making within the energy sector	N/A	47

Other SFPs (SEEC, SEF) included capacity building, governance, and regulatory components, but reporting was not sufficiently detailed to allow a judgement on financing adequacy.

When asked if and how the ESPS influenced the institutions responsible for setting or implementing the energy policy in their respective countries (see Figure 22 below in APPENDIX 11), over half (55%) of respondents were unable to provide an answer and 15% answered negatively; hence, only 30% of respondents believed the ESPS influenced those institutions through capacity building.

## Effectiveness

**DOES THE ESPS MONITORING AND PERFORMANCE MEASUREMENT SYSTEM EFFECTIVELY TRACK RESULTS AND WERE THE ESPS EXPECTED OUTPUTS AND OUTCOMES ACHIEVED?**

### Adequacy of Results Framework

**Finding 20:** The outputs and outcomes of the ESPS were to be achieved within a defined period (2015-2019), but the expected results as stated in the Results Framework cannot be qualified as being specific, measurable, achievable, relevant, and timebound (SMART).

In the ESPS results framework, only four of the 19 output indicators have a target that is measurable, relevant, and timebound. For the other fourteen, the results framework does not provide targets. Out of the 17 outcome indicators, no target is defined. Consequently, it is not possible to verify the achievement of most outputs and none of the outcomes.

The current CDB corporate monitoring system does not serve to track the outcome and output indicators defined in the ESPS results framework.

The indicators chosen were not always valid for the outcomes they were intended to measure. For example, the indicators linked to “Promoting Sector Reform, Good Governance and Capacity Building” are the following:

- Number of BMCs issuing RFP for energy supply;
- Number of established independent regulatory frameworks for (a)improved performance in the power sector i.e. technical, financial and (b) competitive fuel markets;
- Number of EE/RE projects approved by FIs in BMCs;
- Volume of private investment.

These do not lend themselves to an assessment of this outcome as they do not address strengthening institutional capacity.

**Finding 21: The ESPS results chain is unclear.**

The analysis of the ESPS results framework and the reconstruction of the theory of change (ToC) revealed some discrepancies between expected outcomes and planned activities. For example, the activity “Establishment of public-sector EE targets programme and benchmarks” was allocated to the “Promoting RE for more sustainable, affordable, and accessible energy and for a green energy economy” outcome in the ESPS results framework. Also, some activities mix EE and RE although expected outcomes are separated into EE and RE. For example, with “target 20 GWh by 2019”, it is not clear if it targets RE and EE or only one of them.

Results frameworks at the project level showed some shortcomings:

- Some planned outcomes were too ambitious for the size, length, and budget of projects;
- Some output level results were considered outcomes;
- Not all indicators followed SMART principles;
- Since the expected ESPS results are so broad, it was easy to link project outcomes with expected ESPS results. However, it was observed that most of the projects contributed to the achievement of the output related to energy savings and much less to the other expected ESPS results.

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## Adequacy of the Monitoring and Performance Measurement System

**Finding 22: A monitoring and performance measurement system was in place to track project level results, but there was not one for ESPS level results. The limitations of the ESPS monitoring and performance measurement system do not enable a full assessment of achieved outputs and outcomes.**

CDB uploaded some of the output indicators from the ESPS results framework to its Corporate RMF, for example installed renewable energy capacity and energy savings as a result of EE and RE interventions. This meant that some but not all ESPS expected results were tracked.

At project level, monitoring and results frameworks are developed during the appraisal phase and should be monitored during implementation. For example, for the Sixth Power Project – Solar PV Plant in Anguilla project, there were clear performance indicators and targets that were used to monitor and determine the level of achievement of outputs and outcomes. These indicators and targets were also used to measure project impacts at the post implementation stage.

During the internal FGD, participants observed that the monitoring system can be weak in measuring capacity development technical assistance, awareness, and networking activities. It is therefore difficult to verify outcome level results.

As overall results monitoring was not conducted for the ESPS framework, there is no evidence of adaptive management during ESPS implementation.



## Achievement of Outputs and Outcomes

**Finding 23:** Only a limited number of energy sector assessments and action roadmaps aimed at sectoral reform and improved governance, which had been identified as part of ESPS implementation, were used by the BMCs.

According to the ESPS, all BMCs were to conduct energy sector assessments and analyses to identify a detailed roadmap of actions for support by CDB energy sector tools, with an emphasis on sectoral reform and improved governance. Among survey respondents, only six countries out of 14 (Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, and Suriname) reported that the ESPS supported their country in conducting energy sector assessments. Those respondents characterised the quality of energy sector assessments as “very good” or “good”.

The Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) already defines an action roadmap (refer to APPENDIX 3, Road to Energy Reform for more details), but the implementation of actions has been limited. Among survey respondents, five out of 14 countries (Antigua and Barbuda, Barbados, Dominica, Saint Kitts and Nevis, and Saint Lucia) reported that they developed a roadmap aimed at sectoral reform and improved governance with the support of the ESPS. Those respondents found that the quality of the roadmaps of actions was satisfactory and characterised them as “good”. However, one respondent qualified the roadmap of actions as “poor”. All respondents who benefited from this type of support reported that some actions arising from the roadmap were implemented.

It should also be noted that the REEEU systematically performs certain sector reviews before investing in a project and uses C-SERMS and energy report cards periodically prepared by the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) for each country. CDB has signed an agreement with CCREEE to share information to inform the next ESPS.

CDB has also provided policy-based loans on energy in Trinidad and Tobago (approved but not disbursed) and Suriname (implemented). Such loans provide an opportunity to promote sectoral reforms, although the ones to date have been less directive in such reforms than would be desirable.

Focus group discussions with BMC energy sector stakeholders revealed the following with regard to factors enabling and constraining CDB facilitation of energy sector assessments and roadmaps:

- Enabling Factors
  - Accessibility to CDB technical support on demand;
  - Ownership from executing agencies;
  - Informal relations within the government;
  - Working with regional partners;
  - Popularity of RE/EE and interest from the BMCs;
  - Providing the right funding resources such as technical assistance.
- Constraining Factors
  - CDB rules and procedures lack clarity and approval periods can be long;
  - Weak capacities within executing agencies;
  - Delays related to the global COVID-19 pandemic.

**Finding 24:** Although the level of output delivery is considered high for finalised projects, the overall achievement of outputs at the aggregated ESPS level remains low due to gaps in the areas financed (resulting from a demand-led approach) and delays in implementation.

### Project Output Delivery

All expected outputs were achieved for the six investment, TA, and capacity building projects studied in depth.

*Table 8: Outputs from the Six In-Depth Projects Analysed*

Project	Outputs
Energy Audits and Partial Condition Surveys in Public Facilities - Antigua and Barbuda	Final energy audit reports for three public facilities and one public building for an RE assessment, including identified and developed EE/RE measures
Capacity Strengthening of Caribbean Utility Regulators in Grant Funding Proposal Development and Writing - Regional	Training and capacity building
Regional Certified Energy Manager Training Programme - Regional	Two-week regional CEM Training Programme completed, including two webinars, six days of classroom sessions, weekend tutorials, and one final examination
Street Light Retrofitting Project – Jamaica	Fully installed and commissioned LED lamps with associated controllers and centralised management system Climate Risk Screening (CRS) report with recommendations
Geothermal Drilling Project - Saint Vincent and the Grenadines	Three exploratory wells completed Well log and test results Stakeholder consultations on project implementation completed
Sixth Power Project – 1 MW Solar Photovoltaic Plant - Anguilla	A fully installed and commissioned 1 MW solar PV plant ANGLEC staff training Operations manuals and maintenance plan Building for inverters and transformers

### ESPS Output Delivery

For the overall ESPS, output achievements can only be assessed for the four output indicators that have specific targets:

- Energy savings in GWh: The energy savings related directly to EE projects are not tracked separately, but the energy savings together with RE energy production are reported in the DER 2019: 23,5 GWh for the period 2015-2019 which was above the ESPS target of 20 GWh;
- Installed RE capacity is tracked in the DER 2019 as a sub-indicator of the “conventional or renewable power generation capacity installed (MW)” indicator. At 3 MW, it was below the ESPS target of 8.5 MW;
- RE contribution to electricity production in %: 11.7% (from DER 2019) and 11% (from DER 2020), below the ESPS target of 20%;
- Clean energy for power generation and transport in MW is not tracked but rather an indicator for conventional installed capacity, which might not be clean energy (Indicator: “Conventional or

renewable power generation capacity installed [MW]”). The result reached was 2.74 MW<sup>26</sup> of installed capacity, below the ESPS target of 5.5 MW;

- Greenhouse gas emissions in MtCO<sub>2</sub>/annum: Reduction is estimated at 22,208 MtCO<sub>2</sub> equivalent/year.<sup>27</sup>

In the DER 2019, some target indicators were presented. For example, the “Sustainable energy policy, legal and regulatory framework, or capacity deficits addressed” indicator has a target of 10 for 2019 and a realisation rate of 190% (19 outputs). It should be noted that this indicator is neither defined in the ESPS results framework, nor included in the DER 2020.

### **Finding 25: Outcome achievement at the project level is assessed as moderate.**

**Outcome achievement was analysed at project level (see APPENDIX 7 for the six in-depth project analyses and APPENDIX 9 for FGD results):**

- According to the external FGD, out of a total of 14 projects and 24 planned outcomes, five projects already delivered a total of six outcomes.
- According to the internal FGD, out of a total of 14 projects and 24 planned outcomes, five projects delivered a total of three outcomes. Three projects are still ongoing, so it is difficult to determine the level of outcome achievement for those at this stage. CDB staff were not able to determine the impacts of projects with a component on capacity development or projects related to capacity development due to a lack of results reporting for technical assistance.
- According to the six in-depth project analyses, the level of outcome achievement was rated as high on all projects since all expected outcomes were achieved for investment, TA, and capacity building projects.

The outcome achievement at project level can be considered as moderate mainly due to delays.

### **ESPS Outcome Achievement**

ESPS outcome achievement is difficult to assess due to the following:

- The outcomes indicators defined in the ESPS Results Framework do not provide relevant information to track outcome achievement.
- The outcomes indicators defined in the ESPS Results Framework do not include targets and are not tracked.

However, some conclusions can be extracted from the available information:

- The outcome achievement at project level in addition to the financing gap found in some priority areas indicate a relatively low degree of outcome achievement.
- RE related outcomes have certainly not been reached due to the low degree of output achievement, namely installed RE capacity and RE contribution to electricity production.

*Some projects included in the ESPS portfolio lack activities to sustain outcomes and reach long-term impacts. This leads to strategic outcome achievement shortfalls at the ESPS level. Out of the six in-depth project analyses, we can highlight three examples:*

- The street lighting retrofit project in Jamaica did not include a proper energy savings measurement and verification (M&V) approach; hence, the energy savings are only determined

<sup>26</sup> DER 2019.

<sup>27</sup> DER 2020, page 54.

through engineering calculations and are not monitored. Also, the project does not include the development of an operation and maintenance plan, which could have ensured medium and long-term energy savings.

- The solar PV plant project in Anguilla did not include climate risk screening and proper adaptation measures, which could have prevented the destruction of the solar PV plant by Hurricane Erma in 2018.
- The energy audits in public facilities project in Antigua and Barbuda did not include any follow-up activities to ensure that investments were made to retrofit the buildings.

## Success Factors

**Finding 26:** Success factors for ESPS project development relate mainly to responsiveness and adaptability of CDB staff and financial resources. Challenges relate to lack of clarity on CDB procedures, delays, lack of capacity and knowledge of BMCs and executing agencies, and financial constraints.

The success and failure factors of ESPS portfolio projects were assessed during the FDGs with external and internal stakeholders, as well as in the six in-depth project analyses and interviews with external stakeholders. The results of the assessments are presented in the table below.

*Table 9: Success Factors and Challenges Related to ESPS Project Development and Implementation*

	Factor Descriptions
Success Factors	<p>Very good relations with and understanding from CDB staff, including the ability to be responsive.</p> <p>Accessibility to CDB technical support on demand.</p> <p>Ownership from executing agencies.</p> <p>Informal relations within the government also helped to mainstream interventions.</p> <p>Working with regional partners.</p> <p>Development of SFPs with other development partners.</p> <p>Clarity of financial terms.</p> <p>Providing the right funding resources at the right times. The available funding resources are appropriate. They are for providing TA and the like.</p> <p>Capacity building projects: The selection of the facilitator. The trainer was provided by a regional consulting firm familiar with the environment and challenges of the region. The selection of participants based on predetermined qualifications, and a comfortable environment for training delivery.</p>

	Factor Descriptions
Challenges	<p>CDB rules and procedures are not very clear and well explained in the guidelines provided. Sometimes, CDB takes too much time before providing feedback on certain requests or approving the procedures necessary to implement projects, which leads to significant delays in project implementation.</p> <p>Weak capacities among staff within executing agencies. Executing agencies are characterised by limited staff who are highly specialised in the sector and knowledgeable of CDB rules and procedures. High staff turnover rates not only further undermine development and consolidation of their capacities, but also consistency in project implementation and, in turn, hinder the achievement of expected results.</p> <p>Lack of specific knowledge/capacity to handle highly specialised areas or issues within the energy sector among beneficiary organisations. This mainly relates to lack of staff with specific knowledge, competencies, or education/expertise.</p> <p>Risk aversion: BMCs are not keen to borrow funds for various economic and policy reasons including debt limits.</p> <p>Crowded development space. Several lenders compete for the same pool of borrowers. Borrowers tend to choose the most attractive borrowing option.</p> <p>CDB corporate risk appetite: The funds for execution may not be made available because of perceived overly high risks in the activity.</p> <p>Difficulty in securing funding in the private sector. It is currently very difficult to fund the private sector for RE projects.</p> <p>Change of government priorities and economic situation.</p> <p>Some investments did not consider possible natural disasters such as hurricanes and projects being implemented were damaged.</p>

## Impacts

### DID THE ESPS HAVE AN IMPACT ON THE SUSTAINABILITY OF THE ENERGY SECTOR IN BMCs?

**Finding 27:** There is some evidence that the ESPS contributed to strengthening institutional capacity and energy sector frameworks in BMCs.

Survey respondents cited positive effects thanks to the ESPS in strengthening institutional capacity and frameworks for the energy sector (35%), increased social and gender inclusion in energy policies (25%) and increased environmental sustainability and climate change mitigation (25%).

It should be noted that the ESPS outcome indicators for “Promoting Sector Reform, Good Governance and Capacity Building” were not monitored, so there was no clear evidence to assess the contribution to strengthening institutional capacity and energy sector frameworks in BMCs.

The analysis of regional capacity building projects, as part of the six in-depth project analyses, confirmed that stakeholders (individuals) were trained but the impact on strengthening institutional capacity was partial since not all countries could participate, only some specific organisations per country could participate, and no TA or follow-up training was delivered to ensure continuity.

**Finding 28: The ESPS had some longer-term outcomes related to technical, economic, social, and environmental aspects within the BMCs.**

Although the ESPS and its portfolio are still relatively new, which prevents assessing long-term impacts, some direct outputs were identified mainly for investment projects, but also for capacity building and technical assistance. These will have a direct influence on energy savings, energy production, GHG emission reductions, and more informed decision-making processes in the sector, which will lead to longer-term outcomes. Some limited indirect impacts on community economic development were also traced.

The overall impact of the ESPS portfolio is difficult to evaluate for two main reasons: (a) Lack of information at the portfolio level and (b) most projects in the ESPS portfolio were finalised not long time ago or are still running. During the FGDs, participants recognised that, although some activities were delivered, the outcomes were not yet known, especially in terms of capacity development.

Some outcomes, which can be expected to contribute to longer-term impacts, were perceived as having addressed needs/issues in BMCs :

- Technical capacity and data (e.g. capacity, protocols, processes, laws). Although many projects provided TA and capacity development activities, their impacts remain unclear and difficult to prove due to: (1) lack of follow-up and monitoring of activities; (2) many activities are still ongoing, and it is therefore too early to assess them.
  - Geothermal projects: Test drilling completed with moderate results, but data and experience will build capacity. (SVG, Grenada)
  - Capacity of government increased as a result of establishing geothermal officer and liaison officer positions that did not exist prior to the ESPS, and the capacity developed still exists among government staff. (Grenada)
  - Energy audits completed in 14 public buildings provided new information on potential EE and RE for energy strategies and policies in the BMCs. (Grenada)
  - Participants trained (228). Project recently concluded. Informal networking being done but no opportunity for formal outcome assessments (regional): Technical assistance - capacity building training and certification of photovoltaic installers and electrical inspectors.
- Energy savings, energy production, and energy infrastructure – Energy savings generated by EE projects, RE energy generation, and energy infrastructure are direct outcomes of the ESPS:
  - 2 solar PV plants are under construction. (Suriname)
  - Eight kilometres of underground electricity distribution network are being installed. 11 solar hybrid systems are being installed to provide backup power for government buildings. This will lead to reduced energy consumption, fuels savings, emission reductions, and improved resilience of the electricity network. (Antigua & Barbuda)
  - Replacement of 7,500 HPS streetlights with LED lights ongoing and is expected to produce energy savings. (SVG)
  - After successful streetlight replacements under an ESPS-financed project, the government is retrofitting streetlights with counterpart funding. (SVG)
  - Streetlights to be supplied and installed. CRS procurement ongoing. This will lead to reduced energy consumption, fuels savings, and emission reductions. It is not clear if increased capacity will be achieved. (Antigua & Barbuda)
  - Upgrade of power system in Belize: Increased access to stable energy supply is expected to be achieved. This will also lead to reduced fossil fuel consumption, emission reductions by 50%, and improved resilience of the electricity network (indirect impact).
- Economic (e.g. increased benefits, promoting business, green jobs). Local economic dynamisation was detected in a community as an indirect impact as result of solar plant construction activities but not as a direct impact of the project. Lower costs of electricity generation due to the installation of RE and lower cost of energy due to EE project implementation, especially in street lighting.

- Rehabilitation of the electricity network after the hurricane. Areas to be restored are remote locations expected to be serviced by a 10 MW geothermal project. Consultant hired to look at resilience planning for generation, transmission, and distribution. (Dominica)
- As an indirect impact, the construction of PV plants relies on the local community, which is increasing the employment rates in this area, leading to an increase in economic activity within those communities. Construction is also attracting newcomers to work in the project, which is also increasing the local demand for services contributing to local businesses. (Suriname)
- Social (e.g. access to affordable energy, increase in population access to energy, improved health issues/services). No evidence of real impacts was detected mainly due to lack of monitoring and results assessment and many projects still being implemented. But it is likely that these projects will contribute to increased access to energy and improved health conditions as many involve reducing gas emissions and more stable electricity supply. In fact, many of the mapped outcomes are related to these issues. It is still too early to confirm contributions to affordable energy.
  - Rehabilitation of the electricity network after the hurricane increased energy access for the population. (Dominica)
- Environmental (e.g. increased use of green energy) – reductions in GHG emissions are likely to be achieved as many of these projects are related to building solar plants and street lighting projects.
  - All projects with outputs on energy savings and RE production will reduce GHG emissions.

## Sustainability

### HAS THE ESPS ALLOWED THE IMPLEMENTATION OF SUSTAINABLE PROJECTS IN BOTH THE PUBLIC AND PRIVATE SECTORS?

**Finding 29:** BMCs have obtained resources (concessionary and non-concessionary loans and grants) from other development partners to implement sustainable energy reforms and roadmaps under the ESPS.

While it is not clear how many reforms/roadmaps were supported by CDB either through TA or other instruments, the Summary Document on the State of Energy Policy, Legal, and Regulatory (PLR) Frameworks of BMCs prepared by CCREEE shows that the progress BMCs made in terms of establishing sustainable energy-related policies, regulations, strategies, national plans, and fiscal measures between 2015 and 2019 is far more significant than what had been accomplished in the previous decade. It can be concluded that ESPS support played a role in this.

## Private Sector

**Finding 30:** The ESPS had a very limited contribution to leveraging private-sector capital in energy-related projects.

The ESPS, as outlined in 2015, anticipated more private-sector involvement and support but underestimated the challenges, including the risk appetite that the Bank would have in dealing with the private sector. CDB is in the process of ramping up its direct involvement with the private sector. Past attempts to engage with private energy and water utilities were limited.

To date, CDB has been focused mainly on sovereign loans and the public sector. Its processes and instruments are not yet optimised to finance the private sector and leverage other private-sector investments. There has been a cautious approach to the risk involved in private-sector lending, for which its instruments

are not optimised. Given the small size of CDB, even a few non-performing private-sector loans could have a significant impact on the bank's overall risk rating and cost of borrowing.

CDB has however recognised that the private sector is key to energy market transformation and that there is a need to develop a more tailored approach to private-sector financing. In 2021, it created the Private-Sector Development Unit (PSDU) to further develop its private-sector approach and facilitate the implementation of the Private-Sector Development Policy and Strategy.

What lending there has been to the private sector has been through lines of credit to national development finance institutions that on lend to MSMEs. The PSDU is, however, evaluating different approaches to private-sector financing (project-based PPP type financing, DFI-oriented products such as the 7th consolidated line and the 8th consolidated line of credit of DFC). It is also working to define its internal credit policy (i.e. minimum and maximum transaction size, potential co-financing modalities, risk tolerance, and collaboration modalities with the REEEU).

In exploring more evolved approaches to private-sector financing including for RE/EE, there will need to be close coordination with the Chief Risk Officer to review/revise the approach to private-sector risk assessment and mitigation and careful consideration of the more diverse collateral options inherent in private-sector transactions.

Currently, risk analysis is focused on external risks to the borrower such as market risk, supply chain risk, and currency exchange risk. EE projects and demand-side distributed solar generation projects are somewhat insulated to the majority of these risks; they are mainly exposed to internal risks such as operation and maintenance, and ability of the business to maintain the current volumes. These internal risks are very easy to identify and manage and are in full control of the borrower. Supply-side RE projects also have limited exposure to external market risks, as many of the project parameters (e.g. power purchase agreements, O&M contracts) are fixed over a long period of time, but are exposed to internal risks such as equipment degradation. Consequently, the risk analysis needs to focus more on these internal risks, the majority of which are operational or contractual in nature.

**Finding 31: The ESPS has supported and facilitated only a few activities involving the private sector (including ESCOs) at the country and regional levels.**

Some examples of cooperation with the private sector were found in the project analyses:

- Regional Certified Energy Manager Training Programme: The project design allowed for scaling-up and follow-on via the expansion of capacity and increased CEM certified persons. Many participants from the private sector are actively involved in the delivery of sustainable energy projects for their organisations.
- Jamaica: JPSCo engaged a number of local stakeholders to undertake the labour activities of a project (e.g. dismantling of old lamps and installing new LED lamps) and private businesses partnered with local material suppliers.



An avenue to increasing private-sector engagement that could be explored is to work with national DFIs that on-lend to the private sector, as in the case of the dedicated EE/RE line of credit (8<sup>th</sup> consolidated line of credit) to the Development Finance Corporation (DFC) of Belize. The DFC is facilitating EE/RE projects in the private sector, especially for MSMEs, blending different sources of financing, including its own funds, an EIB credit line, and grant money from the Caribbean Community Climate Change Centre (CCCCC). Some EE/RE projects may be implemented by local Belize ESCOs. The PSDU confirmed that this credit line is the sole private-sector operation among the 63 of the REEEU portfolio. According to the PSDU, no DFIs have requested support to implement energy-related projects in MSMEs and have lately turned down a financing initiative for climate resilient MSMEs. There might be a knowledge issue among DFIs on these matters, which could also explain the little success of the Credit Risk Abatement Facility (CRAF)<sup>28</sup> launched by the Caribbean Development Fund (CDF) under the TAPSEC project more than two years ago and that has not been able to sign an agreement with a DFI (a first agreement will be signed with DFC in January 2022).

The amounts of private-sector investment triggered by ESPS are not monitored; however, it is clear that the majority of projects developed under the ESPS did not involve private stakeholders.

## Cross-Cutting Issues

### HOW HAS THE EPSP TACKLED CROSS-CUTTING ISSUES SUCH AS ENVIRONMENTAL AND SOCIAL IMPACTS AND GENDER MAINSTREAMING?

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## Environmental and Social Impacts

**Finding 32: All reviewed infrastructure projects included measures to address environmental and social impacts.**

During project appraisals the coordinator of the Environmental and Social Unit (ESU) assigns staff to screen each project for environmental, disaster, social, and climate change risks. Based on those assessments, projects are classified into four categories (A, B, C, and FI).<sup>29</sup> Projects considered as category A require full environmental and social impact assessments. Category B projects involve more limited environmental and social considerations and analysis is lighter. Based on the Environmental and Social Impact Assessment (ESIA), an environmental and social risk plan is designed and the ESU provides design and implementation support at the regional and country levels. These interventions are monitored at country level by the environmental and social specialist engaged for the implementation of environmental and social safeguards in risk plans and as part of project implementation.

All projects reviewed in the sample included specific measures to address environmental and social safeguard issues. For example, in SVG, an ESIA and Climate Vulnerability Assessment (CVA) were conducted. All safeguard requirements were met. Special curtains were erected during construction to mitigate dust dispersal to neighbouring locations during some special drilling activities. JPSCo provided a disposal plan for handling old high-pressure sodium (HPS) streetlights. CDB verified this plan on site and observed that JPSCo has facilities for handling hazardous waste material. JPSCo developed a social

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<sup>28</sup> <https://craf.org/about-craf>

<sup>29</sup> The environmental and social review procedures of CDB categorise the likelihood of having environmental and social impacts: A: High probability for adverse environmental or social impacts; B: limited adverse environmental or social impacts; C: little or no potential for adverse environmental or social impacts; FI: financing is usually through a line of credit provided by CDB.

management plan in consultation with CDB to address social issues that arose during project implementation.

## Levels of Gender Mainstreaming in ESPS Projects

**Finding 33:** Projects included gender markers, but this was not sufficient to ensure effective gender mainstreaming in ESPS projects.

As part of implementing the successive Gender Action Plans (latest 2020-2024), CDB adopted a gender marker system to grade the level of gender sensitivity in their projects. The gender marker system includes guidelines to support staff in rating projects during appraisals.<sup>30</sup> Assessments, however, do not apply to TA projects of less than USD 1 M. TA projects do not involve complex implementation settings and smaller projects (below USD 50,000) are not monitored. This does not mean that TA projects are gender neutral and cannot address gender equality issues, rather this could be considered as a missed opportunity in a region where the presence of skilled women in the energy sector is rather low. As an example, for the energy sector in 2018, less than 10% of female tertiary graduates and about 5% of Bermuda's female tertiary graduates were in engineering, manufacturing, and construction.<sup>31</sup>

CDB published a technical guidance note on integrating gender equality in the energy sector,<sup>32</sup> which provides an overview of the importance of integrating gender perspectives in energy projects. It also provides some examples of what is needed to address gender issues in the sector. However, the document does not provide specific guidance on how to mainstream gender across the project management cycle. Specific tools and step-by-step approaches are lacking to guide staff on how to ensure that gender is considered in all project development and management stages.

During the evaluation, not all reviewed project appraisal documents included gender markers since some were TA projects. In those cases where gender markers were indicated, they tended to be scored low to very low.<sup>33</sup> It was equally observed that the information provided to justify the low ratings was rather poor and unsubstantiated. The information underpinning the determination of gender markers lacked specific qualitative or quantitative information related to gender implications in the issues intended to be addressed by projects.<sup>34</sup> Additionally, gender specialists highlighted that they do not have sufficient time to ask for additional information and that they do not always receive all project appraisal documents. Thus, the low number of projects that included a gender action plan might not be attributable to the fact that they do not affect gender equality but rather a result of limited gender analysis in the appraisal process.

In the few cases where gender markers were between 2 and 4, further gender analysis is provided in annexes of appraisal documents, but some interviewees stated these were rather weak and lack statistical data and reliable information to develop adequate measures.

<sup>30</sup> As a result of applying this system, projects can be rated as no contribution to gender equality (NO) ( $0 < \text{score} < 1$ ), marginally mainstreaming ( $1.5 < \text{score} < 2.5$ ); and gender specific (GS) and gender mainstreaming (GM) ( $3 < \text{score} < 4$ )

<sup>31</sup> Women in STEM UN women UNESCO en32921.pdf.

<sup>32</sup> Integrating Gender Equality in the Energy Sector – Technical Guidance Note, 2018, CDB.

<sup>33</sup> Less than 0.25 or NO

<sup>34</sup> E.g. the nature of the project does not contribute to gender equality.

**Finding 34: Sex disaggregated data were not collected and reported systematically regardless of project type.**

Data reporting disaggregated by sex was variable:

- The CSES-C reports and TAPSEC reports provide data disaggregated by sex for all training, workshops, and other learning events. It is part of both results frameworks;
- The SEF reports include targets, but no data have been reported up to now;
- The SEEC reports do not include either targets or data;
- The EU-CIF reports do not include either targets or data disaggregated by sex, even for training activities.

For capacity building activities, sex disaggregated data are not necessarily required or reported. However, consultants involved in implementation do collect and report data disaggregated by sex.

**Finding 35: While project monitoring reports include a section stating progress on implementing environmental and social safeguards, gender equality measures are monitored separately as part of standalone projects.**

Gender issues detected in project appraisals are only properly monitored if there is a gender action with the funds to implement them mobilised through other financing mechanisms. As a result, the implementation of gender action plans tends to remain as a standalone action weakly linked to project interventions such as with the project Gender Action Plan for JPSCo in Jamaica or Gender Action Plan for grid reconstruction and renewable energy generation in Antigua and Barbuda.

Gender action plans are implemented through Project Implementation Units and managed by social and community liaison officers. They are monitored, but not as part of ESPS projects or ESIA plans, which further contributes to creating standalone actions and poor gender sensitive project reporting.

Despite the growing interest in gender issues among CDB staff working in the energy sector, gender related skills, levels of awareness, research, and engagement remain low. Additionally, limited tools and guidelines are available to incorporate gender mainstreaming in the project management cycle. As a result, project documents at the appraisal, implementation, and monitoring stages tend to be gender blind.

# 4 Conclusions

The ESPS was the first energy strategy and policy developed by CDB, leading it to support sustainable energy projects since 2016 and become a key player in the Caribbean energy sector.

**Conclusion 1 – Relevance and Role of CDB:** The ESPS was relevant in 2015 and is still very much so today given the needs and opportunities in the regional energy sector. The design of the first ESPS was informed by a baseline study conducted by CDB on regional initiatives already in place. No regional organisation, donor, or BMC participated in the design or review of the ESPS. Although the level of engagement in the development of the 2015-2019 ESPS among stakeholders in BMCs was minimal, direct beneficiaries perceived that ESPS priorities/objectives addressed their main needs. National and regional stakeholders as well as development partners expressed interest in being engaged in the development of the next ESPS and would add value by bringing complementary experience and market knowledge.

**Conclusion 2 – Innovation in engaging partners and brokering blended finance:** The ESPS launched CDB into an important regional development space and facilitated the engagement of diverse development partners to broker the financing of joined up initiatives, and to deploy financial instruments that appropriately blended market rate, concessional, and conditionally repayable financial elements. Stakeholders and partners recognised this innovative effort.

**Conclusion 3 – Donor Coordination:** There is room for better regional donor coordination and cooperation to align initiatives and promote efficient information sharing and use of resources and expertise. Since CDB is the only funder (other than GIZ) that has a regional approach to supporting BMCs, regional organisations and development partners expect CDB to be a leading facilitator. There is scope to work more closely with regional organisations that have technical capacities and expertise in the energy sector, including CCREEE, CARILEC, CROSQ, and of course the CARICOM Energy Unit. This would allow CDB to focus on financing and technical assistance, avoid overlaps, and better support regional initiatives and projects.

**Conclusion 4 – Regulatory Frameworks and Country Capacity:** While the ESPS recognised the importance of improved regulatory frameworks and enabling environments and mobilised some technical assistance in support of that objective, this area was underfinanced relative to others and made limited progress over the review period. A renewed ESPS would need to be more focused on increasing the robustness of BMC institutional capacity to regulate their energy sectors, which in turn will ensure more sustainable initiatives and project implementation from BMCs.

**Conclusion 5 – Results Monitoring and Verification:** For the project sample studied by this evaluation, most planned outputs, and some outcomes, were achieved, albeit with delays. For the Strategy as a whole, the 2015 Results Framework (RF) included four indicators with targets. One (energy efficiency) reached the originally stated level of ambition, and three (installed RE capacity, RE as a percentage of generation, newly installed clean energy for power generation and transport) did not. The remaining 11 indicators from the 2015 RF did not have targets and could not be verified. Tracking and reporting on results that summed from project to SFP and then to ESPS was not possible given insufficient alignment of results frameworks between those levels as well as limitations in the Bank's Management Information System. The advent of OP365, greater attention to coding of EE/RE project components in that system, and revised ESPS and SFP results frameworks that include SMART indicators offer the prospect of improved results reporting going forward.

**Conclusion 6 – CDB Institutional Arrangements and Reporting:** The creation of the REEU provided profile for CDB as it ramped up its engagement with the regional energy sector. The Unit did however have limited human resources relative to the ambitions of the ESPS, with implications for the scale of operation

and achievement of ESPS targets in some priority areas, and sometimes delaying reporting to development partners. The amount of reporting required across projects and SFPs is substantial and sometimes duplicative. There is scope to streamline this reporting effort, which could economise on the use of limited staff resources and also give a more coherent overall picture of programme activity. Funding partners would have to be prepared to accept common reporting instead of tailored individual ones.

Strategic cooperation with regional organisations such as CCREEE, and use of consultancy could help offset limited REEEU human resources. Finally, there is scope for more rigorous consideration of mainstreaming RE/EE in non-energy sector projects of the Bank, through for example mandatory screening for RE/EE opportunities at the planning/appraisal stage.

**Conclusion 7 – Private Sector Engagement:** To date, the Bank's has met with limited success in engaging private actors in energy sector investment. This has been due in part to the nature of its own lending instruments, and in part to slow progress in national enabling environments for RE/EE. Policy-based lending to address energy sector enabling environment and regulatory issues took place on a limited scale over the review period but offers opportunity for facilitating reform leading to increased private investment in future. Currently, risk analysis is focused on typical external business risks (market related). RE/EE projects are more exposed to internal risks such as operation and maintenance, ability to maintain the current business volumes, and equipment performance. Consequently, the risk analysis needs to understand better and focus more on these internal risks, the majority of which are operational or contractual in nature.

**Conclusion 8 – Gender Equality:** There is a need for greater consideration of gender equality in project implementation and monitoring. Gender action plans and the gender marker system proved to be insufficient to ensure gender mainstreaming in investment and technical assistance projects over the review period, notwithstanding recognised gender gaps in the energy sector. There is interest in gender issues among CDB staff and an opportunity to enhance gender mainstreaming at the strategy and project levels going forward.

# 5 Recommendations

Based on the evaluation findings and conclusions, the evaluation offers six recommendations to be taken into consideration for the development, design, and implementation of a renewed ESPS.

**Recommendation 1: CDB should consult with regional stakeholders and development partners in the design of the next ESPS since they would add value and ensure coherence with other regional or national initiatives. CDB should consider taking on a more explicit leadership role for cooperation in the regional energy sector and outline that intention in the next ESPS. It should also deepen its engagement with select regional energy sector organisations.**

Development partners, especially GAC, FCDO, and GIZ (Canada, the UK, and Germany are CDB non-borrowing members), and regional organisations including CCREEE, CARILEC, OECS, and the CARICOM Energy Unit have interest in being consulted in the design and review of the next ESPS. The IDB, EU and others could also be engaged.

Increased engagement from regional actors such as CCREEE (with which CDB has recently formalised a cooperation agreement) could be sought for project identification and preparation (CCREEE has a project preparation facility) to prepare bankable projects and foster private-sector innovation (public-private partnerships, or PPPs, for example). The same could be accomplished with CARILEC to enable CDB to work more closely with utilities and IPPs and ensure a more cohesive approach through IRP. A closer relationship with CROSQ would ensure that CDB support is more coherent with EE regulations, standards and labels, and building codes. As appropriate, these could be mainstreamed in all CDB supported infrastructure projects.

**Recommendation 2: The next ESPS should bring renewed focus to strengthening BMC institutional governance, regulatory frameworks, and capacities to facilitate increased investment in sustainable EE/RE projects and climate resilient energy infrastructure.**

Enhanced support in these areas will improve BMC capacities to put in place the required energy sector reforms, regulations, and enabling environment for EE and RE projects. For example, several countries still lack proper regulations to allow distributed generation using RE and IPPs to generate electricity, thus limiting the engagement of the private sector. A key consideration is infrastructure resilience in the context of climate change and increasing natural hazards.

The ESPS should also realistically address the capacity limitations of countries to implement projects. Design activities should take into consideration capacity in BMCs and include adequate time for project implementation.

**Recommendation 3: CDB should reconsider how to best manage and report on results for its energy sector programming and set out a clear intended approach in the new ESPS. Output and outcome indicators at project, SFP, and ESPS levels should be aligned, coherent and SMART. Elements of a strengthened results approach should include:**

- Ensuring that all projects are properly coded for their energy sector content in OP365, even where only some project components are energy related (for example RE/EE in a school construction project).
- Ensuring that output and outcome statements in project and SFP results frameworks have valid corresponding SMART indicators with appropriate baselines and targets.
- Proposing an overall ESPS results frameworks that adequately measures expected results for the next strategy period and is feasible to collect data and report on. It will be important to choose a manageable set of outcomes and indicators that are valid and SMART. A decision can be made about reporting frequency - either annually or at the end of the next ESPS cycle.

**Recommendation 4: To facilitate donor coordination and better use limited REEEU staff capacities, CDB should increase its cooperation with regional organisations, and encourage development partners to accept consolidated progress reporting on all SFPs and projects to save time and better track ESPS outputs and outcomes.**

Increased cooperation with regional actors such as CCREEE (with which CDB has recently formalised a cooperation agreement) could be sought to identify bankable projects, foster private-sector innovation, and free up time from REEEU staff for project appraisals and monitoring. Also, the strategic use of consultancy services on specific topics such as geothermal energy and other less common technologies or processes could provide welcome support to REEEU staff.

The REEEU prepares bi-annual reports for the SEEC, CSES-C, and SEF as well as annual reports for the EU-CIF, among others. Several projects benefit from resources from different SFPs and are thus presented in several of these reports. This creates some confusion when a third party tries to follow the progress of a specific project and leaves room for double counting project results. The REEEU should be authorised to prepare single semi-annual progress reports consolidating progress on all SFPs and projects to:

- Allow the REEEU to optimise its resources, reduce report preparation efforts, and dedicate more time to project appraisal and monitoring
- Centralise information and provide better clarity on individual project progress since several use blended finance from different SFPs
- Avoid double counting project results
- Provide more transparency on ESPS results.

**Recommendation 5: The next ESPS should bring greater emphasis to the crowding in of private-sector energy investments. It should address possibilities for flexible financing approaches to facilitate engagement of the private sector, as well as the use of policy-based lending to encourage strong enabling and regulatory environments.**

**The REEEU should collaborate with the PSDU in the design and deployment of private-sector programmes that are aligned with the ESPS, promoting the inclusion of RE/EE components whenever possible. It should also work with the Chief Risk Officer to identify, quantify and describe risks specific to RE/EE investments, as well as the Bank's appetite to take them on.**

There is also potential to make more use of national Development Finance Institutions (DFIs) and their capacity to leverage and aggregate private-sector investments. DFIs have substantial experience in lending to the private sector but may have limited experience in green EE/RE finance. The ESPS could explore opportunities to support DFIs to prepare bankable projects and trigger more private-sector involvement and innovation. The REEEU should collaborate with the PSDU to identify EE/RE investment opportunities as

part of lines of credit to DFIs, enhancing the capacity of DFIs to reach private-sector beneficiaries, including SMEs as well as supporting smaller projects and entities with lower transaction costs.<sup>1</sup>

**Recommendation 6: The energy sector presents unique opportunities for the advancement of gender equality in a number of areas, including greater female participation in STEM disciplines and the labour force; better household energy security and labour saving; and even enhanced personal security through better public lighting. A renewed ESPS should emphasise opportunities and outline expected results for gender equality over the strategy period and provide guidance for greater mainstreaming of gender equality in energy sector projects. This emphasis should extend to TA projects, which can provide targeted approaches to more gender equal participation in the sector.**

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<sup>1</sup> An interesting example that CDB might learn from is the ADF SUNREF (Sustainable Use of Natural Resources and Energy Finance). It consists of a green credit line in which loans are allocated to local partner banks for onlending, and free technical assistance is provided to partner banks and their clients.



## APPENDIX 1 MANAGEMENT RESPONSE

The evaluation of the Bank’s Energy Sector Policy and Strategy (ESPS) by OIE was carried out with strong collaboration and discussion with the Sustainable Energy Unit (SEU) which had the main responsibility for overseeing the implementation of the ESPS since 2015. Therefore, the recommendations which emanated from the evaluation were generally reflective of matters which were discussed during the process and which benefitted from clarifications, hence, in general, the recommendations were accepted. Three overarching areas for attention have emerged for focus going forward towards CDB achieving greater impact in the sector. These are: increasing funding for private sector energy projects; improving the governance framework; and improving gender equality in the sector (where the need is more pronounced than for other sectors). Two of these areas will require strong inputs within the frameworks of the Bank’s gender equality policy and operational strategy, and the private sector strategy, for successful implementation of the recommendations. Intensification of the collaborations among the Divisions and the SEU will be encouraged.

Recommendations	Management Comments (Accepted/ Accepted but Modified/Rejected)	Commitments / Actions	Responsibility Centre	Target Completion Date (Y/M/D)
<p><b>Recommendation 1:</b> CDB should consult with regional stakeholders and development partners in the design of the next ESPS since they would add value and ensure coherence with other regional or national initiatives. CDB should consider taking on a more explicit leadership role for cooperation in the regional energy sector and outline that intention in the next ESPS. It should also deepen its engagement with select regional energy sector organisations</p>	<p>Accepted</p>	<p>To implement stakeholder workshop in revising the ESPS.</p> <p>This approach has already been adopted in the process of revising the ESPS. On January 31, 2022, a wide stakeholders’ consultation workshop was convened by CDB to secure feedback and input to the process.</p>	<p>Sustainable Energy Unit (SEU)</p>	<p>Already commenced</p>

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Recommendations	Management Comments (Accepted/ Accepted but Modified/Rejected)	Commitments / Actions	Responsibility Centre	Target Completion Date (Y/M/D)
<p><b>Recommendation 2:</b> The next ESPS should bring renewed focus to strengthening BMC institutional governance, regulatory frameworks, and capacities to facilitate increased investment in sustainable EE/RE projects as well as resilient energy infrastructure in the context of climate change and disaster management.</p>	<p>Accepted</p>	<p>This matter of strengthening BMC institutional governance, regulatory frameworks, and capacities has been identified and targeted for support in the SDF-10 Programming.</p> <p>Going forward, and in collaboration with partners Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), CARICOM Secretariat (CCS), Organisation of Eastern Caribbean States (OECS), Organisation of Caribbean Utility Regulators (OCCUR) and Caribbean Electric Utility Services Corporation (CARILEC), a more programmatic approach will be adopted to complement an intensity to the demand driven approach – based on increasing awareness in BMCs.</p>	<p>SEU</p>	<p>2022/Sept</p>
<p><b>Recommendation 3:</b> CDB should reconsider how to best manage and report on results for its energy sector programming and set out a clear intended approach in the new ESPS. Output and outcome indicators at project, Special Funds and Programmes (SFPs), and ESPS levels should be aligned, coherent, and SMART with appropriate baselines and targets. All projects should be properly coded for their energy sector content in OP365, even where only some project components are energy related.</p>	<p>Accepted</p>	<p>This approach will be reflected in the revised ESPS.</p>	<p>CSD  SEU OP365 Team</p>	<p>2023/06</p>

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Recommendations	Management Comments (Accepted/ Accepted but Modified/Rejected)	Commitments / Actions	Responsibility Centre	Target Completion Date (Y/M/D)
<p><b>Recommendation 4:</b> To facilitate donor coordination and better use limited REEEU staff capacities, CDB should increase its cooperation with regional organisations, and encourage development partners to accept consolidated progress reporting on all SFPs and projects to save time and better track ESPS outputs and outcomes.</p>	<p>Accepted but modified</p>	<p>Efforts will be made to establish a common framework; however it is recognised that the proposed harmonised reporting framework may not be feasible for many of the multi-year programmes being pursued with partners, since these may be too far along the implementation timeline to be changed at this stage.</p> <p>CDB can develop and propose a framework, for initial discussion among partners. This would be used as a basis for future engagements.</p>	<p>SEU CSD</p>	<p>2024/12</p>
<p><b>Recommendation 5:</b> The next ESPS should bring greater emphasis to the crowding in of private-sector energy investments. It should address possibilities for both more flexible financing approaches to facilitate engagement of the private sector, as well as the use of policy-based lending to encourage strong enabling and regulatory environments. The REEEU should collaborate with the Private Sector Development Unit in the design and deployment of private-sector programmes that are aligned with the ESPS, promoting the inclusion of RE/EE components whenever possible. It should also work with the Chief Risk Officer to identify, quantify, and describe RE/EE specific risks as well as the Bank’s appetite to take them on</p>	<p>Accepted</p>	<p>This recommendation aligns with the strong observation by SEU based on experience in implementing the ESPS-2015, that crowding in the private sector is critical for CDB to make impactful contributions in the energy sector.</p> <p>The steps taken by the Bank to revamp the private sector strategy is a key step to facilitating the recommendation.</p> <p>Also, resource mobilisation efforts in this area have commenced, with the energy sector identified as a key beneficiary.</p> <p>Bank urge and facilitate necessary internal collaboration around identifying and mitigating risks in providing funding to the private sector.</p>	<p>SEU PSD OVPO ORM</p>	<p>2022/12</p>

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Recommendations	Management Comments (Accepted/ Accepted but Modified/Rejected)	Commitments / Actions	Responsibility Centre	Target Completion Date (Y/M/D)
<p><b>Recommendation 6:</b> The energy sector presents unique opportunities for the advancement of gender equality in a number of areas, including greater female participation in STEM disciplines and the labour force; better household energy security and labour saving; and even enhanced personal security through better public lighting. A renewed ESPS should emphasise opportunities and outline expected results for gender equality over the strategy period and provide guidance for greater mainstreaming of gender equality in energy sector projects. This emphasis should extend to TA projects, which can provide targeted approaches to more gender equal participation in the sector</p>	<p>Accepted</p>	<p>CDB will explore and implement innovative approaches to improve gender balance in the energy sector by strengthening governance frameworks and supporting interventions which promote and facilitate greater gender inclusions.</p> <p>The challenge in this area has been particularly persistent. It is recognized that there are benefits to be derived through strategic partnerships in addressing the challenge. The Bank has commenced working with key energy sector partners in this regard, viz: CARILEC and CCREEE.</p> <p>Therefore, going forward, in the context of the revised ESPS, CDB will emphasize opportunities and outline expected results for gender equality over the strategy period and provide guidance for greater mainstreaming of gender equality in energy sector projects, also including this focus in TA projects. It is accepted that this can provide targeted approaches for more gender equal participation in the sector.</p>	<p>SEU SSD</p>	<p>2022/09</p>

## **APPENDIX 2 TOR OF THE EVALUATION**

### **CONSULTANCY SERVICES FOR THE ENERGY SECTOR POLICY AND STRATEGY EVALUATION**

#### **1. INTRODUCTION**

1.01 The Office of Independent Evaluation (OIE) Five-Year Plan includes sector, thematic, and policy evaluations to inform Board and Management decision making.<sup>1</sup>

1.02 This evaluation of the ESPS aims to provide credible and reliable information on CDB's performance in the energy sector during the 2015-20 period to enable lessons and recommendations to be drawn that may be used to improve the development effectiveness of the Bank's future strategies and programming.

#### **2. CONTEXT AND BACKGROUND**

2.01 The Caribbean Region, for the most part, is facing intense pressures in realising its legitimate development aspirations. The goals of poverty reduction and ultimate eradication, economic enfranchisement to end the scourge of intergenerational hardships in an environment that is more stable and secure, seem particularly challenging. Recent data suggest that approximately 1 in 5 persons still live in poverty.<sup>2</sup> The impact of climate change (CC) given the Bank's Borrowing Member Countries' (BMCs) acute vulnerabilities has been severe<sup>3</sup> and in many instances, expose and exacerbate the huge infrastructure gap in the Region.<sup>4</sup>

2.02 Although the energy situation is not uniform across BMCs in respect of market size, structure, resource potential, and the net energy position<sup>5</sup>, there are some common challenges. The first and most significant is with respect to energy security. This is primarily due to over-reliance<sup>6</sup> on imported high-cost fuel (oil), unaffordability, and price instability. The second common challenge is the lack of long-term sustainability of primary fuel sources i.e., fossil-based fuels (oil or natural gas). Thirdly, energy sector governance needs to be improved to facilitate and attract the required timely investments for a diversified and affordable energy matrix based on indigenous resources. In a few BMCs, energy poverty or lack of access to clean and modern energy forms is also a challenge.<sup>7</sup>

2.03 The international consensus around the sustainable development paradigm as the prevailing development model has triggered a transition in the energy sector globally, emphasizing sustainable energy (SE) resources and climate resilience. As a result, there is now a growing trend towards the adoption and use of more efficient, clean, and renewable energy (RE) technologies and a shift towards distributed models

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<sup>1</sup> CDB Evaluation Policy.

[http://www.caribank.org/wpcontent/uploads/2016/03/BD126\\_11EvaluationPolicyforCDB\\_FINAL.pdf](http://www.caribank.org/wpcontent/uploads/2016/03/BD126_11EvaluationPolicyforCDB_FINAL.pdf)

<sup>2</sup> The Changing Nature of Poverty and Equality in the Caribbean: New Issues, New Solutions. CDB 2017.

<sup>3</sup> During the period 2000-2017, hydro-meteorological and geophysical hazards affecting 13 of the Bank's borrowing members resulting in loss and damage estimated at \$27 billion (bn).

<sup>4</sup> CDB's Strategic Plan 2020-2024.

<sup>5</sup> All BMCs except Trinidad and Tobago are net energy importers; however, some produce oil such as Suriname, Belize, and Barbados, and now Guyana with the latter producing both oil and natural gas.

<sup>6</sup> Over 90% of net energy importing (NEI) BMCs' commercial power is imported oil and derivatives.

<sup>7</sup> Extracts from ESPS, March 2015.

of power generation at the global level. This has stimulated an increased supply of these clean energy (CE), RE, and energy efficiency (EE) technologies to the point where significant reductions in prices over the last five years have resulted in further expansion in their use. These developments are particularly relevant to BMCs in light of their energy sector challenges. All BMCs have vast RE resources, with less than 1% of the existing potential harnessed. By safely harnessing these RE resources, BMCs can achieve a cleaner, more diversified, and affordable energy matrix.<sup>8</sup>

2.04 The 2015 ESPS focuses on four priorities areas: (i) promoting Energy Efficiency (EE) for more affordable and stable energy costs and establishment of a green economy; (ii) promoting Renewable Energy (RE) for more sustainable, affordable, and accessible energy, and a green energy economy; (iii) promoting energy infrastructure to provide cleaner and more reliable power supply; (iv) promoting sector reform, good governance, and capacity strengthening.

### 3. EVALUATION SCOPE

3.01 The evaluation will assess CDB's ESPS, and the portfolio of investments and technical assistance that has taken place pursuant to it over the period 2015 to 2020. It will focus particularly on the four prioritised areas of investment:

- Renewable energy
- Energy efficiency
- Energy infrastructure
- Sector reform, good governance and capacity strengthening

3.02 The ESPS results framework (Appendix 1) sets out output and outcome indicators, targets, and assumptions for these four areas, and will form the basis for the assessment.

3.03 The portfolio of investment and technical assistance projects directly funded by CDB that will be considered the ESPS portfolio and within the scope of this evaluation is attached as Appendix 2. Energy sector facilities funded by other donors but executed by CDB will also be within scope. These include the SEEC, SEF, CIF-GRMP. Where prior evaluations of these facilities have been done, they will inform this evaluation and its portfolio sampling strategy.

3.04 As well, the evaluation will assess CDB's:

- revised institutional arrangements to deliver in these new programme areas
- outreach to BMCs and the extent to which it has positioned CDB as a “key energy sector development partner”
- success as an intermediary in mobilising resources for its BMCs from outside the region
- ability to engage with the private sector and adapt its institutional arrangements to enhance private sector participation in the energy sector.

3.05 In addition to assessing the performance of the ESPS over the 2015-2020 period, the evaluation will present lessons and recommendations for an updated ESPS and for the future programming.

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<sup>8</sup> Extracts from ESPS, March 2015.

#### 4. EVALUATION QUESTIONS AND METHODOLOGY

4.01 The evaluation questions will have a primary application to the ESPS results framework (Appendix 1) and consider the results framework of relevant SFP. The evaluation consultants may reconstruct a Theory of Change (ToC) as necessary to help identify plausible causal relationships between inputs, activities, and the expected outputs, outcomes, and development impacts.

4.02 In addition to assessing the performance of ESPS, the evaluation will present the key issues and lessons for the future and corresponding recommendations.

4.03 Finally, the evaluation will assess CDB's capacity to prepare projects, be responsive to client needs, carry out procurement and supervision, policy dialogue, coordinate aid, and adhere to its policies.

4.04 Formal performance ratings will not be required in this evaluation. Instead, areas of strength and weakness, lessons, and opportunities for improvement will be identified.

4.05 A draft set of questions are presented below, which will be confirmed during the inception phase.

4.06 This evaluation will examine four overarching questions relating to two main units of analysis – the 2015 ESPS, and the portfolio of investment projects and TAs influenced by it:

- A. To what extent did the ESPS contribute to policy and regulatory improvement in the regional and national energy sectors?
  1. Whether the 2015 ESPS appropriately analysed energy sector challenges in the Region, and identified the appropriate focus for the Bank to adopt in addressing them.
  2. The extent to which ESPS was able to facilitate energy sector assessments in BMCs and identify detailed roadmaps of action for support by CDB energy sector tools, with emphasis on sector reform and improved governance.
  3. The extent to which the ESPS was able to facilitate energy sector assessments in BMCs to identify detailed roadmaps of action for support by CDB energy sector tools, with emphasis on sector reform and improved governance.
  4. The extent to which ESPS strengthened institutional capacity and frameworks for the energy sector in BMCs.
  
- B. To what extent did CDB position itself as a key energy sector development partner in its BMCs?
  1. The extent to which CDB was able to serve as a catalyst for attracting concessionary resources to the Region and as an intermediary for financial and technical assistance resources for BMCs.
  2. Whether ESPS was able to facilitate the private sector's engagement to stimulate investment and support resilience in the energy sector.
  3. Whether ESPS took proper account of the potential for complementarity and cooperation with other players.
  4. Can lessons be learned from the approach of other Development Banks?

- C. To what extent did CDB make appropriate internal institutional adaptations to deliver on the commitments of the ESPS?
1. The extent to which CDB adapted its priorities, internal capacity, and processes to support the energy sector
  2. The extent to which CDB was able to create and deploy appropriate and innovative instruments to address the needs of BMCs
  3. Whether an adequate alignment of country strategies with the ESPS occurred
  4. Whether an appropriate monitoring and evaluation system provided useful and reliable information for tracking progress and for adaptive management
  5. Whether, as outlined in the ESPS, complementary instruments including the CTCS and BNTF were mobilised in support of the Strategy.
- D. To what extent did the portfolio of investment projects and TAs inspired by the ESPS achieve their desired results?
1. Whether the ESPS results framework was appropriate.
  2. What have been the results of the portfolio of investments and TAs in transforming the energy sector?
  3. To what extent have the portfolio of investments and TAs met its output and outcome targets?
  4. What factors explain the success or the failure of the portfolio of investments and TAs?
  5. To what extent did the portfolio of investments and TAs respect CDB's environment and social safeguards, and gender equality policy?
  6. Are achievements of the portfolio of investments and TAs likely to be sustained after funding ends? Have national systems been strengthened? What are the critical risks, and how will they be mitigated?

## 5. EXECUTION

5.01 The evaluation exercise will be structured around the following three main phases:

- (a) *Document Review*: To answer the evaluation questions, an evaluation team will gather evidence from various sources. A desk review will include the analysis of publicly available documents of the ECC governments and other multi-lateral institutions, as well as relevant Bank documents related to the ESPS, including but not limited to strategic planning and policy documents, previous evaluations, country strategy papers, appraisals, progress monitoring reports, and project completion reports).
- (b) *SFP review*: To assess the extent and quality of the ESPS, the evaluation will review a sample of SFP implemented during the period 2015-20.
- (c) *Data collection*: The data collection phase will include data gathering from relevant stakeholders through interviews, focus group discussions, and surveys. Due to the spread of COVID-19 and travel restrictions, the evaluation will consider alternative/complementary data collection methods to avoid traveling and ensure stakeholders' protection and safety.

5.02 The Consultant Team will be expected to design and implement a robust evaluation drawing from recognised good practice standards. A theory-based approach would be useful to identify ESPS's intended outcomes and logic chains. Theory development will be undertaken at the inception stage of the evaluation.



- 5.03 The following guidelines should be considered for developing the ESPS evaluation methodology:
- (a) Specific evaluation questions, derived from the general questions outlined in Section 4, will be developed in consultation with OIE.
  - (b) A methodology that makes the best use of existing secondary data and devises efficient means of primary data collection to support findings and conclusions will need to be developed. It should be based on the overall ESPS and an adequately representative sample of SFP to assess Bank performance over the period.
  - (c) Document review, including CDB and other multi-lateral institutions, Country Strategies, related evaluations by OIE and other evaluation offices, and available portfolio documentation (appraisal reports, PSRs, PCRs, PCVRs) will be a starting point.
  - (d) The data collection phase will include data gathering from relevant stakeholders through interviews, focus group discussions, and surveys. Due to the spread of COVID-19 and travel restrictions, the evaluation will consider alternative/complementary data collection methods to avoid traveling and ensure all stakeholders' protection and safety.
  - (e) Formal ratings of criteria and Bank performance on a Likert scale will not be required in this evaluation. Instead, areas of strength and weakness, lessons, and opportunities for improvement will be identified.

## 6. REPORTING REQUIREMENTS / DELIVERABLES

- 6.01 The evaluation consultants shall provide the following documents and reports to OIE:
- a. *Deliverable 1- Inception Report*: The inception report will be based on an initial review of documents and discussions with Bank staff and will include a full evaluation design including overall approach (including ToC if required); specific evaluation questions; methods; sampling, data collection, and analysis plan; draft interviews and/or survey instruments; measures to ensure ethical conduct and confidentiality; and timeline of activities. The inception report should include an evaluation matrix. Comments from OIE will be provided within two weeks of submission.
  - b. *Deliverable 2 – Findings and Conclusions Report*: The findings and conclusions report will contain the initial compiled, organized, and analysed evidence from the document review, portfolio analysis, interviews and surveys, and field visits. Comments to be provided by OIE within two weeks of submission.
  - c. *Deliverable 3 - Draft Final Evaluation Report*: (maximum 40 pages minus annexes) to include validated findings and conclusions, and will present lessons and recommendations, and a strategy for dissemination. Comments from OIE to be provided within two weeks of submission.
  - d. *Deliverable 4 - Final Evaluation Report*: The final evaluation report will include an executive summary (no longer than six pages) and an accompanying PowerPoint presentation summarising highlights of the evaluation.

## 7. ASSIGNMENT TIMEFRAME

7.01 A multi-disciplinary evaluation team will require a level of effort of approximately 130 person-days.

7.02 The evaluation is expected the review will commence in May 2021, and the submission of the final report in November 2021.

7.03 The proposed timeline is summarised as follows:

### Project Timeline

ACTIVITY	DATES
Approach Paper	March 2021
Proposal Call	April 2021
Contract	May 2021
Document Review and Inception	May 2021
Data Collection	June – Sept. 2021
Draft Findings and Validation	Sept. 2021
Final Report	Nov. 2021

## 8. EVALUATION TEAM QUALIFICATIONS

8.01 The process review team or individual should command the following expertise:

- (a) Experience in the design and conduct of evaluations, particularly of policies and strategies
- (b) Experience in the energy sector
- (c) Experience working with multilateral banks and government clients.
- (d) Knowledge of development issues in the Caribbean
- (e) Strong inter-cultural communication skills in English
- (f) Ability to integrate qualitative and quantitative data
- (g) Strong report writing and presentation skills ability and experience in communicating concepts using non-technical language to diverse audiences
- (h) Ability to work in an iterative, collaborative, team approach; and give and receive constructive feedback.

## 9. MANAGEMENT OF THE EVALUATION

9.01 The consultants will report to CDB's Office of Independent Evaluation (OIE), providing overall direction, guidance, and deliverables approval. The OIE will convene an Advisory Group of principal stakeholders from the Operations area of the Bank for this evaluation. The Group will provide feedback on the scope of work, evaluation design and work plan, findings, and draft reports.

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Expected Outcomes	Outcome Indicator	Output	Output Indicator	Activities	Assumptions
<p>Promoting EE for more affordable and stable energy costs, and for establishment of a green economy</p> <ul style="list-style-type: none"> <li>Improved EE in all sectors and in supply of energy</li> <li>More affordable and stable energy costs in BMCs.</li> </ul>	<ul style="list-style-type: none"> <li>Electricity cost (\$/kWh)/GDP per capita</li> <li>Energy Intensity (BOE/USD mn GDP).</li> <li>Sector (agriculture, water, manufacturing) energy intensity (BOE/USD Output)</li> <li>Fuel Import Bill as % of Total imports; or GDP</li> </ul>	<ul style="list-style-type: none"> <li>Investments in RE and EE.</li> <li>Energy Savings.</li> <li>Resource mobilisation for EE.</li> </ul>	<ul style="list-style-type: none"> <li>GWh and USD per year savings. <b>Target 20 GWh by 2019</b></li> <li>Finance leveraged for investment (USD mn).</li> <li>No of MSMEs benefitting from EE interventions</li> </ul>	<ul style="list-style-type: none"> <li>Establish LOCs to support Pvt Sector EE/RE projects.</li> <li>Develop SFPs in response to niche opportunities</li> <li>Establish EE &amp; RE Programme for Public Sector (finance &amp; TA).</li> <li>Establish and Operate GE Facility.</li> <li>Develop and implement street lighting programme (finance &amp; TA).</li> </ul>	<ul style="list-style-type: none"> <li>Gov'ts remain committed to pursuing RE and EE.</li> <li>Pipeline of projects will be identified in 1<sup>st</sup> phase TDEP</li> <li>Oil prices remain at a level which makes investments viable</li> </ul>
<p>Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy</p> <ul style="list-style-type: none"> <li>Increased diversification of energy matrix using RE Options</li> <li>More affordable and stable energy costs along with increased reliability of system in BMCs.</li> <li>Reduction of Energy Poverty in remote communities.</li> <li>Increased contribution of green energy industry to economic output.</li> </ul>	<ul style="list-style-type: none"> <li>Electricity cost (\$/kWh)/GDP per capita</li> <li>Energy Intensity (BOE/USD mn GDP).</li> <li>Sector (agriculture, water, manufacturing) energy intensity (BOE/USD Output)</li> <li>Fuel Import Bill as % of Total imports; or GDP</li> <li>% of households with access to electricity &amp; clean fuels.*</li> <li>Energy cost as % of household expenditure.</li> <li>% contribution of green industry to GDP.</li> </ul>	<p>Resource mobilisation for RE.</p> <ul style="list-style-type: none"> <li>Capacity of RE systems installed in rural areas</li> <li>Volume of energy service business</li> </ul>	<ul style="list-style-type: none"> <li>RE capacity Installed. <b>Target 8.5 MW</b></li> <li><b>Target: RE contribute 20% by 2019 (base year 2011 @ 8%)</b></li> <li>Investment RE (\$/Year).</li> <li>No. of MSME benefitting from RE interventions</li> <li>% of persons/ communities reached with RE/EE interventions*</li> <li>No. of energy services start-ups*</li> <li>No. of persons employed in energy sector*</li> </ul>	<ul style="list-style-type: none"> <li>Mainstream EE/RE into BNTF activities; Develop Energy Access projects.</li> <li>UOF for regional studies of energy poverty for precise interventions.</li> <li>Cooperate with other partners for interventions in Haiti.</li> <li>Develop LOCs to support energy services MSMEs.</li> <li>Expand CTCs MSME EE/RE interventions.</li> <li>Establish public sector EE targets programme and benchmarks.</li> </ul>	<ul style="list-style-type: none"> <li>BMCs will establish enabling frameworks; including grid-feed-in mechanisms and interconnection standards; Unbundling of generation where relevant.</li> </ul>
<p>Promoting energy infrastructure to provide cleaner and more reliable power supply</p> <p>Cleaner more reliable energy system in BMCs.</p>	<ul style="list-style-type: none"> <li>% of energy supply from imported oil.</li> <li>Cost of energy as a % of total business expenditure.</li> </ul>	<ul style="list-style-type: none"> <li>Investment in clean energy technology.</li> <li>Clean energy use for power generation and transport</li> </ul>	<ul style="list-style-type: none"> <li>Clean Energy (\$/Year).</li> <li>Clean energy for power generation and transport <b>Target 5.5 MW by 2019</b></li> </ul>	<ul style="list-style-type: none"> <li>Finance projects for replacement and upgrades of Generation, Transmission &amp; Distribution.</li> <li><b>Target 130 km of T&amp;D lines installed/upgraded by 2019</b></li> </ul>	<ul style="list-style-type: none"> <li>Oil prices remain at a level which makes investments viable.</li> </ul>
<p>Promoting Sector Reform, Good Governance and Capacity Building</p> <p>1. Enabling environment, characterised by Improved policy, legislative and Regulatory Framework.</p> <p>2. Strengthened institutional capacity and framework for energy sector in all BMCs.</p>	<ul style="list-style-type: none"> <li>No of BMCs issuing RFP for energy supply</li> <li>No of established independent regulatory frameworks for (a)improved performance in power sector i.e. technical, financial (b) competitive fuel markets</li> <li>No of EE/RE projects approved by FIs in BMCs</li> <li>Volume of private investment</li> </ul>	<ul style="list-style-type: none"> <li>Revised regulatory frameworks</li> <li>Trained staff in relevant energy agencies; and DFI and FIs</li> </ul>	<ul style="list-style-type: none"> <li>No. of primary and secondary legislations for the sector</li> <li>Drafted regulations and standards/guidelines</li> <li>No. of BMCs establishing grid – feed-in mechanisms</li> <li>No. of knowledge products</li> <li>No. of agency staff trained*</li> </ul>	<ul style="list-style-type: none"> <li>Conduct TDEP in all BMCs.</li> <li>Provide TA grant support for BMCs for capacity &amp; awareness</li> <li>Work with Region on CSERMS.</li> <li>UOF to support roadmaps developments, sector diagnosis to overcome barriers based on outcome of TDEP.</li> <li>Cooperate with Partners in staging regional level capacity building programmes.</li> </ul>	<ul style="list-style-type: none"> <li>Governments will respond positively to drive for independent regulatory frameworks</li> </ul>

\*Disaggregated by sex

## APPENDIX 3 CONTEXT ANALYSIS

### INTRODUCTION

The Caribbean region continues to be plagued by high and volatile fuel prices with limited economies of scale and diversity in electricity supply. In particular, the region continues to grapple with the main challenge of managing its dependence on imported oil and oil products for electricity generation and transportation despite some notable progress made in transforming energy considerations for some countries over the last decade or so.

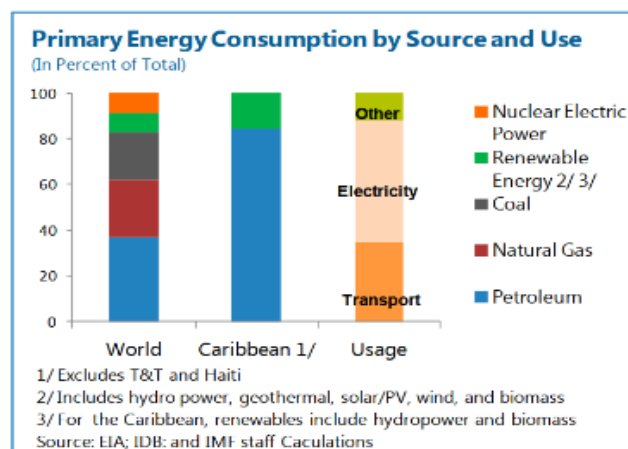
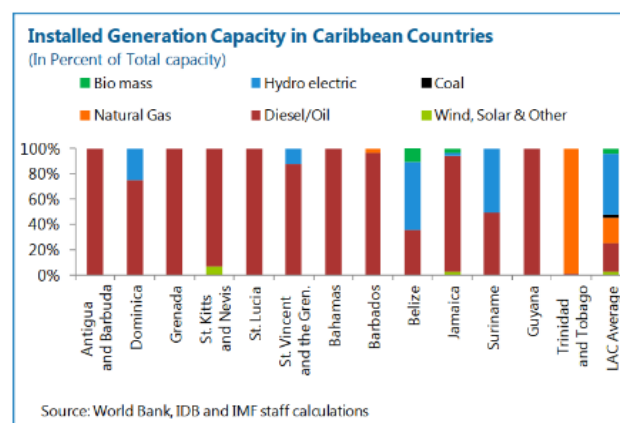
The Caribbean region consists mostly of Small Island Developing States (SIDS) with low-lying coastal landmasses, all of which exhibit unique and peculiar characteristics, including, inter alia, varying topographies, limited natural resources, small populations and fragmented markets with different energy product specifications. The Caribbean islands are also especially vulnerable to the impact of climate change including increase storm/hurricane intensity and frequency and as such, it is in the region's interest to transform its energy sector in a more climate-sustainable manner by adopting low-carbon approaches for electricity expansion planning considerations and by focusing on enhancing resilience to climate related events.

It is therefore arguable that the Caribbean region, notwithstanding its challenges and obvious limitations, certainly has the impetus or all the right ingredients to move steadfastly in the direction of transforming its energy sector to a more sustainable model.

### CURRENT ENERGY MIX

Except for Trinidad and Tobago, the only net exporter of oil and natural gas, all other Caribbean countries are net oil importers. For importers (other than Suriname and Belize) over 80 percent of primary energy generation is from using imported petroleum products. Imports are mostly diesel fuel for electricity generation, gasoline for transportation and liquefied petroleum gas (LPG) used as cooking gas in households.

Of the net-oil importing countries, only Barbados has installed capacity that uses natural gas for electricity generation, which has partly contributed to its higher efficiency rates. Hydroelectric power, harnessed through facilities in Suriname, Belize, Dominica and St. Vincent and the Grenadines, supplies about 6 percent of regional electric energy consumption. Excluding Haiti, biomass represents around 11 percent

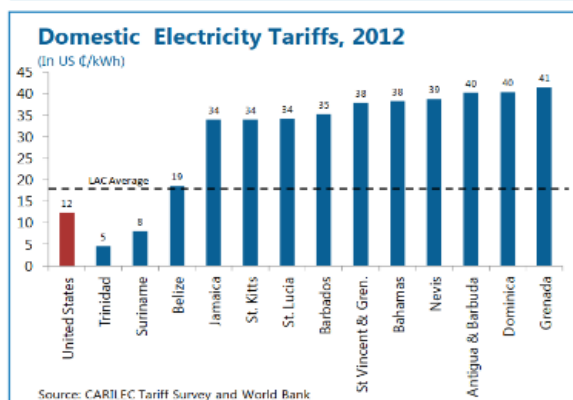
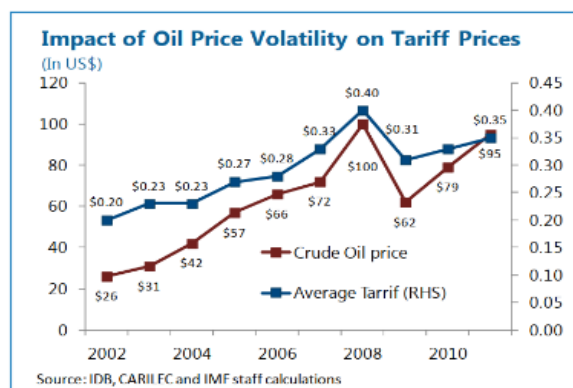


of Caribbean energy supply, mostly concentrated in Jamaica.<sup>44</sup>

## TARIFF

Electricity prices in the Caribbean are among the highest in the world, and they fluctuate greatly with the global price of oil. The primary cause of the high cost of electricity is that most Caribbean countries continue to use mainly imported fossil-fuel based resources as their primary energy source for electricity generation and transportation needs, the two major consumers of energy in the region.

These fuels are expensive and the price tends to trend with the global price of oil almost linearly. When oil prices peaked in 2014, the average cost of electricity for OECS countries was as high as USD 0.40/kWh. While prices have reduced somewhat since this time, the cost of electricity in the region has remained over USD 0.30/kWh on average. An average price of electricity between USD 0.30 to 0.40/kWh is considered to be extremely high in the context that it represents almost three times the price paid in the USA. The price of energy is a heavy burden for Caribbean countries and causes problems on a number of fronts. Spending on oil imports is a tremendous drain on the hard currency reserves of these islands and can account for up to 10 percent of their GDP. Any spikes upward in the price of oil can cause a major shock to their economies.



## REGULATION

Reform of the legal and regulatory framework for the Caribbean power sector is the first important prerequisite for sustainable and affordable energy solutions. In particular, reforms that address regulatory gaps relating to Independent Power Producers (IPPs) are key. Although independent generation is permitted in many Caribbean economies, no clear framework governs the licensing of utility-scale IPPs and their ability to sell to the grid. Facilitating licensing procedures and introducing feed-in tariffs and net billing schemes are likely to be critical to the development of private sector-led projects that supply electricity to the grid at competitive cost. IPPs are particularly instrumental for exploiting the renewable

Status of Regulatory Framework

Country & Pop	Mil	Energy Policy	Regulation	Elec Utility & Lic	RE	Access
Antigua & Bar	0.08	Draft started 2010	No indept; Gov	Pub – Act; Indefin	0	100
Bahamas	0.32	Draft started 2010	No indept; Gov	Pub/Pvt; Lic 2054	0	99
Barbados	0.27	Draft since 2006	Fair Trading Com	Pvt; Lic 2028	0	100
Belize	0.32	No Policy	PUC – Multi sect	Pvt; Lic 2015	44	90
Dominica	0.075	Draft 2009	Indep; IRC	Pvt-Unbundled 2015	25	100
Grenada	0.11	Draft 2010	No indept; Gov	Pvt; Lic 2073	0	99
Guyana	0.75	Expired 2004	IRC	Pub; Lic 2024	0	90
Haiti	9.30	No Policy	No indept; Gov	Pub;	20	25
Jamaica	2.7	Approved 2009	Off of Utility Reg	Pvt/Pub; IPP; 2021	6	95
St. Kitts & Nvs	0.048	Draft 2009	No indept; Gov	Pub ; Act; Indefinite	0	95
St. Lucia	0.16	Approved 2010	No indept; Gov	Pvt; Lic 2045	0	100
St. Vin & Gren	0.10	Approved Policy	No indept; Gov	Pub; Act; to 2033	30	99
Suriname	0.492	Draft RE Started 09	No ind; Gov Reg	Pub; Act; to 2022	95	79
Trin & Tobago	1.29	Draft RE Started 09	Indp Multi sectr	Pub/Pvt – Indefinite	0	95

Source: Overview of Sustainable Energy Development in Caribbean Community, J. Williams, Manager, Energy Programme, Caribbean Community

<sup>44</sup> IMF Working Paper (2016) Caribbean Energy: Macro-related challenges

energy potential in the region and since these projects involve large upfront capital cost and no fuel cost, feed-in tariffs and net-billing schemes should aim to establish adequate cost recovery mechanisms to ensure viability while reducing the overall cost of energy.

Creation of independent national and/or regional regulators would help promote a predictable and transparent regulatory environment for energy investors. The lack of an independent regulator in many Caribbean countries is an impediment to new market entrants, given the need to assure them of a level playing field. Establishing an independent power sector regulator requires building sufficient institutional capacity to competently perform key functions of tariff-setting, license issuance and effective market oversight. The pilot launch of the Eastern Caribbean Energy Regulatory Authority (ECERA) project in Grenada and St. Lucia, facilitated by US\$5.6 million in credit facilities from the World Bank's IDA, had aimed to promote these objectives in the Eastern Caribbean States as well as provide advisory services to governments on renewable energy development, electricity sector plans and cross border interconnection.

## ROAD TO ENERGY REFORM

In 2013, a regional energy policy was approved by CARICOM and aligned with national energy policies developed by individual member states. The CARICOM energy policy (CEP) developed a framework for coordinated actions to achieve a range of the most important objectives, including: i) increased energy efficiency and conservation in all sectors, including the transportation sector; ii) establishment and enforcement of labelling and standards for the importation of electrical appliances as well as standards for vehicles importation; and iii) accelerated deployment of renewable and clean sources of energy to improve diversification and affordability.

The Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS-Phase I) established an action plan to achieve the objectives of the CEP. The roadmap sets specific regional energy targets in the following areas: (i) energy efficiency: 33 percent reduction in energy intensity by 2027; (ii) renewable power generation: 20 percent renewable power capacity by 2017, 28 percent by 2022 and 47 percent by 2027; and (iii) CO<sub>2</sub> emissions reductions of 18 percent by 2017, 32 percent by 2022, and 46 percent by 2027.

The national targets set by countries for energy efficiency and renewable energy are aligned with these regional targets. Nonetheless, establishment and implementation of sustainable energy solutions have been constrained by barriers that include, among others, insufficient availability of appropriate financial instruments, given the perception of high risk and the capital-intensive nature of these types of investments. The Caribbean Development Bank (CDB) has long identified the promotion of sustainable energy in the Caribbean region as an important development imperative and has been a key implementing partner in regional initiatives such as the Regional Framework for Climate Change, the CEP and the C-SERMS. The REEEU of CDB developed and implemented the Bank's Energy Sector Policy and Strategy (ESPS) over the period 2015-20. The REEEU provided strategic leadership on RE/EE initiatives and charted an integrated approach to the application of the ESPS. These actions were undertaken in response to increasing momentum in the private and public sectors and among development partners, to reduce energy costs and address energy security challenges. They are also consistent

Overview of Renewable Energy Targets in CARICOM Member States		
Country	Renewable Energy Supply	Electricity from Renewables
Antigua and Barbuda	15 % by 2030	20% by 2020
The Bahamas	30% by 2030	15% by 2020; 30% by 2030
Barbados	10% by 2012 20% by 2026	29% by 2029
Belize	Reduce fossil fuel dependence 50% by 2020	89% by 2033
Dominica	100% by 2020	25% by 2010, 100% through the addition of geothermal by 2020
Grenada	20% by 2020	10% by 2013 (Grenada), 20% by 2017 (Grenada), 40% by 2011 (Carriacou and Petite Martinique), 100% by 2030 (no date given)
Guyana		90% through hydro development Install 15,000 solar home systems (no date given)
Jamaica	20% by 2030	12.5% by 2015 20% by 2030
St. Lucia	35% by 2020	5% by 2013; 15% by 2015 30% by 2020
St. Kitts and Nevis		20% by 2015 100% by 2010 (Nevis)
St. Vincent and the Grenadines		30% by 2015 60% by 2020
Trinidad and Tobago		5% of peak demand (or 60 MW) by 2020

Source: Caribbean Energy: Macro-related challenges, IMF Working Paper, March 2016.

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

with the Bank's increased focus on climate resilience as evidenced in the Climate Resilience Strategy (CRS), first drafted in 2013 (CRS 2013-2017) and recently revised (CRS 2018-2023). The Bank has since been accredited to the Adaptation Fund (AF, 2015) and the Green Climate Fund (GCF, 2016), and has benefitted from the European Investment Bank Climate Adaptation Line of Credit (EIB-CALC), Phases 1 and 2. Energy Security has been included as a cross-cutting theme in the CDB Strategic Plan 2015-19 to reflect work started in 2014, in support of the inclusion of RE/EE components and considerations across sectors.

The on-going Sustainable Energy for the Eastern Caribbean (SEEC) Programme is designed to address the need for innovative and concessionary funding for RE/EE, while building on recent and ongoing efforts of development partners, by providing technical assistance (TA) and investment in RE and EE to the public sector in six (6) beneficiary countries namely: Antigua and Barbuda (ATG), Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines (SVG). The general objective of the SEEC Programme is to reduce participating OECS countries' dependency on imported fossil fuels. Some results expected have already been realised (e.g., in SVG and ATG) from the various interventions and are generally expected to support: greater capabilities in identifying, assessing, and implementing RE and EE Projects; improve enabling environment for RE and EE investments; enhance market for RE and EE financing; and provide lessons that can inform replication of approaches and strategies. The Programme is supported through a blend of funding, comprising loan funds from CDB; the EIB CALC (loan and grant funds); and grants from the European Union - Caribbean Investment Facility (EU-CIF), and the UK Department for International Development (DFID).

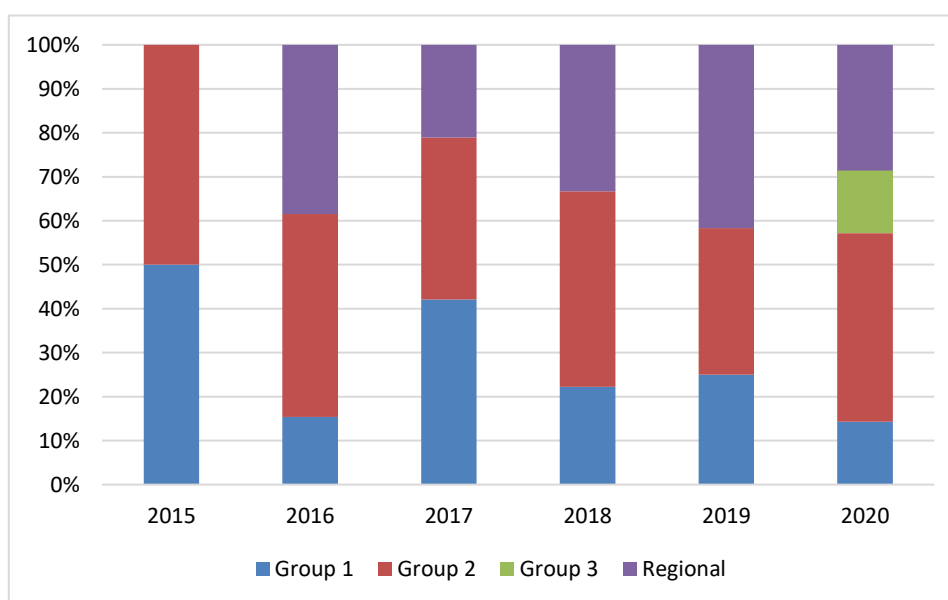
## APPENDIX 4 PORTFOLIO ANALYSIS

### GEOGRAPHICAL AREA AND COUNTRIES

The distribution of projects and funding by country group is depicted in Figure 8 and Figure 9. The three country groups<sup>45</sup> are based on a classification defined by CDB. Each group benefits from different lending terms based in part on their GDP. Higher income countries are in group 1, middle-income and low-income countries are in groups 2 and 3 respectively. Furthermore, the figures include a “regional” category, which encompasses projects with beneficiaries in more than one country.

The distribution of projects amongst Groups 1, 2 and regional varied slightly over time, though Group 2 benefited from the largest share of projects overall (40%). In terms of approved amounts, Group 2 also received the largest amounts of funding over time (83%).

*Figure 8: Country Distribution Over Time by Number of Projects*



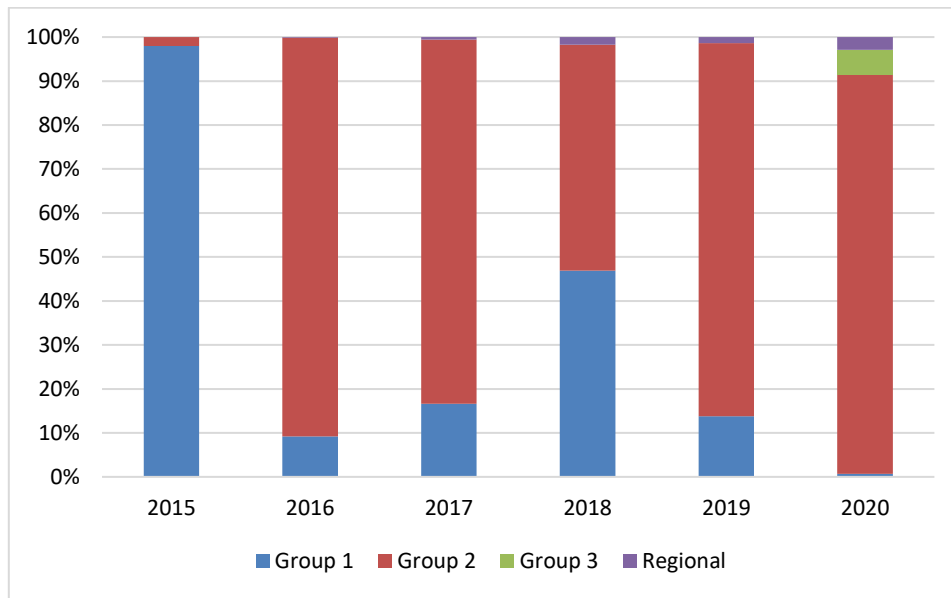
<sup>45</sup> Group 1: Anguilla, Antigua and Barbuda, The Bahamas, Barbados, British Virgin Islands, Cayman Islands, Montserrat, St. Kitts and Nevis, Trinidad and Tobago, Turks and Caicos Islands.

Group 2: Belize, Dominica, Grenada, Guyana, Jamaica, St. Lucia, St. Vincent and Grenadines, Suriname.

Group 3: Haiti.



*Figure 9: Country Distribution Over Time by Approved Amount*



## INVESTMENT TYPES AND THEMES

Figure 10 illustrates the Investment type distribution over time. Since 2017, technical assistance projects (TA-Grant or TA-UOF) have accounted for most projects every year.

*Figure 10: Investment Type Distribution Over Time by Number of Projects*

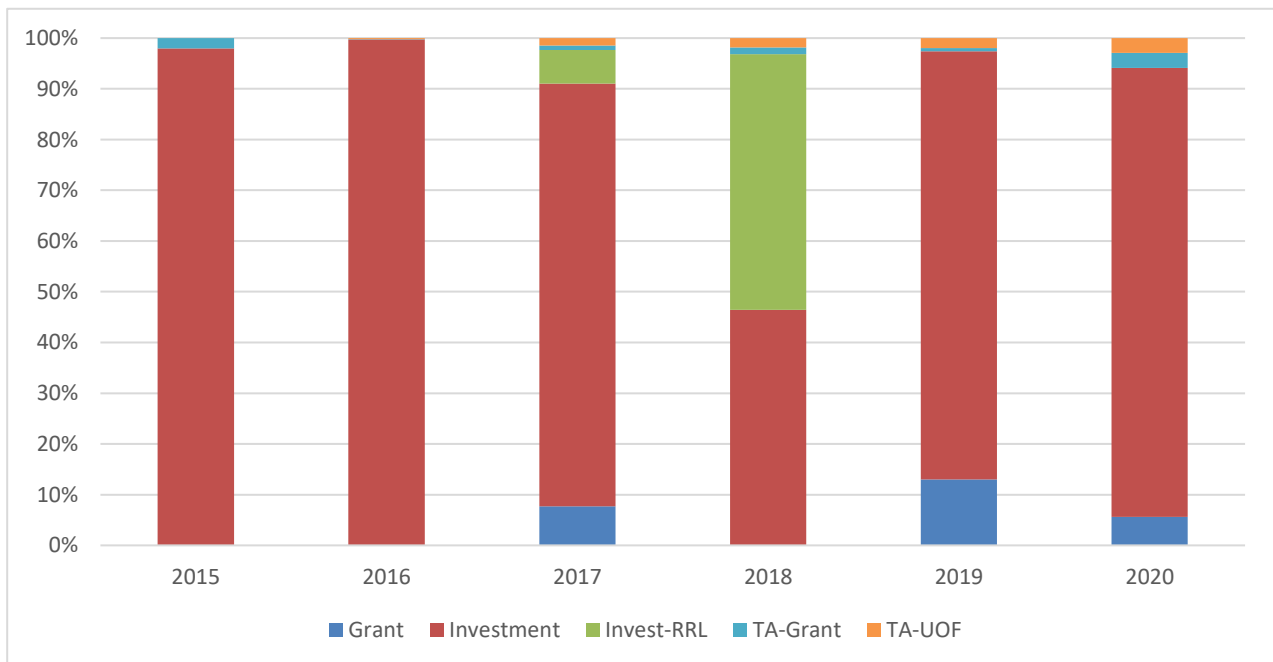
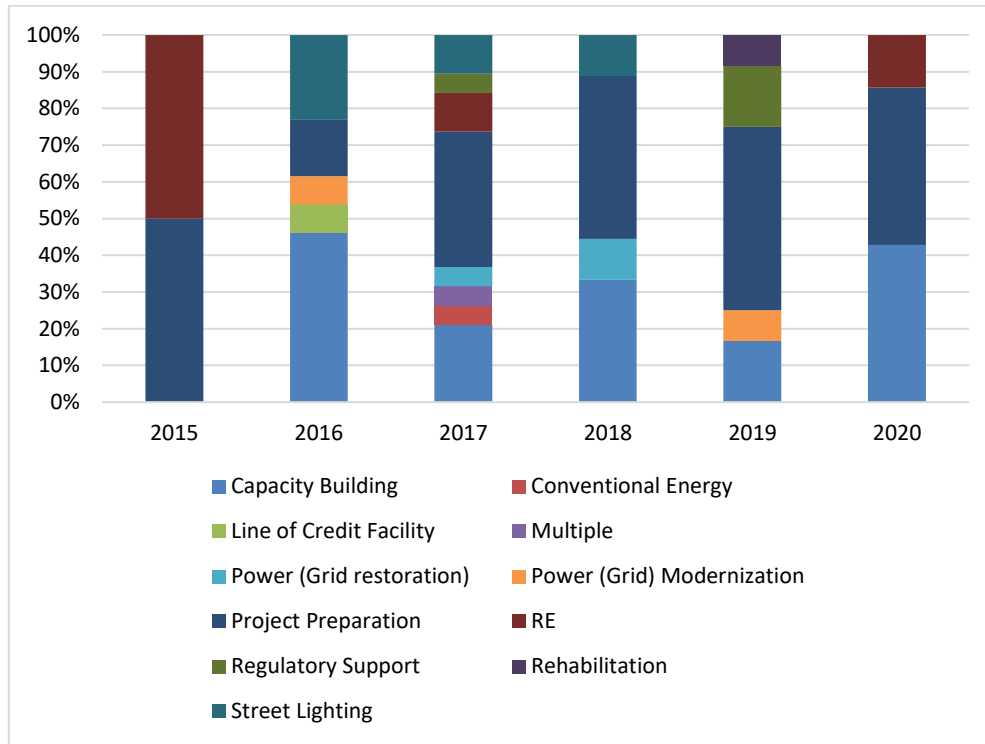


Figure 11 illustrates the evolution over time of the number of projects allocated by project thematic. Overall, since 2015, “project preparation” and “capacity building” accounted for more than half of supported projects.

*Figure 11: Project Type Distribution Over Time by Number of Projects*



## INTERVENTION TYPE

Figure 12 and Figure 13 demonstrate how different intervention types are distributed across projects. Over time, consultancy and workshop type interventions have become more important in the project portfolio in terms of number of projects. However, since 2015, almost all approved amounts have been attributed to capital type interventions.

*Figure 12: Intervention Type Distribution Over Time by Number of Projects*

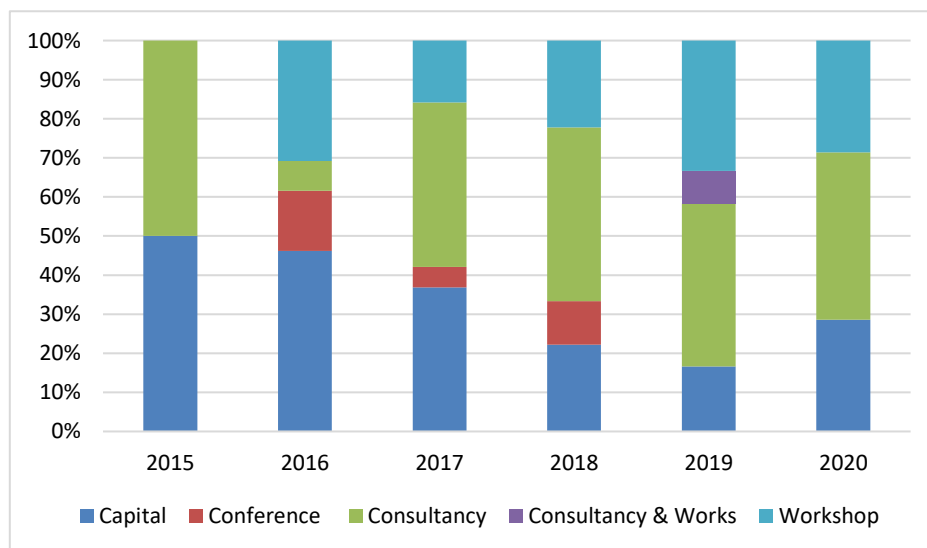
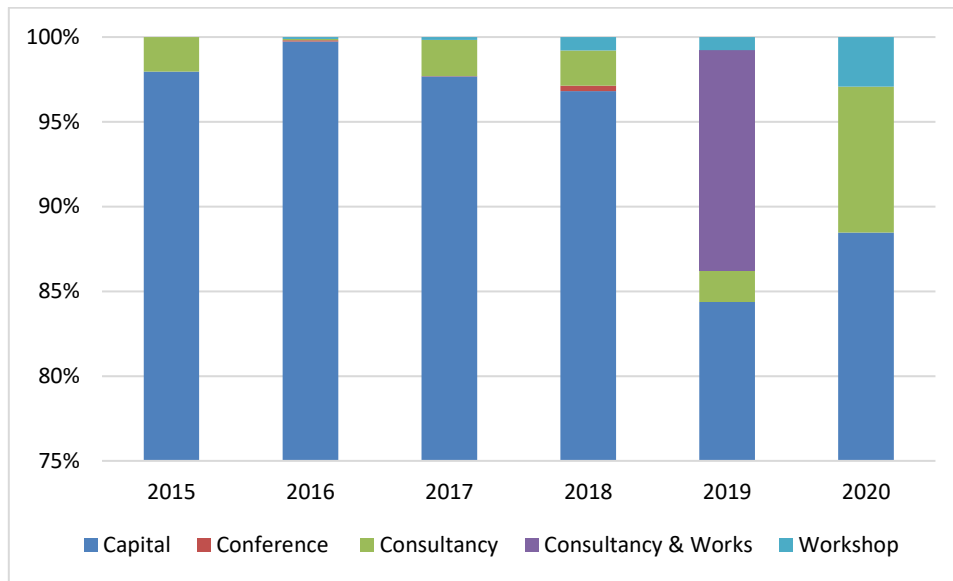


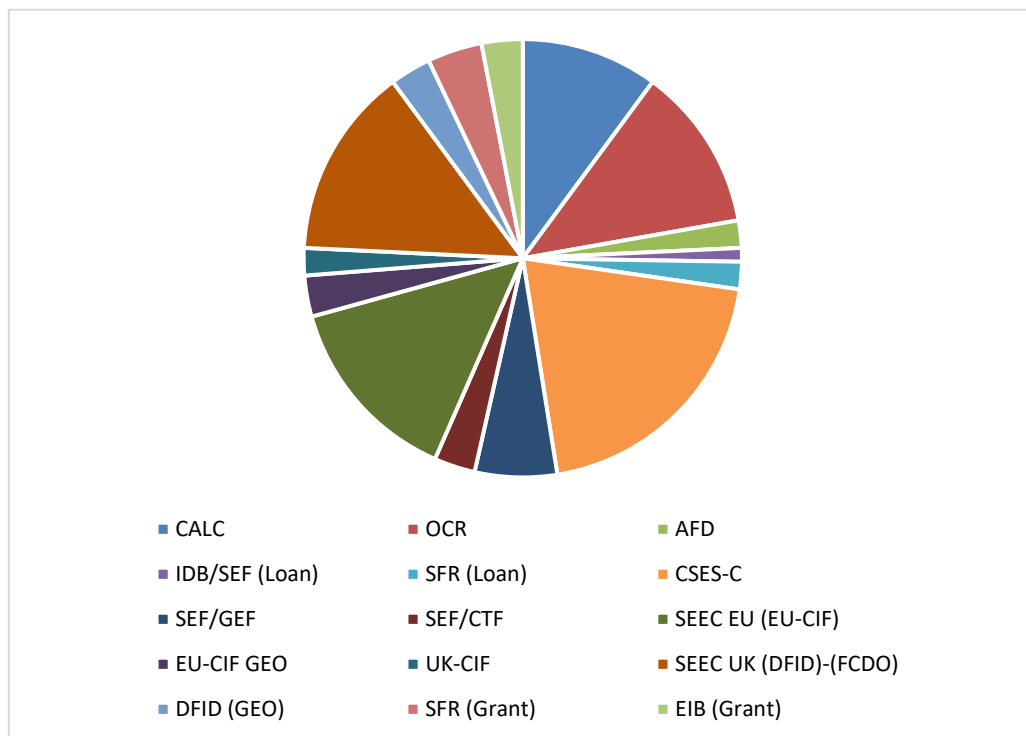
Figure 13: Intervention Type Distribution Over Time by Approved Amount



FUNDS

Figure 14 illustrates the proportion of projects supported by each ESPS funding source. The CSES-C, SEEC UK, SEEC EU funds supported the largest number of projects since the launch of the ESPS.

Figure 14: Fund Distribution by Number of Projects



## APPENDIX 5 RECONSTRUCTION OF THEORY OF CHANGE

Figure 15: Theory of change of RE priority area

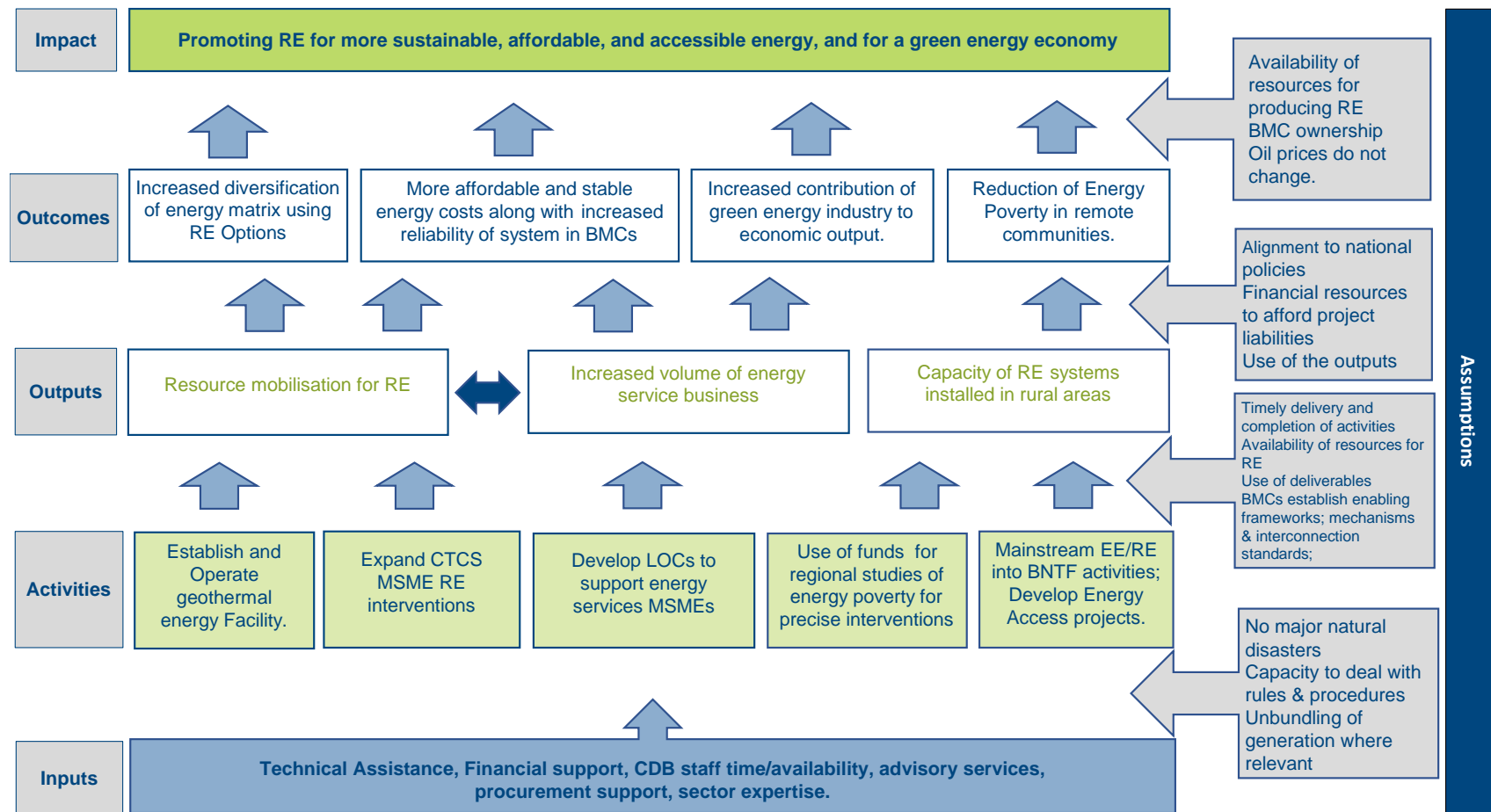


Figure 16: Theory of change of Energy infrastructure priority area

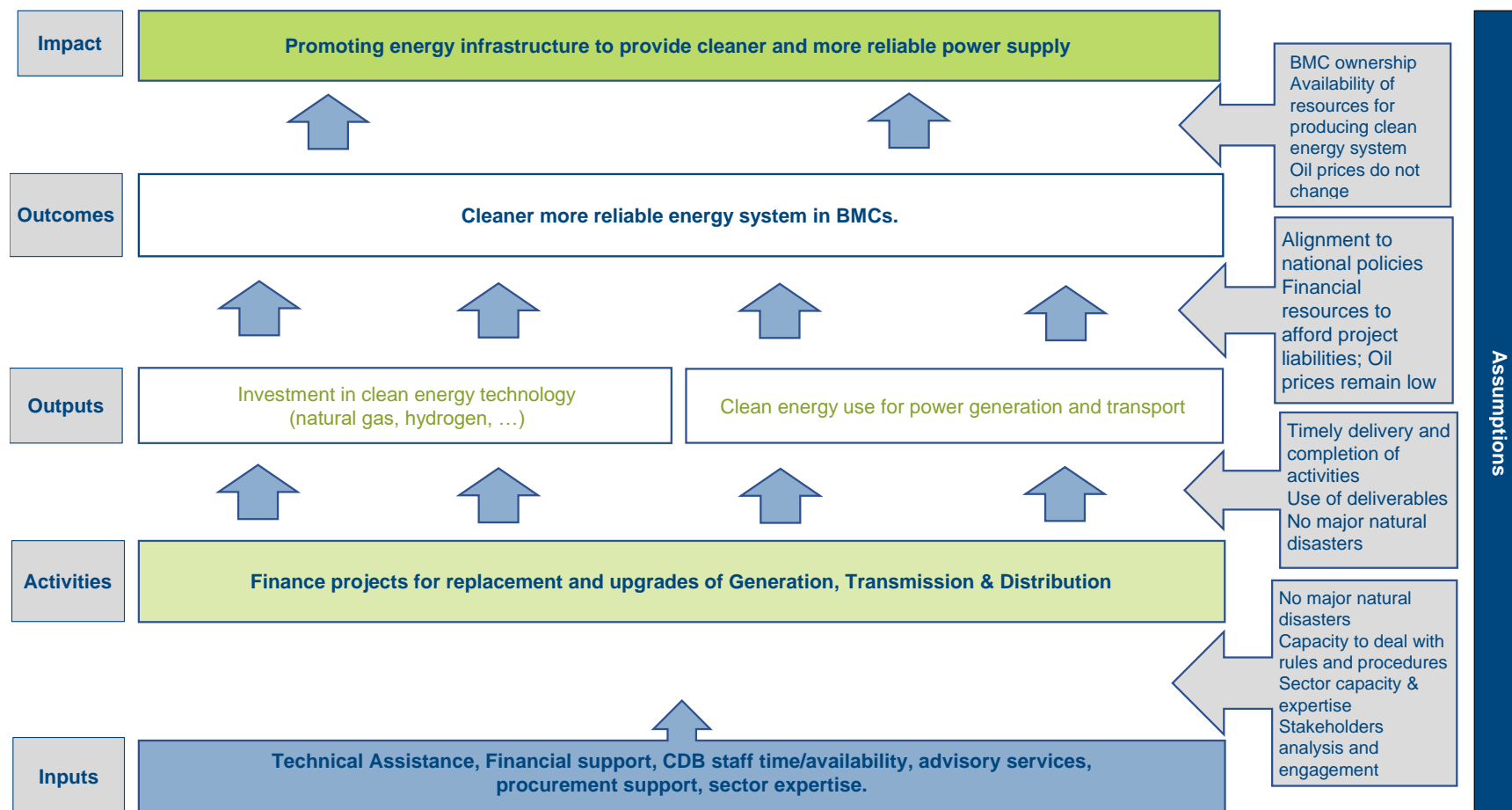
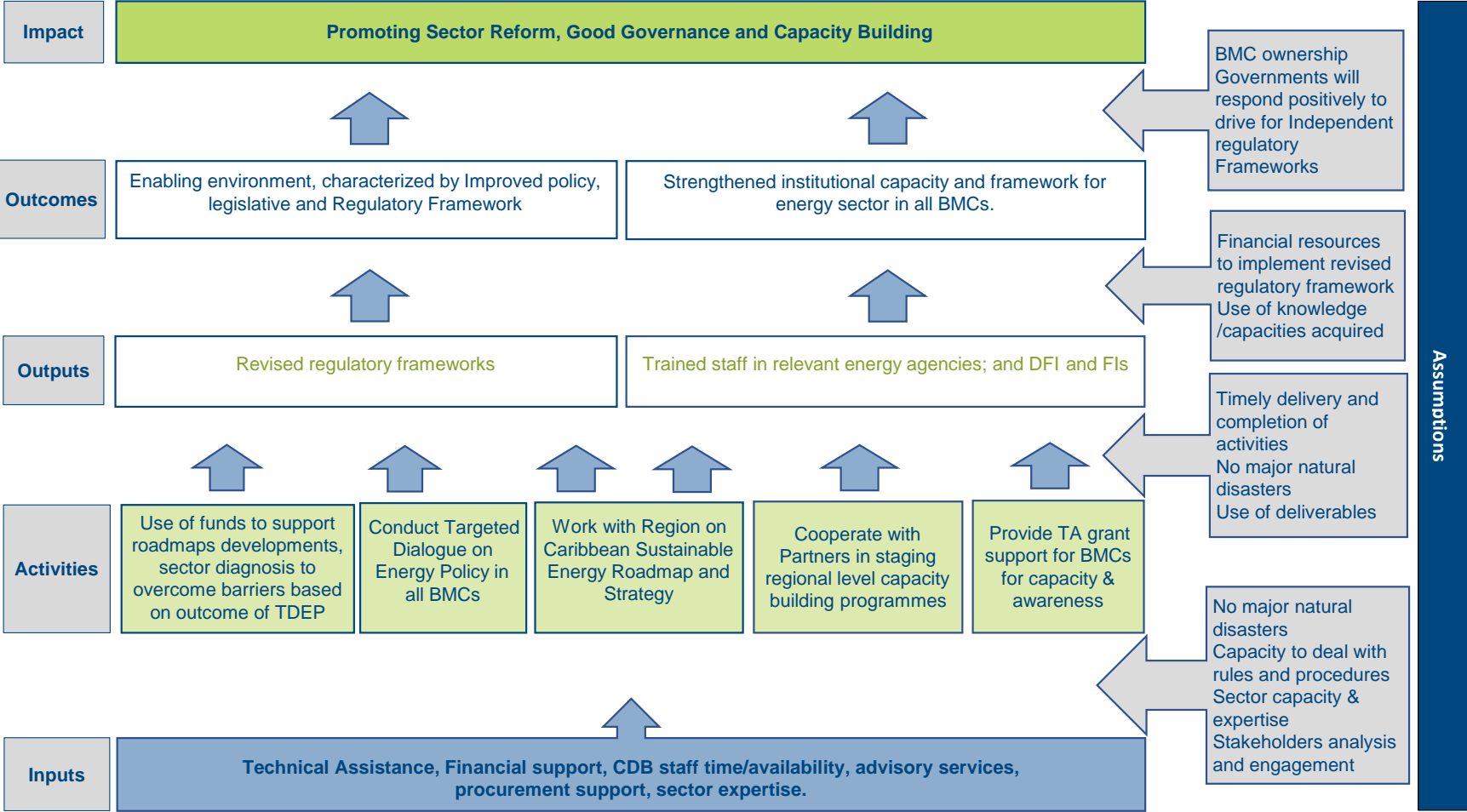


Figure 17: Theory of change of Sector Reform, Good Governance and Capacity Building priority area



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## APPENDIX 7 SIX IN-DEPTH PROJECT ANALYSES RESULTS

Energy Audits and Partial Condition Surveys in Public Facilities Antigua and Barbuda	
<b>Overall project presentation</b>	
Beneficiary	GOAB
Executing Agency	Ministry of Public Utilities, Civil Aviation, Energy and Transport (MOPCET)
Development partners providing funding	EU-CIF DFID
Real Execution Period (Months)	September 30, 2019 to May 2020 - 8 months
Total amount in USD	\$ 175 900
Project objective	The main objective of the assignment is to develop the basis on which GOAB can decide on the scope of an investment project that will optimise energy use in select public facilities. These recommendations will form the basis for developing an investment plan, loan application and appraisal to utilise SEEC grant and loan resources.
Project Specific Objectives	The Consultant will perform individual EAs for three facilities, a brief profile of these facilities, is shown in Table 1.
<b>Conclusions</b>	
Lessons learned	In order to increase the probability of realising project impacts energy audit projects could benefit from targeting buildings based on considerations which include current human capacity, identifying international audit standards to guide the process and imbedding next step activities at the design stage.
Summary of findings	Overall, the activities were executed in a timely and effective manner. Based on the Results Framework the Project Outputs were achieved and exceeded what was required by providing RE assessments for two public buildings and one Government complex instead of the target of just one public building. The Project outcomes were not achieved as no evidence was found to show that GOAB implemented the EE/RE technologies. One potential impact which would likely have been achieved but was not mentioned during the evaluation or in the project documents are the environmental benefits that would result from replacing CFL lights with LED lights since CFLs contain mercury which is an environmental pollutant. Most of the technology costs seem reasonably in line with industry prices. Ultimately, the key factor for the project not realising its impact to date is GOABs inability to borrow to finance the interventions due to macroeconomic challenges and current debt.
Potential recommendations	(1) GOAB could consider EE interventions via the ESCO model executed by a local utility company or private sector investor. (2) The Bank could provide TA for the development of a legislative and regulatory environment which encourages investment in RE/EE (3) The Bank could package future audit projects to incorporate the audit intervention at the inception. The project could be structured with a grant component for energy audits at investment grade and a subsequent loan component for the intervention. (4) The Bank could deploy a model project to demonstrate the technologies and savings which could be realised via RE/EE interventions. (5) Reporting obligations are likely to remain time consuming and tedious given the various results frameworks and reporting obligations across the various stakeholders. Potential options for addressing this are (i) seek to consolidate the reporting obligations and reporting formats and/or engage an M&E officer within the CDB REEEU who will be furnished with the appropriate reporting tools to focus on these obligations.

<b>Capacity Strengthening of Caribbean Utility Regulators in Grant Funding Proposal Development and Writing - Regional</b>	
<b>Overall project presentation</b>	
Beneficiary	Representatives of the Organisation of Caribbean Utility Regulators (OOCUR) and Caribbean Development Bank (CDB)
Executing Agency	CDB
Development partners providing funding	CSES-C, OOCUR
Real Execution Period (Months)	October 28th - November 1st 5 days
Total amount in USD	\$ 57 495,00
Project objective	The overall objective of this consultancy is to increase the proficiency of regional utility regulators in grant funding proposal development and writing. The intended outcome is that FTC and OOCUR will have increased capacity to write successful grant funding proposals, which will lead to more availability of funding for effective regulation of the energy sector in CDB BMCs
Project Specific Objectives	Five-day training and capacity building
<b>Conclusions</b>	
Lessons learned	<p>(1) The project appears to be successful based on the interviews however information regarding the outcomes and impacts could be shared by a follow up mechanism or reporting structure to provide adequate feedback to CDB.</p> <p>(2) The level of interest in the capacity building opportunity was high since it was training requested by the participants.</p> <p>(3) The participants felt that the local knowledge of the facilitator ensured that more relevant information was shared, and methods were tailored to the region.</p> <p>(4) Participants did not have an expectation to become fully proficient after one training session and therefore have the expectation of follow up support and training.</p>
Summary of findings	The regulator interviewed was keen to identify the impacts and follow-on success which was attributed to the training juxtaposed with CDB's unawareness of this success due to a lack of feedback. The participants remain very pleased at the quality of the output received by the facilitator and are keen for additional support in the form of training for soft-skills as well as in the use of modelling tools specific to the energy industry such as Plexus. Despite this expressed desire for additional support, there has been no formal follow up requests for additional support.
Potential recommendations	Follow up training should be considered to reaffirm. A periodic outreach session with OOCUR, FTC and MBC regulators to obtain feedback on their current needs and perform an exercise matching the needs with the ESPS.

Regional Certified Energy Manager Training Programme - Regional	
Overall project presentation	
Beneficiary	Regional Energy Professionals from Borrowing Member Countries
Executing Agency	Caribbean Development Bank
Development partners providing funding	CDB/CSES-C CARCEP
Real Execution Period (Months)	May 7 to May 14 2018
Total amount in USD	\$ 113 850,00
Project objective	<p>The objectives of the training are:(a) to strengthen existing capacity through knowledge management and sharing (CSES-C Component 3: Capacity Building and Training and Education); and(b)to foster the growth of skilled practitioners and professionals across the region's RE sector by encouraging them to join existing energy associations/networks or form new ones. The objectives of the training will be achieved through the following:(a) rigorous selection of individuals qualified to participate in the training;(b) webinars and face to face presentations;(c) examinations at the end of the in-house training; and(d) knowledge sharing among participants.</p> <p>Two-week regional CEM Training Programme completed, including two webinars, six days of classroom sessions, weekend tutorials, and one final examination.</p>
Conclusions	
Lessons learned	<p>(1) The project plan could have provided an indicative target for number of persons to be trained (e.g 15-20 max) . This would temper the inclination for the project manager to try to maximise participants and put a strain on resources and lead to shortening training time. (2) Aspects of the CEM training programme were not applicable to the BMCs or the ESPS objectives. (3) Measuring the impact of training of this nature at the country level is inherently difficult because of many other variables which are present. (4) Training programmes such as this are in high demand in BMCs and will likely be over subscribed. (5) The JSEE noted that their final selection of candidates was too close to the course delivery date. (6) The JSEE noted that the use of online platforms as an introductory tool for the course could have been expanded to increase knowledge uptake. (7) The local participants were considered to be disadvantaged because of the day-to-day distractions of being in their usual environment.</p>
Summary of findings	<p>The CEM training was successfully provided in a timely manner. In total there were 25 participants from eight countries. The training was in line with the ESPS and addressed the needs of the direct stakeholders. The activity lends itself to repetition and expansion since there is scope for persons trained to offer training to others in turn and build out capacity across the sector.</p>
Potential recommendations	<p>(1) The CEM training should be tailored to the Caribbean environment. (2) CEM training schedule could be planned based on an advertised schedule (over 3-6 months) to accommodate more participants and allow persons to schedule their participation at a time which is most suitable to them over the course of the period. This could improve the success rate of the participants and allow for monitoring and improvement from session to session. (5) CDB could specifically target the Governments of BMCs to incorporate certified participants into their Project Execution Units, Building Code developers etc. so tangible links can be made about capacity building and policy development.</p>

Street Light Retrofitting Project – Jamaica	
Overall project presentation	
Beneficiary	Jamaica Public Service Corporation Limited (JPSCo)
Development partners providing funding	CDB, EIB, AFD
Real Execution Period (Months)	41 months (August 31, 2017 to December 2021)
Total amount in USD	US\$33,840,000.00
Project objective	Supply and installation of LED street lights - this includes supply of LED street lights and related controllers, installation by contractors, and disposal of old streetlights. Climate Risk Screening (CRS): Consultancy services to assess the vulnerability of JPSCo's street lighting infrastructure and provide recommendations to increase resilience.
Conclusions	
Lessons learned	[1] It appears that there was not always full cooperation between the direct beneficiary (JPSCo) and in-direct beneficiary (Gov't of J'ca) throughout project implementation. An apparent dispute between these parties resulted in a significant delay in the implementation schedule. Future project design should consider an arbitration mechanism to avoid a similar situation. [2] A delay in procurement of project materials was due to insufficient responses from supplies to the RFP issued by JPSCo. Project design should consider the inclusion of the requirement to issue more timely requests for expressions of interest to suppliers (ahead of RFPs) so that responses can be better anticipated.
Summary of findings	[1] Most of the expected outcome and outputs of the project have been delivered and the project is well on its way to be successfully completed end of 2021; [2] The project was not completed within the expected timeframe. There was a lengthy delay in 2019 due to an apparent dispute between JPSCo & Gov't of J'ca; one in 2020 due to the covid-19 pandemic; and then another due to some procurement challenges experienced by JPSCo. [3] These delays resulted in the project implementation being extended by 24 months but with no additional cost to the project. [4] Project implementation is largely being handled by JPSCo with relatively minimal day-to-day involvement of other stakeholders.
Conclusions	Overall, the project is being implemented in line with the stated objectives, expected outputs and outcome. Despite significant delays experienced, the project is likely to be successfully completed by end of 2021 within the original budget. The project is considered strongly aligned to the ESPS priority area of promoting EE and somewhat aligned with promoting energy infrastructure and capacity strengthening (see comments in "Alignment to ESPS" tab).
Potential recommendations	Given the significant delay experienced in project implementation during 2019, an evaluation should have intervened at that time to determine the exact cause and perhaps provide a means of arbitration between the parties in dispute to minimise the delay.

<b>Sixth Power Project – 1MW Solar Photovoltaic Plant - Anguilla</b>	
<b>Overall project presentation</b>	
Beneficiary	Anguilla Electricity Company Limited (ANGLEC)
Development partners providing funding	EIB to CDB (US\$1,658,000)
Real Execution Period (Months)	12 (May 2015 - June 2016)
Total amount in USD	US\$3,345,000
Project objective	<p>Utilisation of RE by ANGLEC for electricity production</p> <ul style="list-style-type: none"> <li>• A fully installed and commissioned 1 MW solar PV plant.</li> <li>• ANGLEC staff training.</li> <li>• Operations manuals.</li> <li>• Maintenance plan.</li> <li>• Building for inverters and transformers.</li> </ul>
<b>Conclusions</b>	
Lessons learned	[1] The successful operation of the plant demonstrates the ability to integrate intermittent RE generation into the utility's grid without the use of batteries for energy storage; [2] The energy generation outputs achieved during the plant's operation and resulting fuel savings to ANGLEC demonstrates the benefits of using solar PV systems to generate electricity; [3] The destruction of the solar PV plant by hurricane Erma in 2018 demonstrates the need to incorporate higher climate resilience standards of construction that can withstand up to category 5 hurricanes.
Summary of findings	[1] The project was completed approximately 9 months beyond the expected completion date within the original cost estimate; [2] The main component of the expected output was successfully achieved; [3] The expected outcome was achieved allowing ANGLEC to successfully integrate RE into its electricity grid; [4] The production of the PV plant in the first 12 months of its operation was 21% better than forecast at appraisal and [5] The PV installation was not designed to withstand category 5 hurricane force winds which caused the destruction of the plant in 2018.
Conclusions	The project outcome is correlated to the ESPS [1] strongly in promoting RE for more affordable and stable energy costs and energy infrastructure to provide cleaner and more reliable power supply; and [2] in promoting capacity strengthening of ANGLEC's staff through training and experience with installing and operating a PV plant (see "Alignment to ESPS" tab for further details).
Potential recommendations	[1] Efforts should be accelerated to assist ANGLEC with rebuilding the plant with greater climate resilient standards that can withstand category 5 hurricane force winds.

Geothermal Drilling Project - St. Vincent and the Grenadines	
Overall project presentation	
Beneficiary	1. The Government of St. Vincent and the Grenadines (GOSVG) 2. the St. Vincent Geothermal Company Limited (SVGCL)
Development partners providing funding	(i) Clean Technology Fund (CTF) through the IDB under the Sustainable Energy Facility (SEF) (ii) Global Environment Facility (GEF) through the IDB (iii) United Kingdom Department for International Development (UK - DFID) (iv) European Union – Caribbean Investment Facility (EU-CIF)
Real Execution Period (Months)	68 months (May 2016 - December 2021)
Total amount in USD	US\$39,877,000
Project objective	Enhanced capability of SVGCL to make an evidenced based determination of the feasibility of continuing geothermal resource development in the La Soufrière region for electricity production. Three exploratory wells completed. Well log and test results. Stakeholder consultations on project implementation completed.
Conclusions	
Lessons learned	[1] Institutional governance and regulations need to be improved, which might have made the private sector negotiations for a PPA more efficient. [2] The expected outputs and outcome of the project were not effectively and consistently communicated to all stakeholders. This resulted in different expectations and disappointments among different stakeholder; [3] There were a number of unforeseen challenges with the drilling activities that resulted in budget overruns which suggest that the level contingency planning for the project may have been inadequate.
Summary of findings	[1] The expected outcome and outputs of the project were delivered; [2] The project was not completed within the expected timeframe. There were delays mainly due to technical reasons (well drilling challenges) and to some extent, extended time taken to negotiate a PPA between SVGCL and VINLEC; [3] Delays in the project implementation resulted in additional time and cost to the project; [4] The project remains incomplete. SVGCL is to undertake an exit workshop and provide CDB with information to complete its project completion report; [5] Expectations of project outcomes/outputs seem to have been understood differently between project direct and indirect beneficiaries.
Potential recommendations	[1] The Gov't of SVG should consider taking measures to strengthen the energy sector's governance and regulatory framework to encourage more efficient private sector involvement in light of the experience of the PPA negotiation effort under this project; [2] Due to the size and complex nature of this project type, a mid-term evaluation may have been useful ahead of a final evaluation to better address some of the challenges (costs overrun of drilling activities etc.).

## APPENDIX 8 LIST OF INTERVIEWEES

*Table 10: List of External Stakeholders Interviewed*

Organisation	Contact	Date
<b>Development partners</b>		
IDB	Christiaan Gischler Blanco, infrastructure department (DC) Rochelle Franklin, (Barbados)	September 30, 2021
EU	Kyle Farnum, Programme Manager – Energy	October 4, 2021
Foreign, Commonwealth and Development Office (FCDO)	Ingrid Lavine, Senior Programme Officer	October 14, 2021
Global Affairs Canada (GAC)	Matthew Straub, formerly Alternate director for Canada to CDB (2016-August 2021) and senior analyst, Now Acting deputy director for the Caribbean based in Montreal.	September 9, 2021
GIZ TAPSEC (Technical Assistance Programme for Sustainable Energy in the Caribbean)	Zellner, Simon GIZ BB, in the Caribbean since 2016. TAPSEC manager since Mid 2018	September 30, 2021
<b>Regional Organisations</b>		
CARICOM	Devon Gardner, Head of Energy Unit	October 15, 2021
CCREEE	Gerald Lindo, RE Unit Lead but also supporting EE sept 2019 Cherri-Ann Farquharson, Knowledge Management and Capacity Development Expert, August 2020.	October 7, 2021
OECS	Judith Ephraim, Programme Coordinator, Sustainable Energy Unit	October 1, 2021
CARILEC	Dr. Cletus Bertin, Executive Director	October 6, 2021

Individual semi-structured interviews were conducted virtually with the following CDB staff:

- REEEU: Joseph Williams, Head;
- EID: O'Reilly Lewis, Head, and Ken Aldonza and Lano Fonua, Sector Specialists (transitioning to report to Joseph Williams);
- CSD: Ann Marie Warner, Acting Head;
- SSD: Deidre Clarendon, Head;
- ESU: Valerie Isaac, Coordinator, and Nicholas Ross, Environmental Sustainability Analyst;
- Procurement division: Douglas Fraser, Head PPU;
- Private sector development unit (PSDU): Miguel Almeyda Casillas, Head;
- Regional public-private partnership: Miguel Almeyda Casillas, Head PSDU;
- Gender: Farmala Jacobs, Marlene Johnson and Jessica Harris, Gender Specialists;
- Malcolm Buamah, Chief Risk Officer.

## APPENDIX 9 OUTCOME HARVESTING FOCUS GROUP DISCUSSION RESULTS

### FDGs PROJECT SAMPLE

*Table 11: FDGs Project Sample*

Executing Agency	BD #	Project
Antigua Public Utilities Authority	BD 99/16	Street lighting Retrofit in Antigua and Barbuda
	BD 106/19	Barbuda Energy Resilience Project
Dominica Electricity Services Limited (DOMLEC)	BD 8/18	Rehab/Reconstruction Hurricane Maria (DOMLEC) in Dominica
Haïti - Ministère des Travaux Publics, Transports et Communications (MTPTC) (Ministry of Public Works, Transport and Communication).	BD 128/20	Support for Training Geospatial Mapping for rural Haiti
St. Kitts - Ministry of Public Infrastructure, Post, Urban Development and Transport (MOPI)	BD 109/17	Energy Audit - Public buildings and Water P/S St Kitts and Nevis
Grenada - Ministry of Finance and Energy	BD 104/19	Market Demand Study to Inform the Feasibility of a Private Sector Facility to Finance the Purchase of EE Equipment under the Green Climate Fund, Grenada Leapfrog to Energy Efficiency Project
	BD 29/17	Institutional Strengthening Energy Sector Grenada: PC & CLO
	BD 29/17 Add. 1	Institutional Strengthening Energy Sector Grenada: PC & CLO (Additional Grant)
	BD 50/17	ESIA Grenada GE Project- Test Drilling Phase
	BD 56/16	Energy Audit for Public Buildings
Energie Bedrijven Suriname (EBS)	BD 143/16	Electricity System - Upgrade and Expansion
	BD 18/18	Enhancing Access through Stakeholder Engagement: Suriname's Energy Sector
	BD 119/17	Street Lighting Retrofit & Advanced Metering in Suriname
St. Vincent Electricity Services Limited (VINLEC)	BD 47/17	SEEC Public Sector - EE Measures and Solar PV Plant, Street lighting
	BD 122/20 Corr. 1	SVG Electricity Service Ltd Utility BESS & Grid-tied PV Project



## EXTERNAL STAKEHOLDERS FOCUS GROUP DISCUSSION

### INTRODUCTION

Focus group discussions are one of the qualitative data collection tools proposed by the evaluation team to assess the performance of the ESPS. The evaluation methodology involves the delivery of two focus group discussions. The present report has as the main aim to present the results of the focus group discussion that took place on September 15th, 2021, with the executing agencies that have been implementing projects to contribute to the achievement of the ESPS results. The discussion ranged across identifying specific outcomes and impacts of financed projects in the short and medium-term, such as enabling, constraining, and risk factors affecting project implementation and sustainability of the results achieved.

As indicated in the inception report, the objectives of this focus group discussion were:

- To map the results achieved by the projects supported by ESPS
- To find out signals of impact or potential impact in the medium/long term
- To learn about enabling and constraining factors to achieve the expected results

### FOCUS GROUP METHODOLOGY AND IMPLEMENTATION

The first phase consisted of reviewing the documents of 15 operations implemented by the executive agencies that participated in the focus group discussion. The review of these documents aimed at finding out outcomes to be discussed further developed and validated during the focus group discussion. The second phase consisted of a focus group discussion attended by the executive agencies implementing the 15 operations reviewed in the first data collection phase. The presentation used during the focus group discussion is presented in 0 and the list of projects in 0.

The focus group discussion was organised into two parts. In the first part, participants were asked about the changes they observed in their countries as a result of the project implementation. In addition, all participants were given the opportunity to express the results that each of their projects had delivered so far. Once this first part was completed, a second part was devoted to identifying the primary project implementation and sustainability challenges. Participants were invited to highlight the enabling and constraining factors and risks that could undermine the sustainability of project results.

The online focus group discussion took place on Wednesday September 15, 2021, from 10am Eastern Caribbean time. Teams and Miro board were used so that all participants could see their contributions to the session, and it lasted for about 1:45 minutes. A total of five participants from four different executing agencies based in three other countries participated in the workshop.

*Table 12: List of Participants*

Executing Agency	Country	Participant
Dominica Electricity Services Limited (DOMLEC)	Dominica	Dave Stamp Generation Manager Email: Dave.Stamp@domlec.dm Contact: +1 (767) 235-9965
Ministry of Finance and Energy	Grenada	Christopher Joseph Energy Officer Email: energydivisionou@gmail.com Contact: 1-473-440-2731

Executing Agency	Country	Participant
Ministry of Finance and Energy	Grenada	Leslie Smith Project Office
Energie Bedrijven Suriname (EBS)	Suriname	Jerry Aseja, Chief Engineer Email: Jerry.Aseja@ebs.sr Contact: (+597) 471045 ext. 9634
St. Vincent Electricity Services Limited (VINLEC)	St Vincent	Vaughn Lewis Manager, Engineering Email: vlewis@vinlec.com Contact: +1 (784) 531-7551

## LIMITATIONS

The evaluation team was unable to track results and impact through the project document review. The project documents reviewed provided information about the objective, expected results, targets with the corresponding indicators. Most of the project appraisal documents dated from 2018, but the monitoring reports did not provide any date. The monitoring reports did not provide information related to project performance monitoring and evaluation.

Based on the ESPS project database provided by CDB, the focus group sample of 15 operations from seven executive agencies were selected to review and analyse their outcomes<sup>46</sup>. Most of them were still being implemented or were about being completed, which was too early to assess project performance. It was also observed some issues in the definition of output and outcome results. Some of the expected project outcomes were formulated as outputs results and not an outcome result.

Some participants appeared not to have direct involvement in the execution of these projects and could only give general information of outputs and outcomes. In addition, some participants were unsure about which projects were the subject of this analysis and did not seem to be adequately briefed and prepared for the discussion. As such, information was provided in an ad hoc manner based on knowledge and perception.

Finally, participants experienced difficulties accessing to MIRO board as most of them used mobile phones or experienced connection problems.

## FINDINGS

### OUTCOMES MAPPED

The results of the outcome mapping here below presented are the result of analysing the information obtained from the desk review and the focus group discussion.

Out of a total of 15 operations and 24 planned outcomes, five projects already delivered a total of six outcomes, five of them could be considered direct impact results and one indirect impact result. The results obtained are in line with the planned outcomes as stated in the project, except for the indirect impact found. In the case of projects that have not been completed, it is difficult to determine the level of achievement for all of them at this stage. For example, the project implemented in Suriname on PV systems has not been finalised, if the 2.3 MW of capacity is installed as proposed it will generate approximately 3,777 MWh/y which is slightly above the outcome indicator target of 3,176 MWh/y in the project document. But it is

<sup>46</sup> The methodology is detailed in the Inception report

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

difficult to indicate it for the rest of all the rest of uncompleted projects. Nevertheless, it is important to highlight that all participants seemed confident that their projects would be able to attain expected results.

When analysing the resulting chain through linking outcomes mapped with the **ESPS result framework**, it can be observed that three of the achieved outcomes should contribute to 'ESPS R1: Promoting EE for more affordable and stable energy costs, and establishment of a green economy; two of these same outcomes would also contribute to ESPS R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy. Only one outcome would be contributing to 'ESPS R4: Promoting Sector Reform, Good Governance and Capacity Building' and one to 'ESPS R3: Promoting energy infrastructure to provide cleaner and more reliable power supply. The table below includes the list of expected outcomes, the outcomes mapped and the specific ESPS Result they should contribute based on a result chain analysis.

Table 13: List of Outcomes Mapped

Project Name	Country	Planned outcomes from project document	Achieved outcomes based on the FGD	ESPS Result <sup>47</sup>
BD 8/18 Rehabilitation and Reconstruction Loan - Hurricane Maria	Dominica	<ol style="list-style-type: none"> <li>Restored electricity services nationwide.</li> <li>Enhanced climate resiliency capacity</li> <li>Reduced Street Lighting energy composition and reductions in greenhouse gas emissions associated with reduction in energy consumption.</li> </ol>	95% Restoration achieved. Areas to be restored are remote locations expected to be serviced by 10MW geothermal project. Consultant hired to look at resilience planning for generation, transmission and distribution	<p>R3 - Promoting energy infrastructure to provide cleaner and more reliable power supply</p> <p>R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy.</p>
BD 56/17 Technical Assistance - Environmental and Social Impact Assessment for Grenada's Geothermal Energy Development - Test Drilling Phase	Grenada	Enhanced capacity for GOGR to consider environmental and social impacts in the design of a GE exploratory test-drilling project and for developing a framework to manage its implementation sustainably.	<p>Exploring geothermal began before 2015. Test drilling completed with moderate results, but data will build capacity.</p> <p>Capacity of government increased as result of setting-up Geothermal officer and Liaison officers which did not exist before the project, and they are still existing and part of the government staff.</p>	<p>R4: Promoting Sector Reform, Good Governance and Capacity Building</p> <p>R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy</p>
BD 56/16 Technical Assistance - Energy Audits for Public Buildings	Grenada	Evidence-based informed position on potential EE and/or RE interventions in audited buildings	Energy audits completed in 14 Public Buildings which are public and provide new information on potential EE and RE in audited buildings	<p>R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy.</p> <p>R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy</p>

<sup>47</sup> Results as stated in the ESPS Result Framework

**ENERGY SECTOR POLICY AND STRATEGY EVALUATION**

<b>Project Name</b>	<b>Country</b>	<b>Planned outcomes from project document</b>	<b>Achieved outcomes based on the FGD</b>	<b>ESPS Result <sup>47</sup></b>
BD 143/16 Electricity System Upgrade and Expansion	Suriname	Improved reliability, increased capability, and operational flexibility of EBS's sub-transmission and distribution network on the EPAR and ENIC power system, in the delivery of quality power supply to customers in an efficient manner. 2. Utilisation by EBS of self-owned RE plants for electricity production.	2 Solar PV plants under are construction. As indirect impact, the construction of PV plants relies on the local community, which is increasing the employment rates in this area, leading to an increased of economic activity within this communities. The construction is also attracting newcomers to work in the project which is also increasing the local demand for services contributing to the local businesses	R3: Promoting energy infrastructure to provide cleaner and more reliable power supply R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy
BD 47/17 Energy Efficiency Measures and Solar Photovoltaic Plant	St Vincent	Reduced consumption of fossil fuel generated electricity through EE measures and RE substitution, contributing to lower GHG emissions.	Replacement of 7,500 HPS streetlights with LED lights ongoing that is expected to produce energy savings. Government also is retrofitting lights with counterpart funding.	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy

## ENABLING, CONSTRAINING FACTORS AND RISKS

### ENABLING FACTORS

All participants agreed that the following elements contributed to the delivery of the outcomes mapped:

- ***Very good relations and understanding with CDB's staff.*** Participants acknowledged to have very good relations with CDB staff and share common understanding about the objectives, results and activities of the projects.
- ***Accessibility to CDB technical support on demand.*** The participants also highlighted the importance of the technical assistance and advice received from CDB staff, mainly in the area of CDB's rules and procedures. This support is considered key to implement the projects in a time and efficient manner as they help to overcome main implementation bottle necks.
- ***Local ownership.*** Certain ownership from the executing agencies was also noticed during the workshop and perceived through different statements made by the participants (e.g., confidence projects would be completed and having impact). Projects seem also to align to national sector priorities and be embedded in government's actions in the energy sector in all three countries.
- ***Political Economy within the sector.*** Informal relations within the government also helped to mainstream the interventions into other sectors and get supports from other line ministries which were considered key to enhance project outreach and deliver results.

### CONSTRAINING FACTORS

Main constraining factors mentioned during the focus group were:

- ***Difficulties to deal with CDB rules and procedures.*** Rules and procedures of CDB are not very clear and well explained in the guidelines provided. This makes very difficult to the executive agencies, overall, those from private sector, to comply with the CDB requirements and meet the standards.
- ***Delays in providing a response.*** Sometimes, CDB takes too much time to provide feedback to some requests or approve the amendments to the procedures necessary to implement the project, leading to important delays in project implementation.
- ***Weak capacities within the executing agencies.*** Executing agencies are characterised by limited human capacity and high staff turnover. These undermine any consistency in the project implementation approach and, in turn, in the achievement of expected results as framed at the design level of the project. Additionally, rules and procedures are very demanding for the institutional setting of the Caribbean countries and their capacity to handle with excessive and complex bureaucratic process.
- ***Lack of specific knowledge/capacity to handle highly specialised areas or issues within the sector.*** This mainly relates in the lack of staff with specific knowledge, competences, or studies. An example of this is the Geothermal sector in Dominica.
- ***Deficiencies in related to project preparation.*** It seems that the stakeholder and risk analysis would be very weak or insufficient at the design and planning stage and which, in turn, would be affecting efficiency and effectiveness of project implementation (e.g., Street Light project Dominica delayed because the project did not take sufficiently into consideration that the utility company is privately owned)
- ***Covid-19 impact.*** The impact of Covid-19 global pandemic has involved delays in project implementation, increased of project prices or procurement challenges. Despite all projects had contingencies, these appear to be insufficient to face the consequences of the imposed restrictions due to the global pandemic.

### RISKS

Finally, participants were also asked for identifying major challenges to ensure sustainability of projects' results. In this sense, it was observed that some of the risks were the consequences of constraining factors such as capacity issues or Covid-19. Others were more related to context issues. The most important risks were:

- ***Lack of resources.*** Executing agencies and/or governments do not have sufficient resources to afford project liabilities once the project is completed. In general, budgets are very small, and sustainability is not really tackled by the ESPS projects. In fact, these projects do not provide incentives to ensure sustainability of the projects.
- ***'Brain drain'.*** High turn-over of staff does not contribute to retain in-house knowledge and capacity developed during ESPS project implementation and, consequently, the continuity of delivering project cannot be ensured.
- ***CDB rules and procedures are not adapted to the Caribbean private sector context. CDB rules and procedures make that accessing to support provided under the ESPS becomes very long and cumbersome, which results in disincentive to submit any project proposal.*** This was of special concern among the private sector operators. According to one participant, the difficulties to understand and fulfil the requirements to access to CDB's funding provides disincentive to private sector operations to apply for support. If the rules and procedures were 'nimble', CDB would receive more project proposals and have more executive agencies implementing ESPS related projects.
- ***Inflexible CDB's rules and procedures. CDB's rules and procedures are not very flexible and adapted to the Caribbean context such as rules of origin (limited to the Caribbean) for service providers, companies' profiles, or expertise.*** There is always the possibility to ask for an exemption. Nevertheless, the requests for exemption to the rule of origin must go to the board and it takes time to get there and be approved.
- ***Cultural and social challenges within the institutions in beneficiary countries.*** Participants indicated that, despite the projects can drive change and provide tangible results, they are not sufficient to change the institutional culture and, as result, they often go 'back to business as usual'.

### CONCLUSION

The overall exercise served as an entry point to seek and further analyse the outcomes and impact achieved by the projects financed under the ESPS so far. The findings are also useful to assess the level of contribution of the projects outcomes to the achievement of the overall ESPS results and, in turn, identify the areas where changes are more likely to happen in terms of ER and EE in the short to medium term. Next steps will consist of validating these outcomes. This will be done by triangulating FGD findings with the information gathered through other qualitative and quantitative data collection tools (semi-structured interviews, desk review and survey).

## LIST OF EXECUTING AGENCIES INVITED TO THE WORKSHOP AND PROJECTS REVIEWED

Executing Agency	BD #	Project	Contact
Antigua Public Utilities Authority	BD 99/16	Street lighting Retrofit in Antigua and Barbuda	Mr. Girvan Pigott Project Engineer Antigua Public Utilities Authority (APUA) +1-268-729-7114 girvanp@apua.ag
	BD 106/19	Barbuda Energy Resilience Project	Mr. Winston Whyte Project Coordinator Antigua Public Utilities Authority (APUA) +1-268-727-7457 winston@apua.ag
Dominica Electricity Services Limited (DOMLEC)	BD 8/18	Rehab/Reconstruction Hurricane Maria (DOMLEC) in Dominica	Dave Stamp Generation Manager - Project Coordinator +1 (767) 235-9965 Dave.Stamp@domlec.dm
Haïti - Ministère des Travaux Publics, Transports et Communications (MTPTC) (Ministry of Public Works, Transport and Communication).	BD 128/20	Support for Training Geospatial Mapping for rural Haiti	nickallien@gmail.com +(509) 40669966
St. Kitts - Ministry of Public Infrastructure, Post, Urban Development and Transport (MOPI)	BD 109/17	Energy Audit - Public buildings and Water P/S St Kitts and Nevis	Mr. Bertill Browne Director, Energy Unit Ministry of Public Infrastructure, Post, Urban Development and Transport. Tel: 1(869) 467-1488 Cell: 1 (869) 662-2144 bertillb@stkittselectricitycoltd.com
Grenada - Ministry of Finance and Energy	BD 104/19	Market Demand Study to Inform the Feasibility of a Private Sector Facility to Finance the Purchase of EE Equipment under the Green Climate Fund, Grenada Leapfrog to Energy Efficiency Project	Christopher Joseph Energy Officer krispjj@gmail.com energydivisionou@gmail.com 1-473-440-2731 1-473-406-3335



## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Executing Agency	BD #	Project	Contact
	BD 29/17	Institutional Strengthening Energy Sector Grenada: PC & CLO	
	BD 29/17 Add. 1	Institutional Strengthening Energy Sector Grenada: PC & CLO (Additional Grant)	
	BD 50/17	ESIA Grenada GE Project- Test Drilling Phase	
	BD 56/16	Energy Audit for Public Buildings	
Energie Bedrijven Suriname (EBS)	BD 143/16	Electricity System - Upgrade and Expansion	Jerry Aseja, Project Coordinator; Enhancing Access through Stakeholders Engagement GA 8 / SUR Phone: (+597) 471045 ext. 9634 Mobile: (+597) 8544833 email: Jerry.Aseja@ebs.sr
	BD 18/18	Enhancing Access through Stakeholder Engagement: Suriname's Energy Sector	
	BD 119/17	Street Lighting Retrofit & Advanced Metering in Suriname	
St. Vincent Electricity Services Limited (VINLEC)	BD 47/17	SEEC Public Sector - EE Measures and Solar PV Plant, Street lighting	Vaughn Lewis vlewis@vinlec.com Mobile +1 (784) 531-7551
	BD 122/20 Corr. 1	SVG Electricity Service Ltd Utility BESS & id-tied PV Project	

## INTERNAL FOCUS GROUP DISCUSSION

### INTRODUCTION

Focus group discussions are one of the qualitative data collection tools proposed by the evaluation team to assess the performance of the ESPS. The evaluation methodology involves the delivery of two focus group discussions. The present report has as the main aim to present the results of the focus group discussion that took place on September 15th, 2021, with the executing agencies that have been implementing projects to contribute to the achievement of the ESPS results. The discussion ranged across identifying specific outcomes and impact of financed projects in the short and medium-term, such as enabling, constraining, and risk factors affecting project implementation and sustainability of the results achieved.

As indicated in the inception report, the objectives of this focus group discussion were:

- To map the results achieved by the projects supported by ESPS
- To find out signals of impact or potential impact in the medium/long term
- To learn about enabling and constraining factors to achieve the expected results

## FOCUS GROUP METHODOLOGY AND IMPLEMENTATION

The methodology consisted of a general introduction and explanation of the concepts of outcome mapping and results harvesting. The process and objectives of these techniques in relation to how they were deployed to identify the results of the ESPS were discussed. An explanation of the process of review for the 15 operations prior to the focus group was detailed. It was therefore explained that the FGD was intended to further investigate and validate the findings from the review of documents as well as facilitate discussion to further expand on observations.

The tools used for the FGD were Microsoft Teams and Miro. The focus group discussion was organised into two parts. In the first part, participants were asked to correlate projects which they believe aligned the four priority areas of the ESPS; (R1) Promoting EE for more affordable and stable energy costs and the establishment of a green economy (R2) Promoting RE for more affordable and stable energy costs and the establishment of a green economy (R3) Promoting energy infrastructure to provide cleaner and more reliable power supply (R4) Promoting sector reform, good governance, and capacity strengthening. The projects which were identified as contributing to each priority area was identified and assigned to each heading. This process was expanded upon through an interactive discussion on the alignment.

In the second part, participants were invited to identify; (1) Enabling factors (2) constraining factors and (3) risks/challenges for the achievement of the ESPS goals. Factors were identified for each category. This process was expanded upon through an interactive discussion on their views.

The online focus group discussion took place on Thursday October 7, 2021, from 10am Eastern Caribbean time. The session lasted approximately 1:45 minutes. A total of four persons from CDB participated in the workshop.

*Table 14: List of Participants*

Agency	Participant
Caribbean Development Bank (CDB)	Mr. Joseph Williams Coordinator Renewable Energy/Energy Efficiency Email: williaj@caribank.org Contact:
Caribbean Development Bank (CDB)	Mr. Leighton Waterman Sustainable Energy Specialist Renewable Energy/Energy Efficiency Email: waterml@caribank.org Contact: 1-246-826-4518
Caribbean Development Bank (CDB)	Mr. Christopher Straughn Sustainable Energy Specialist Renewable Energy/Energy Efficiency Email: straugc@caribank.org Contact: 1-246-836-3419
Caribbean Development Bank (CDB)	Mr. Lano Fonua Energy Sector Development Specialist Email: fonual@caribank.org

## LIMITATIONS

Participants were asked to provide information on the outcomes and impacts for the identified projects. They were mainly able to highlight the achievements attained at output level and the added value of these in the sector, but they considered some of the impacts difficult to quantify at this stage. Firstly, most of the projects are still being implemented. Secondly, many of these initiatives are part of broader national policies and actions. As a result, the participants as well as the evaluation team had to be conservative in attributing impacts in some instances.

Finally, monitoring the impact of ESPS projects seem to be challenging. There is no monitoring of the impact of capacity building related activities and very limited of the infrastructure deliverables. Additional documents were provided which supported the evaluation exercise however these documents did not provide the engineering calculations and assumptions used to project energy savings from technologies or the expected generation of PV systems. As such, assumptions were made based on technology baselines and regional conditions. Similarly, the street lighting retrofit project notes that the HPS technology would be replaced by LED. Since the actual wattage of the HPS and LED lamps were not provided, calculations were made based on assumptions about the technology and daily duty cycles.

## FINDINGS

### OUTCOMES MAPPED

The results of the outcome mapping presented below are based on the information obtained from the desk review, the focus group discussion and documents provided following the discussion.

**Under priority area (R1)** Promoting EE for more affordable and stable energy costs and the establishment of a green economy, the following was observed. The participants identified eight different activities which aligned. These activities are; Energy Audit (EA) programmes, Street Lights replacements, capacity buildings activities including workshops and training for the development and management of energy efficient building codes, working with regional stakeholders for the integration of energy efficient building codes and a training workshop on Cooling and the Economic Rationale for EE.

The audits were successfully completed however it was noted that there was no significant investment in EE technologies resulting from the audits. The buildings selected for the audits were those typically found in BMCs however there was no information provided which indicated that the human resource capacity of the building managers/operators was considered in the selection process. Buildings with already a skilled set of stakeholders such as an Engineering department, buildings with Certified Energy Managers or departments with green committees and energy officers should have been targeted instead. These targeted buildings should have engaged the stakeholders during the audit process to inspire a sense of ownership of the initiatives. Thus, more stakeholder's engagement at design and implementation level would have supported enhanced impact.

The audits appeared reasonably well executed but limited in their investigative nature and use of audit equipment such as thermal cameras and data loggers. Little information was provided on the power consumption factors of the buildings and as a result, low-cost recommendations such as power factor corrections or maintenance and repair of air ducts were not presented to the stakeholders as viable EE initiative options.

Street light replacement activities were ongoing and considered likely to achieve their expected outcomes. The workshops and training activities were successfully completed. The participants did not directly note that some projects contributed to more than one result area, but it was observed that some of these activities overlapped and could also have been identified under R2. An example of this overlap is the energy audits which also provided stakeholders with information for investment in RE. The outcomes of the training workshops appeared adequate for their stakeholders' involvement. Direct impacts, however, were considered difficult to quantify.

As a result of the FGD, Econoler was provided additional documentation which supported the evaluation of the streetlight retrofit project in St. Vincent. Based on the information provided, it was estimated that the project would save  $3,162MWh/yr$  exceeding the project target of  $2,612MWh/yr$ <sup>48</sup>. The project was still being implemented and this target could not be verified but it is likely that the target will be achieved.

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<sup>48</sup> Assumptions used for calculations HPS 100W, LED 50W, 12 hours per day.

**Under priority area (R2)** Promoting RE for more affordable and stable energy costs and the establishment of a green economy, the participants identified six activities which align. These activities are; Solar Photovoltaic (PV) installations, expansion of utility transmission and sub-transmission lines, Restoration and Reconnection projects following natural disasters, Grid modelling and Battery Storage feasibility studies and interventions which engendered support from other development partners. The PV installations were ongoing and projected to achieve their identified outcomes. The installation and expansion activities were completed in some cases and ongoing in others. The Grid modelling and battery storage feasibility studies were completed too. The participants noted that in St. Kitts for example these studies included an analysis of the tariff rate and the economic viability of the investment. Based on this feedback, these activities could be linked with the R3 and R4. Overall, several of these activities could also contribute to R3. Of the six projects identified under R2 by the participants, it was noted that the expansion of the transmission lines and the restoration and reconstruction projects could be even having a direct impact at this stage.

As a result of the FGD Econoler was also provided additional documents which supported the evaluation for PV projects such as the 400kW project in St. Vincent. The project documents indicated an expected production of approximately *600MWh*. While the project was not complete yet, Econoler estimated that a solar system of this capacity, installed with modern technology could generate approximately *650MWh* annually<sup>49</sup>, which is slightly higher than what is expected.

**Under priority area (R3)** Promoting energy infrastructure to provide cleaner and more reliable power supply, the following was observed. The participants identified six projects which align. The Barbuda Energy Resilience project, Dominica Transmission and Distribution Replacement Project, Geothermal Development Project in St. Vincent, Dominica Hydropower Project, Belize Sixth Power Project and Belize Seventh Power Project. In Belize the participants noted that evidence of outcome was shown since 50% of the electricity supplied to Caye Caulker was generated from renewable energy and supplied via a submarine cable. The infrastructure was expected to replace 730,000 gallons of imported diesel. In Dominica the T&D network replacement also incorporated the installation of streetlights. It was observed that the opportunity to improve on the reliability and resilience of the infrastructure was not maximised since a decision was taken not to bury the transmission infrastructure underground due to time/resource constraints. In this case, time and resources seemed to appear as an obstacle to enhanced impact.

**Under priority area (R4)** Promoting sector reform, good governance, and capacity strengthening, the following was observed. The participants identified five projects which align. The Grenada geothermal project, regional training in PV installation, capacity building to ministries, regulators and utilities, supporting the creation of energy units. For this priority area it was observed that they participants did note that the geothermal development project in St. Vincent contributed to R3 and R4. The regional training in PV installation was provided to 228 participants. This training was recently concluded, and the participants therefore considered it too soon to comment on its impact. Overall, the participants considered it difficult to show a direct link to outcomes for capacity strengthening and support to government. They noted that thousands of stakeholders have been supported across the region via workshops, training, etc. but it is difficult to evidence how this has translated into impacts. Evidence of monitoring the impact of the capacity building activities was not found.

The table below includes the list of expected outcomes, the outcomes mapped and the specific ESPS Result they should contribute based on a result chain analysis.

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<sup>49</sup> Calculation assumes 4.5 sunlight hours.

Table 15: List of Outcomes Mapped

Project Name	Country	Planned outcomes from project document	Achieved outcomes based on the FGD	ESPS Result <sup>50</sup>
Integrating Regional Energy Efficiency Building Code.	Regional	Knowledge to support EE savings for CDB infrastructure projects such as schools	Activities ongoing	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R4: Promoting Sector Reform, Good Governance and Capacity Building
BD 99/16 Streetlight Retrofitting Project	Antigua & Barbuda	1.Reduced streetlight energy consumption and reductions in greenhouse gas emissions associated with reduction in energy consumption. 2. Enhanced capacity of APUA in climate change adaptation planning.	Streetlights to be supplied and installed. CRS procurement ongoing. This will lead to reduced energy consumption, fuels savings, emissions reduction. Increased Capacity is not that clear to be achieved.	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R4: Promoting Sector Reform, Good Governance and Capacity Building
BD 106/19 Barbuda Energy Resilience Project	Antigua & Barbuda	1.Increase the resilience of the electricity network to hurricanes. 2.Operational back up generation supplied from renewable energy. 3. Restore electricity connections for all affected APUA customers.	Activities ongoing - 8km of underground electricity distribution network being installed. 11 Solar hybrid systems being installed to provide back-up power for government buildings. This will lead to reduced energy consumption, fuels savings, emissions reduction, improved resilience of the electricity network.	R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy R3 - Promoting energy infrastructure to provide cleaner and more reliable power supply
Seventh Power Project. Electricity System upgrade and expansion	Belize	Provide stable energy supply to Caye from renewable energy source via undersea cable	Activities ongoing - Increased access to stable energy supply is expected to be achieved. This will also lead to reduced fossil fuel consumption, emissions reduction by 50%, improved resilience of the electricity network (indirect impact).	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy R3 - Promoting energy infrastructure to provide cleaner and more reliable power supply

<sup>50</sup> Results as stated in the ESPS Result Framework

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

Project Name	Country	Planned outcomes from project document	Achieved outcomes based on the FGD	ESPS Result <sup>50</sup>
BD 8/18 Rehabilitation and Reconstruction Loan - Hurricane Maria	Dominica	1. Restored electricity services nationwide. 2.Enhanced climate resiliency capacity 3. Reduced Street Lighting energy composition and reductions in greenhouse gas emissions associated with reduction in energy consumption.	Activities ongoing - This will lead to emissions reductions. Improved resilience of the electricity network will be achieved	R3 - Promoting energy infrastructure to provide cleaner and more reliable power supply R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy.
Technical Assistance - Energy Audits for Public Buildings	Dominica	Evidence-based informed position on potential EE and/or RE interventions in audited buildings	Audits completed on 15 buildings – Evidence-based informed position provided for EE/RE interventions. No further activities, access information for improved decision making.	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy
BD 56/17 Technical Assistance - Environmental and Social Impact Assessment for Grenada's Geothermal Energy Development - Test Drilling Phase	Grenada	Enhanced capacity for GOGR to consider environmental and social impacts in the design of a GE exploratory test-drilling project and for developing a framework to manage its implementation sustainably.	During ESIA stakeholder conference issue was raised about an environmental risk. This was addressed in revised project design. Activities otherwise ongoing.	R4: Promoting Sector Reform, Good Governance and Capacity Building R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy R4: Promoting Sector Reform, Good Governance and Capacity Building
BD 56/17 Institutional Strengthening Energy Sector	Grenada	Improved capacity of the Government of Grenada to manage GE projects in a manner that engages the communities.	Community engagement achieved through liaison officer. Communities provided with brochures and other documents through long-term communication plan community awareness	R4: Promoting Sector Reform, Good Governance and Capacity Building R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy

Project Name	Country	Planned outcomes from project document	Achieved outcomes based on the FGD	ESPS Result <sup>50</sup>
BD 56/16 Technical Assistance - Energy Audits for Public Buildings	Grenada	Evidence-based informed position on potential EE and/or RE interventions in audited buildings	Energy audits completed in 14 Public Buildings. Evidence-based informed position provided to Government. This should support decision making	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy
BD 47/17 Energy Efficiency Measures and Solar Photovoltaic Plant	St Vincent	Reduced consumption of fossil fuel generated electricity through EE measures and RE substitution, contributing to lower GHG emissions.	Activities ongoing	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy. R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy
BD 122/20 Utility Battery Storage and Grid Connected Solar Photovoltaic Project	St Vincent	Increased supply of sustainable, low-carbon energy to the national grid of SVG.	Activities ongoing.	R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy R3: Promoting energy infrastructure to provide cleaner and more reliable power supply
Street and flood Light Retrofitting Project	St. Kitts	Reduced streetlight energy consumption and reductions in greenhouse gas emissions associated with reduction in energy consumption.	Contract for supply of LED lights awarded. Activities ongoing.	R1: Promoting EE for more affordable and stable energy costs, and for establishment of a green economy.
BD 63/20 Technical Assistance-Capacity Building Training and Certification of Photovoltaic Installers and Electrical Inspectors	Regional	Increased theoretical knowledge and technical skills for PV installers and system inspectors in the six SEEC countries.	Participants trained (228). Project recently concluded. Informal networking being done but no opportunity for formal outcome assessment.	R4: Promoting Sector Reform, Good Governance and Capacity Building R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy



**ENERGY SECTOR POLICY AND STRATEGY EVALUATION**

Project Name	Country	Planned outcomes from project document	Achieved outcomes based on the FGD	ESPS Result <sup>50</sup>
BD 93/19 Capacity Strengthening of Caribbean Utility Regulators in Grant Funding Proposal Development and Writing	Regional	Increased Institutional Capacity within OCCUR for accessing supplementary funding for effective regulation of the energy sector in CDB BMCs.	Difficult to capture/identify specific outcomes.	R4: Promoting Sector Reform, Good Governance and Capacity Building

## ENABLING, CONSTRAINING FACTORS AND RISKS

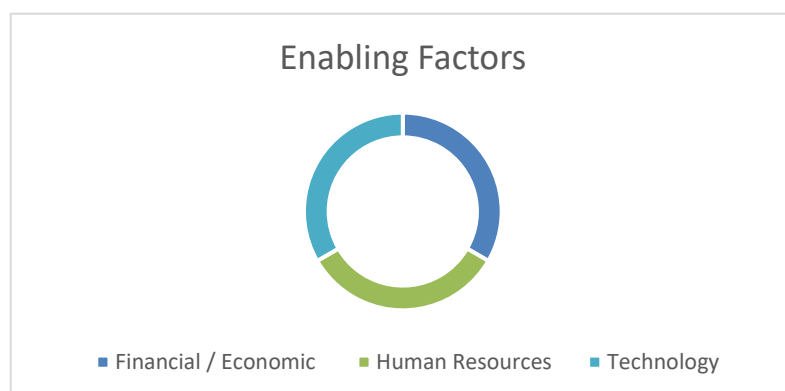
The participants noted that the classification of factors as enabling or constraining can vary based on the individual circumstance, particularly for funding resources. For this reason the factor, 'Providing the right funding resource' is listed as both an enabling and constraining factor.

### ENABLING FACTORS

- **Working with regional partners.** Working with regional partners such as CARICOM, GIZ, OECS, CCREEE on projects. This regional collaboration reduces duplication of efforts and achieves more overall. An example of this was also seen in Haiti. The collaborations were not burdened by additional layers of bureaucracy.
- **Ability to be responsive.** The ability to respond to customer queries and request for support. This responsiveness allows the bank to support the needs of BMCs.
- **Popularity of RE/EE.** There is significant interest in RE/EE in the region. Stakeholders are keen to deploy and learn about sustainable technologies and practices.
- **Clarity of financial terms.** A country may be seeking to finance a project but is unable to do so within the terms and conditions. Addressing these challenges would enable borrowing countries.
- **Providing the right funding resources at times the funding resources available are appropriate.** These are for cases where such as providing Technical Assistance.
- **Global RE/EE trends** The current global trends are towards RE/EE technologies and practices which makes it possible to source technologies, technical and human resources for the implementation of projects and capacity building exercises.
- **Energy sector is a sector in most of development agencies priorities.** The fact that the energy sector is targeted by most of the development agencies in the region favors the development of the sector and creates opportunities for the sustainability of ESPS results.

**Econolier comments** – Adequate human resource capacity or legislative and regulatory environment were not mentioned as enabling factors by the participants. It can also be said that clarity of financial terms can be interpreted as a factor which is currently constraining but viewed by the participants as a factor which can easily be addressed and turned into a benefit. Categorisation of these factors reveals that they can be presented under 3. Headings

1. Human resources (Working with regional partners, Ability to be responsive)
2. Technology (Popularity of RE/EE, Global RE/EE trends)
3. Financial/Economic (Clarity of financial terms, providing the right funding resources)

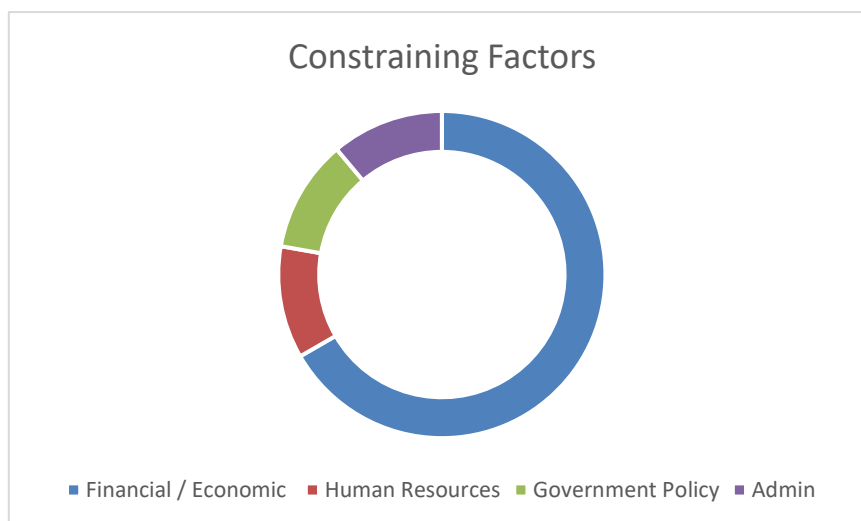


## CONSTRAINING FACTORS

Constraining factors mentioned during the focus group were:

- **Risk aversion to borrowing products.** Countries are not keen to borrow funds for various economic and policy reasons.
- **Internal and external capacity constraints.** The capacity constraints in the form of lack of persons available as well as the persons with the requisite skills for the tasks.
- **Crowded development space several lenders are competing for the same pool of borrowers.** Borrowers will tend to go towards the most attractive borrowing option.
- **CDB risk appetite alignment with ESPS.** The assessment of risk and processes which lead to the funding of activities and not guided by the ESPS objectives. As a result of this an initiative may be useful to supporting the ESPS objectives but the funds for execution may not be made available because the perceived risk of the activity is too high.
- **Slow approval process.** The approval process prior to and during the execution of projects is seen as too slow.
- **Debt limits some BMC may have debt limits which they have reached.** This affects their ability to borrow from CDB.
- **Funding the private sector.** The participants noted that it is currently very difficult to fund the private sector for renewable energy projects. If the targets are to be met however the private sector needs to be engaged.
- **Providing the right funding resources at times the funding resources available are not appropriate.** these are for cases where something other than Technical Assistance such as lending to the private sector.
- **Crowded development space.** The sector is targeted by the main bilateral and multilateral development partners in the region. Several agencies are competing for the same pool of borrowers or aid recipients

The constraining factors section received the most feedback. Six of the nine areas listed (66%) could be categorised as financial/economic. The three other areas mentioned were government policy, administrative efficiency and human resource capacity of the BMCs.



## CONSTRAINING FACTORS

Finally, participants were also asked for identifying major challenges to ensure sustainability of projects' results. In this sense, it was observed that some of the risks were the consequences of constraining factors

such as the crowded space for lending agencies and the debt limits of BMCs which were seen to overlap the constraining and risk categories. Others were more related to context issues. The risks identified were:

- **Competitive Financing Environment.** Other sources of funding are sometimes more attractive (e.g. grants from bilateral agencies) There is a need for the bank to be more aggressive in order to maintain or improve their position in the market. Failing to do this could result in borrowers turning to other agencies for funding and support.
- **Lack of Dedicated, Flexible Funding Resources.** The funding resources are not always appropriate. They can be suitable for Technical Assistance for example but not appropriate for investing in the private sector due to issues such as financial risk. This is because TA and loans can be extended more readily to governments than they can be to private institutions operating in the BMCs. Without the engagement of the private sector projects such as
- **Political instability/electoral cycle.** Where there is a change in government a lack of policy could limit the outcomes and impacts of activities.
- **Internal & External Capacity Constraints** The capacity constraints in the form of a lack of persons available as well as the persons with the requisite skills for the tasks. This presents a risk to the ability of BMCs to execute future initiatives.

**Econoler Comments** - It is interesting to note that; with one exception, the risks identified were all financial/economic. Global vagaries such as COVID-19 or climate events were not at the forefront of the discussion with the group. The lack of policy continuity identified as a constraining factor could also have been featured as a risk given that it is an ongoing problem.



## CONCLUSION

This exercise achieved its main objective of investigating and validating the findings from the review of documents and facilitating discussion on the observations. Additional information and documents were provided as a result of the process which allowed us to see that some activities could be referenced to a range of focus areas.

The activities relative to R1 are likely to achieve the outcomes and impacts desired. The exception to this success will be the energy audits where no EE retrofits appear imminent. Adjustments to the process such as

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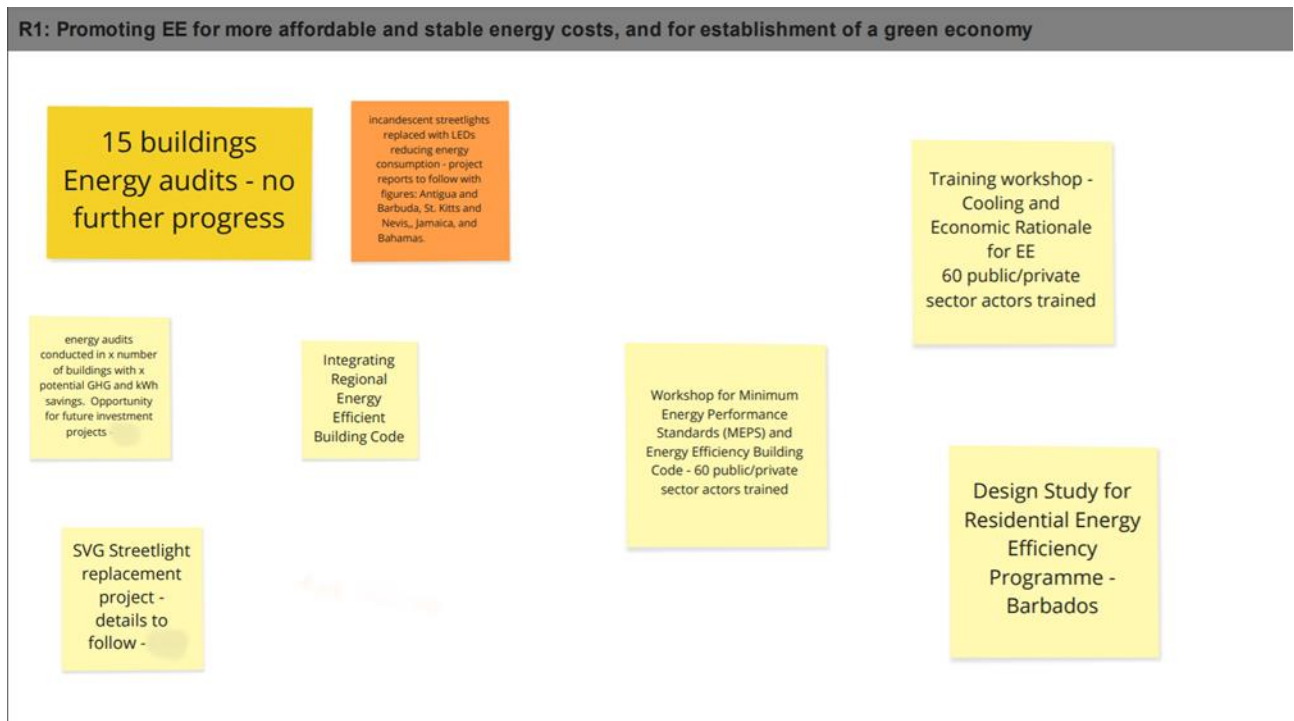
the selection of the buildings and the requirements of the audit can be made to help effect impacts in the future. Ultimately, the key constraining factor for these impacts appear to be financial.

Activities such as the deployment of transmission and distribution lines for electricity should factor resilience more heavily in the future by ensuring T&D lines are buried where possible. The climate event risk for the region is high and acts of nature such as storms could derails the impacts of these activities. Part of the focus of R3 is ensuring a more reliable power supply. Engineering and construction practices which significantly increase the reliability of T&D should be viewed as critical.

For other activities such as training and capacity buildings which were directed towards R4, the ability to link initiatives to impacts is inherently more complex to link and monitor. It may require additional techniques and tools to make more definitive pronouncements. It should also be noted that the participants highlighted continuity of government policy as a constraining factor. It is therefore reasonable to conclude that there are political considerations to achieve the expected outcomes under R4.

The constraining and risk factors for the project were viewed and overwhelmingly financial/economic and revolved mainly around the capacity of the countries to borrow and the ability of CDB to be the first choice for lending. Innovative approaches such as Energy Service Companies (ESCOs) could be used to deploy EE technologies in government buildings given that they would shift the debt and risk burden away from the government. Stakeholder engagement issues in the design and implementation of the projects could also undermine higher impact.

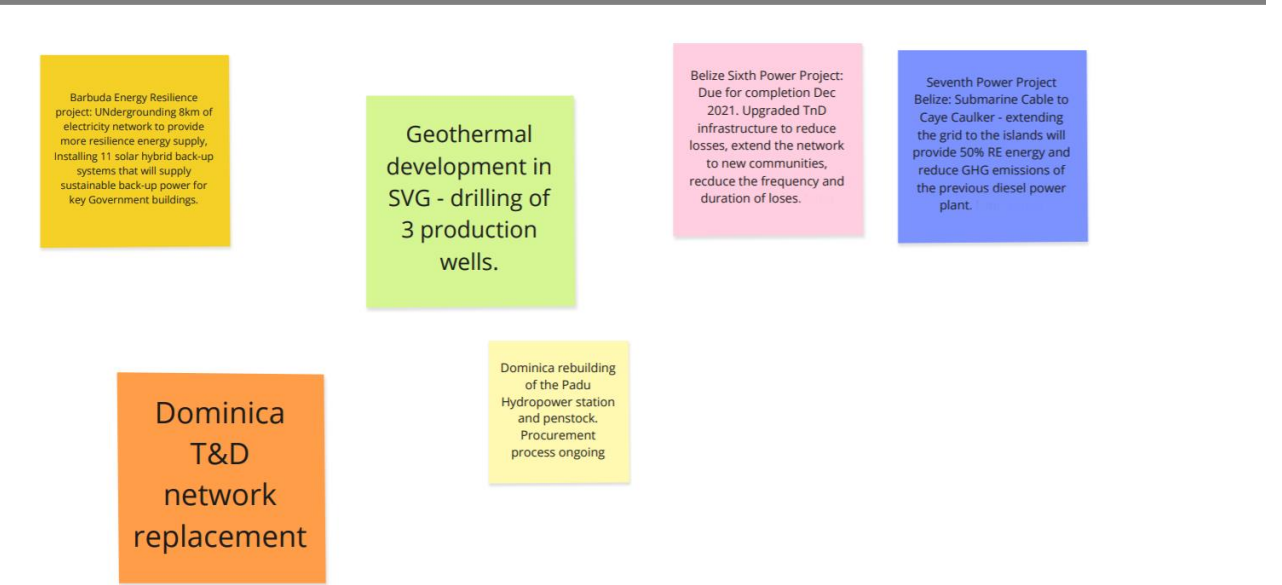
## OUTCOMING MAPPING NOTES WITH MIRO



**R2: Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy**



**R3: Promoting energy infrastructure to provide cleaner and more reliable power supply**

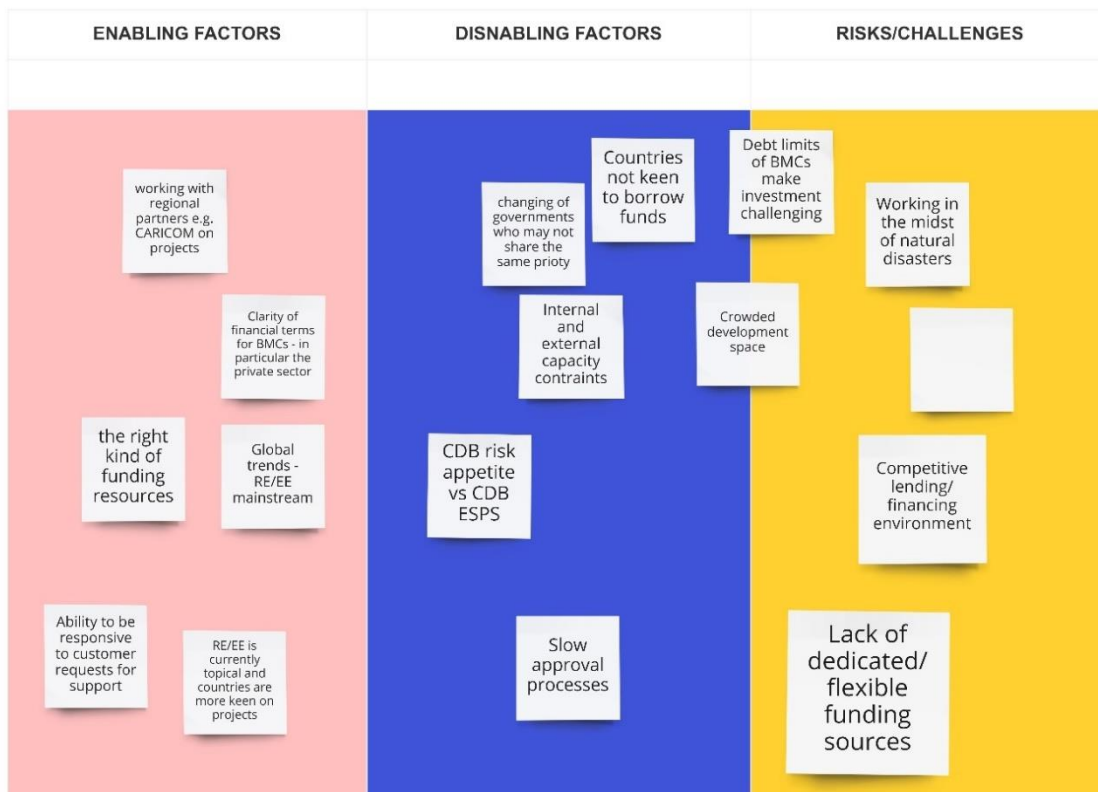


## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

### R 4: Promoting Sector Reform, Good Governance and Capacity Building



## ENABLING, CONSTRAINING, RISK FACTORS NOTES WITH MIRO



## APPENDIX 10 BMC'S SURVEY PROTOCOL

Econoler conducted an electronic survey to collect opinions and information on the entire portfolio of projects (beyond the six in-depth project analyses) and, particularly, on the ESPS influence on policies and enabling environments in the BMCs. The target audience included the following stakeholders:

- BMC governments (energy focal points or Ministers of Energy for example)
- Public institutions (direct or indirect beneficiaries such as utilities, development banks and energy regulators).

Data collection took place between September 20th and October 19th, 2021. The survey invitation was sent to 60 stakeholders by OIE. Econoler had had difficulty in obtaining responses from a high number of stakeholders, even though several attempts to contact them were made. Nonetheless, 20 stakeholders responded to the electronic survey, representing a 33% response rate, which is judged satisfactory for an electronic survey. This appendix presents the survey protocol and the next one the survey results.

### SURVEY PROTOCOL

Thank you for taking the time to answer the following survey about the Caribbean Development Bank (CDB) Energy Sector Policy and Strategy (ESPS). The ESPS was launched in March 2015 as the foundation for CDB to support the energy sector in borrowing member countries (BMCs). (<https://www.caribank.org/sites/default/files/publication-resources/EnergySectorPolicyandStrategy.pdf>)

Your answers will remain confidential, and no personally identifiable information will appear in any reporting.

This survey should take about 12 minutes to complete.

### INTRODUCTION

A1. For what type of institution do you work for?

1. Ministry of Energy (or ministry responsible for the energy sector)
2. Electric utility
3. Energy regulator
4. Development bank
5. Other, please specify: \_\_\_\_\_

A2. In which country?

Dropdown list of the 19 BMCs

### RELEVANCE

B1. Before responding to this survey, were you aware of the Caribbean Development Bank's Energy Sector Policy and Strategy (ESPS)?

1. Yes
2. No



## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

B2. How would you characterise your knowledge about the Caribbean Development Bank's Energy Sector Policy and Strategy (ESPS)?

1. I know it in-depth
  2. I know it quite well
  3. I know it superficially
  4. I have heard of it
96. Other [SPECIFY]: \_\_\_\_\_

B3 How would you describe your level of engagement in the development of the ESPS?

1. Very engaged
  2. Moderately engaged
  3. No so engaged
  4. Not at all engaged
98. Don't know

B4. **[IF B3=1 OR 2]** How were you involved in the development of the ESPS? Select all that apply. **[MULTIPLE CHOICE]**

1. I shared inputs and ideas for the design ESPS
  2. I reviewed the preliminary draft of the ESPS
  3. I provided comments on the final version of the ESPS
96. Other [SPECIFY]: \_\_\_\_\_

B5. Does the 2015 ESPS document provide an in-depth analysis of the energy sector, clearly highlighting the main challenges to be addressed in the region?

1. Yes, fully
  2. Yes, partially
  3. No
98. Don't know

B6. As a reminder, the ESPS objectives are:

- To assist BMCs with the timely provision of adequate, affordable, reliable, sustainable, and clean energy services to all segments of society;
- To establish the energy sector as a dynamic economic sector advancing the development of a green economy and supporting climate resilience; and
- To be a key regional energy sector development financier to serve as a catalyst for attracting concessionary resources to the region and as an intermediary for financial and technical assistance resources for BMCs.

Do the objectives and priorities set in the ESPS address the main needs of the energy sector in your country?

1. Needs of the energy sector are fully addressed in the ESPS
  2. Needs of the energy sector are partially addressed in the ESPS
  3. Needs of the energy sector are not addressed in the ESPS
98. Don't know

B7. **[If not or partially],** specify which needs have not been addressed, even partially.

Specify: \_\_\_\_\_

## COHERENCE

C1. Has the ESPS influenced the energy strategy in your country? If so, how? Select all that apply. **[MULTIPLE CHOICE]**

1. Yes, influence on the governance of the energy sector
2. Yes, influence on the energy efficiency (EE) regulation/policy
3. Yes, influence on the renewable energy (RE) regulation/policy
4. Yes, modifying the energy matrix strategy (more RE)
5. Yes, increased prioritisation of EE projects
6. No

98. Don't know

C2. Has the ESPS influenced the institutions responsible for setting or implementing the energy policy in your country? If so, how? Select all that apply. **[MULTIPLE CHOICE]**

1. Yes, improved capacities of institution staff
2. Yes, modification to institution processes and governance
3. Yes, modification to the organisational chart by adding a department to manage EE/RE projects
4. Yes, recruitment of specialists
5. No

98. Don't know

C3. Is the ESPS complementary with other ongoing or planned national policies, actions plans, or measures implemented in your country? Select all that apply..

1. Yes
2. No, there is no specific national action plan on renewable energy
3. No, there is no specific national action plan on energy efficiency
4. No, there is no specific national action plan on energy security
5. No, the national action plans/policies on renewable energy are not aligned with the ESPS
6. No, the national action plans/policies on energy efficiency are not aligned with the ESPS
7. No, the national action plans/policies on energy security are not aligned with the ESPS

98. Don't know

## EFFICIENCY AND EFFECTIVENESS

D1. Has your country benefited from any funding from CDB for specific projects in the energy sector?

1. Yes
2. No

98. Don't know

D2. **[IF D1=YES]** Did those projects contribute to address the country's main needs in terms of energy security, renewable energy, energy efficiency, etc.? If not, why? Select all that apply. **[MULTIPLE CHOICE]**

1. Yes, it addressed main energy security needs
2. Yes, it addressed main renewable energy needs
3. Yes, it addressed main energy efficiency needs
4. No, it did not address any of the energy security, renewable energy or energy efficiency needs

98. Don't know

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

D3. [IF D1=YES] How would you consider the information provided by the monitoring and evaluation system of the ESPS funded projects?

1. Extremely relevant and useful to ensure effective implementation
  2. Very relevant and useful to ensure effective implementation
  3. Not very relevant and useful to ensure effective implementation
  4. Not at all relevant and useful to ensure effective implementation
98. Don't know

D4. [IF D1=YES] How would you qualify the adaptability of CDB operations to the needs of the BMCs?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D5. [IF D1=NO] Why hasn't your country benefited from any funding from CDB for specific projects in the energy sector?

1. Specify: \_\_\_\_\_
98. Don't Know

D6. Has the ESPS supported your country in conducting any energy sector assessments?

1. Yes
  2. No
98. Don't know

D7. [IF 0=YES] How would you qualify the quality of the energy sector assessments supported by the ESPS in your country?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D8. Has your country developed a roadmap of actions aimed at sector reform and improved governance with the support of the ESPS?

1. Yes
  2. No
98. Don't know

D9. [IF D8=YES] How would you qualify the quality of the roadmap of actions supported by the ESPS in your country?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D10. **[IF D8=YES]** How far along are the implementation efforts for the roadmap of actions in your country?

1. All actions are implemented
  2. Most actions are implemented
  3. Some actions are implemented
  4. No actions are implemented
98. Don't know

D11. How would you qualify the ability of the financial instruments deployed by CDB to address the needs of your country in the energy sector?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D12. How would you qualify the adaptability of the financial instruments deployed by CDB in the context of market dynamics?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D13. How would you qualify your relations with CDB regarding the implementation of the ESPS and associated projects?

1. Very good
  2. Good
  3. Poor
  4. Very poor
98. Don't know

D14. Is sufficient funding available for each priority area in the energy sector in your country? If not, which areas lack funding? Select all that apply: **[MULTIPLE CHOICE]**

1. Yes
  2. No, the area lacking funding is EE
  3. No, the area lacking funding is RE
  4. No, the area lacking funding is power sector supply
  5. No, the area lacking funding is governance, capacity strengthening, and sector reform
98. Don't know

## IMPACT

E1. What types of benefits has the ESPS had on your country? Select all that apply: **[MULTIPLE CHOICE]**

1. Increased EE
2. More affordable and stable energy costs
3. Increased diversification of the energy matrix using RE options

## ENERGY SECTOR POLICY AND STRATEGY EVALUATION

4. More affordable and stable energy costs along with increased reliability of the system in BMCs
5. Decreased energy poverty in remote communities
6. Increased contribution of the green energy industry to economic output
7. Cleaner and more reliable energy system
8. Enabling environment characterised by improved policy, legislative, and regulatory frameworks
9. Strengthened institutional capacity and framework for the energy sector
10. Increased environmental sustainability and climate change mitigation
11. Increased social and gender inclusion in energy policies
96. Other [SPECIFY: \_\_\_\_\_]
98. Don't know

E2. Based on your knowledge, how would you consider the technical, economic, social and environmental effects of the ESPS compared to the initial situation?

1. Highly positive
2. Very positive
3. Positive in general, with some negative effects
4. Negative in general, with some positive effects
5. Very negative
6. Highly negative
98. Don't know

Please specify the main positive or negative effects: [SPECIFY: \_\_\_\_\_]

E3. Do you have any other comments to add on the ESPS's impact on your country or your institution?

## OTHER

F1. What would you like to see included in the next version of the ESPS? Select all that apply:  
[MULTIPLE CHOICE]

1. Same focus as the current ESPS
2. More focus on energy power supply
3. More focus on EE
4. More focus on RE
5. More focus on the private sector
6. More focus on governance
7. More focus on capacity strengthening
8. More diverse financial instruments
9. Improved financing conditions (lower interest rates, longer tenors, less strict collateral requirements, etc.)
10. Improved mainstreaming of gender and social inclusion
11. Improved considerations of environment and climate change
96. More [SPECIFY: \_\_\_\_\_]

F2. How would you like to be involved in the development of the next version of the ESPS?

[SPECIFY]: \_\_\_\_\_

## APPENDIX 11 BMC'S SURVEY RESULTS

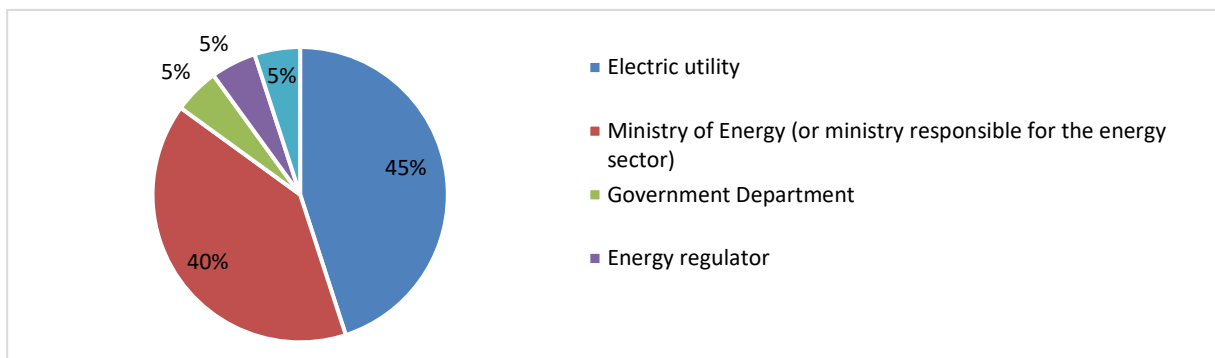
The following section presents the survey results.

### INTRODUCTION

#### PROFILE OF RESPONDENTS

In total, 20 stakeholders from 14 countries participated in the electronic survey. As illustrated in Figure 18 below, most of them work for an electric utility (45%) or the Ministry of Energy (40%) in their respective BMCs. In terms of coverage across all BMCs, the electronic survey reached 14 of the 19 BMCs. The only BMCs not represented in the survey responses are Anguilla, British Virgin Islands, Cayman Islands, Haiti, and Montserrat.

*Figure 18: Types of Institutions Represented Among Survey Respondents*

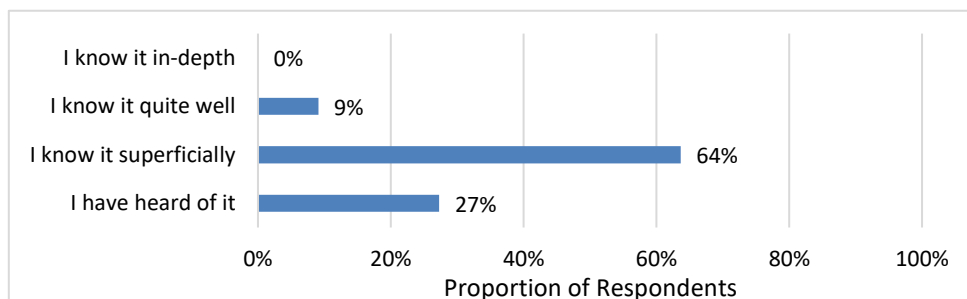


### RELEVANCE

#### AWARENESS OF THE ESPS

Before responding to the survey, just over half of respondents (55%) reported being aware of CDB's ESPS, which suggests that the awareness level of the policy and strategy is moderate among key stakeholders. Econoler asked respondents who reported being aware of the ESPS to characterise their knowledge of the ESPS and results are presented below in Figure 19. With only 9% of respondents reporting that they know the ESPS quite well, Figure 19 demonstrates that even amongst stakeholders who were aware of the policy, their levels of awareness and knowledge are superficial at best.

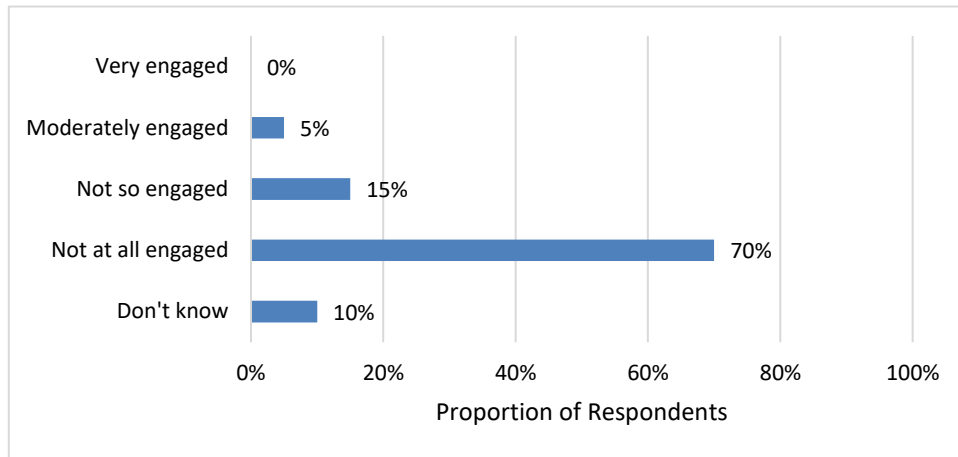
*Figure 19: Types of Institutions Represented Among Survey Respondents*



## DEVELOPMENT OF THE ESPS

As illustrated the Figure 20 below, most respondents were not involved in the development of the ESPS (70%). In total, 5% reported being “moderately engaged” and 15% being “not so engaged”. The “moderately engaged” respondent reported having shared inputs and ideas for the design of the ESPS. In short, the level of engagement in the development of the ESPS among responding stakeholders was minimal.

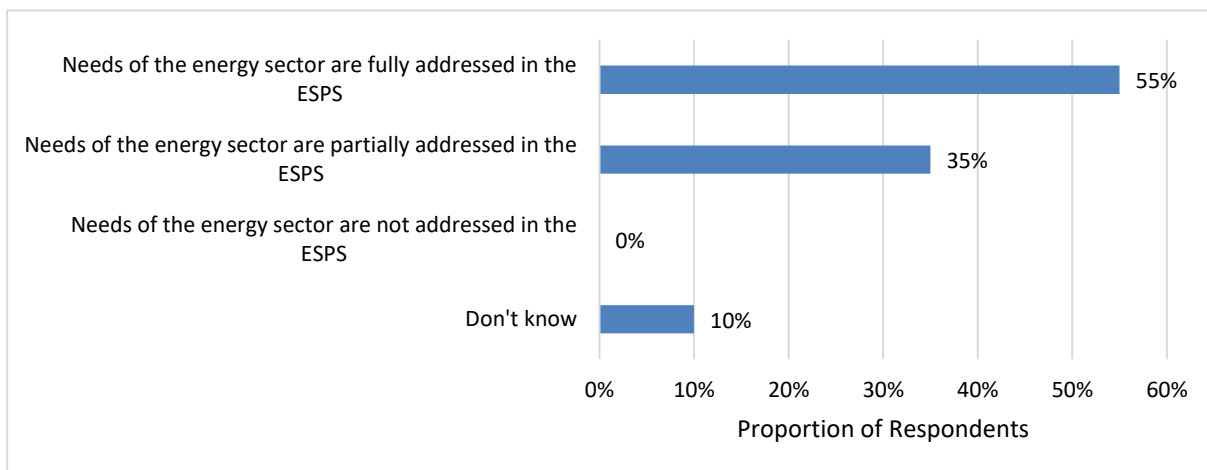
*Figure 20: Level of Engagement in the Development of the ESPS*



## ALIGNMENT OF THE ESPS WITH STAKEHOLDER NEEDS

Figure 21 presents the respondents assessment of the alignment of ESPS objectives with needs identified in their respective BMCs. All respondents reported that the needs of the energy sector are either fully (55%) or partially (35%) addressed in the ESPS. As for respondents who found that needs were only partially addressed, among the gaps identified were “knowledge and capacity building”, “the upgrade needed to the regulatory environment” and “the need for competitive financing among all multilaterals”.

*Figure 21: Alignment of the Objectives and Priorities Set in the ESPS with Main Energy Sector Needs in BMCs*

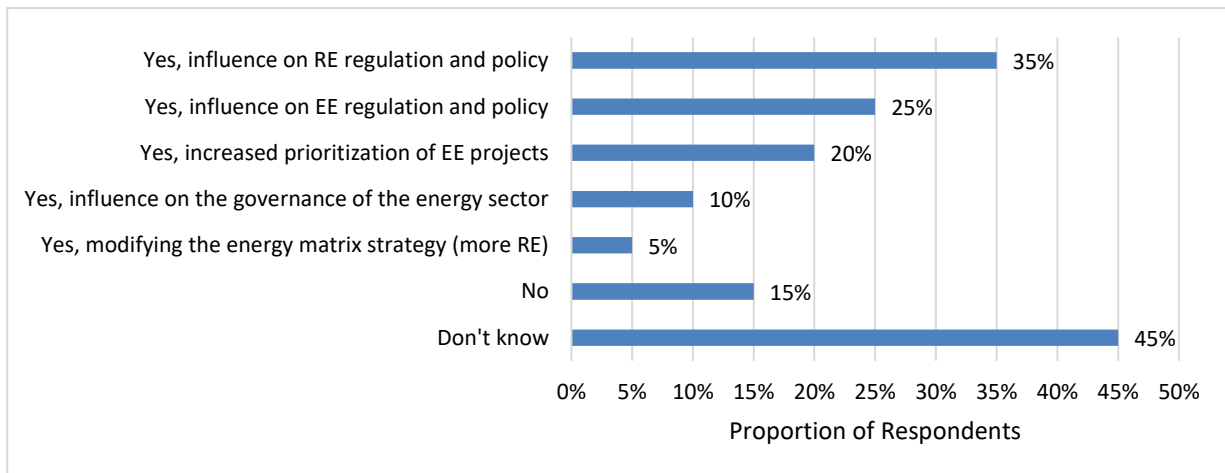


## COHERENCE

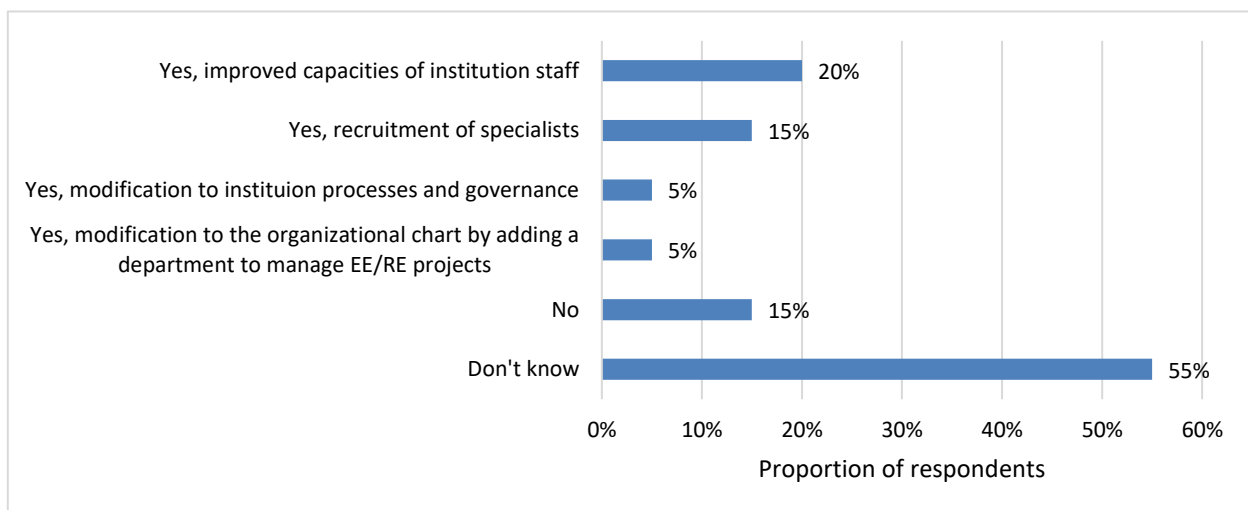
### INFLUENCE OF THE ESPS ON BMC'S ENERGY STRATEGY

The next three figures, namely Figure 22, Figure 23 and Figure 24 present the influence of the ESPS on BMC's energy strategy. As illustrated in Figure 22, the influence of the ESPS was the greatest on RE and EE regulations and policies in the BMCs. When asked if and how the ESPS influenced the institutions responsible for setting or implementing the energy policy in their respective countries, over half (55%) of respondents were unable to provide an answer as shown in Figure 23. Nonetheless, among those who did, the most frequent responses were that the ESPS improved capacities of institution staff (20%) and recruitment of specialists (15%). Finally, as detailed in Figure 24, most respondents (65%) found that the ESPS is complementary with other ongoing or planned national policies, actions plans or measures implemented by their respective countries.

*Figure 22: Influence of the ESPS on Energy Strategy in BMCs (Multiple Response)*

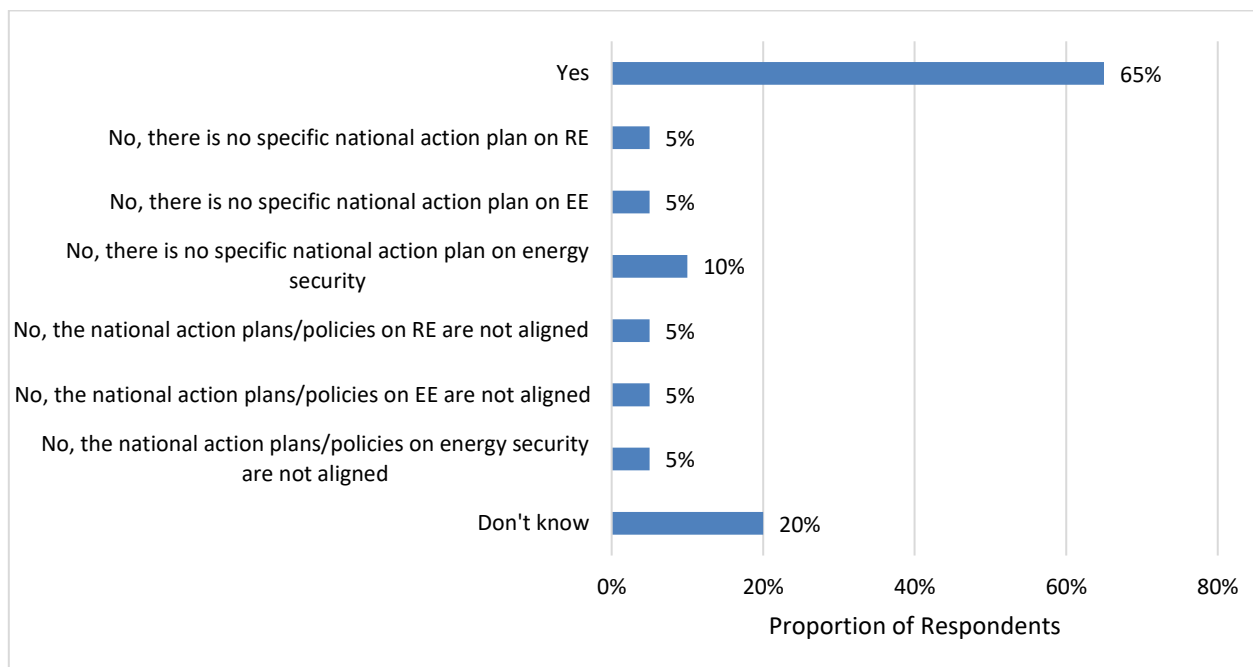


*Figure 23: ESPS Influence on Institutions Responsible for Setting or Implementing Energy Policy in BMCs (Multiple Response)*





*Figure 24: Complementarity of the ESPS with Other Policies, Action Plans and Measures in BMCs (Multiple response)*



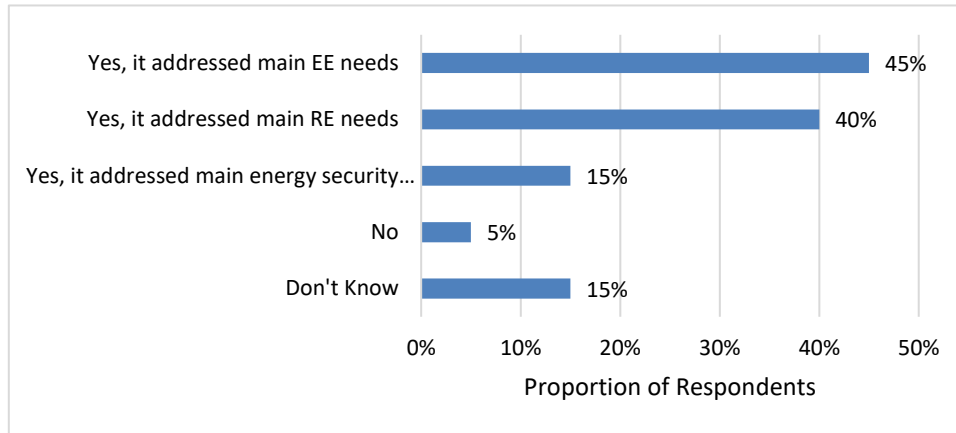
## EFFICIENCY AND EFFECTIVENESS

### PROJECTS FUNDED BY THE CDB

Three-quarters of survey respondents (75%) reported that their country had benefited from funding from CDB for specific projects in the energy sector. The other quarter (25%) did not know if their BMC had benefited from funding although from the project database, we know that projects have been implemented in 12 of the 14 countries (85%) from where responded answered. One respondent specified that their institution had no projects with the ESPS because they lacked the human resources needed to actively engage with CDB and capitalise on its services.

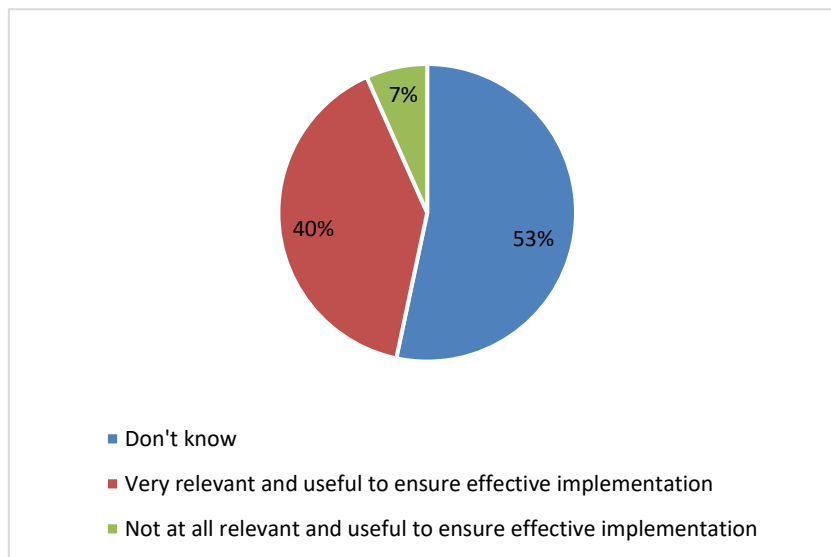
As illustrated in Figure 25, respondents found that the projects contributed to address their countries’ main needs, especially in terms of EE (45%) and RE (40%). Fewer respondents found that the projects addressed their energy security needs (15%).

**Figure 25: Ability for ESPS-funded Projects to Address Energy Sector Needs in BMCs (Multiple Response)**



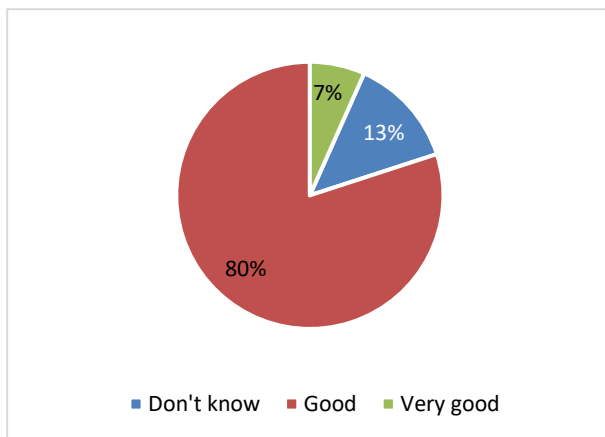
Among those who were able to comment on the information provided by the monitoring and evaluation system of the ESPS funded projects, Figure 26 reveals that the majority (53%) found that the information was very relevant and useful to ensure the effective implementation of the projects.

**Figure 26: Relevance and Usefulness of the Information Provided by the Monitoring and Evaluation System**

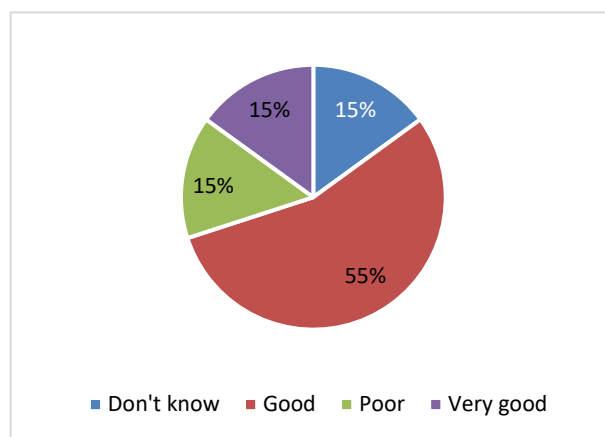


Econoler also asked participants about CDB performance related to the implementation of projects. In terms of the adaptability of the CDB operations to the needs of the BMCs, all respondents were satisfied and characterised them as either “very good” (7%) or “good” (80%), as shown in Figure 27. Stakeholders were also satisfied with their relations with the Bank regarding the implementation of the ESPS and associated projects. As illustrated in Figure 28, close to all described them as “very good” (15%) or “good” (55%).

*Figure 27: Adaptability of CDB Operations to the Needs of BMCs*



*Figure 28: Quality of Stakeholder Relations with CDB Regarding the Implementation of the ESPS and Associated Projects*



## ENERGY SECTOR ASSESSMENTS FUNDED BY CDB

Among survey respondents, 40% reported that the ESPS has supported their country in conducting an energy sector assessment. It should be noted that 55% of respondents did not know if the ESPS had supported their country in performing an energy sector assessment.

The respondents who reported having benefited from support for an energy sector assessment found that the quality of the energy sector assessment was satisfactory, with all of them characterising them as “very good” or “good”.

## CDB SUPPORT FOR ROADMAP OF ACTIONS FOR IMPROVED GOVERNANCE

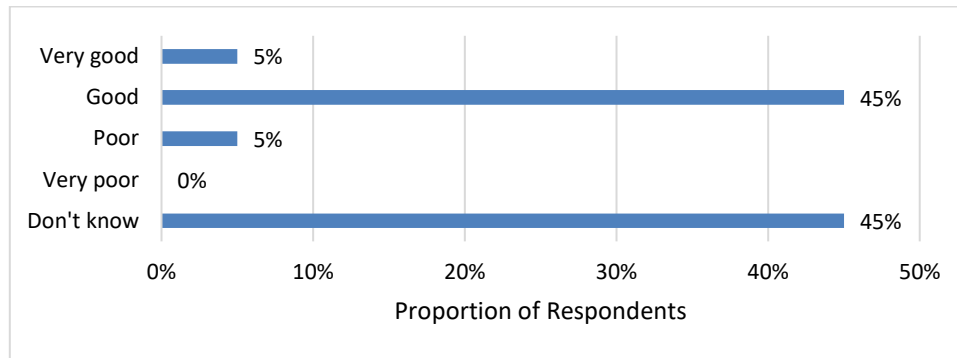
Only 25% of survey respondents reported that their country developed a roadmap aimed at sector reform and improved governance with the support of the of the ESPS. Again, a high number of respondents (60%) did not know if their BMC has benefited from this type of support.

Most respondents who reported having benefited from support for a for a roadmap of actions found that the quality of the roadmap of actions was satisfactory and characterised them as “good”. However, one respondent qualified the roadmap of actions as “poor”. All respondents who benefited from this type of support reported that some actions have been implemented.

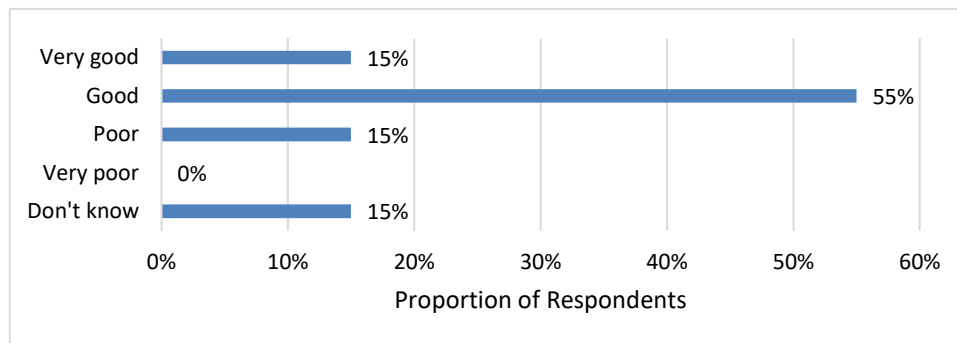
## FINANCIAL INSTRUMENTS DEPLOYED BY CDB

The next two figures, namely Figure 29 and Figure 30, present a generally positive appreciation of the financial instruments deployed by CDB among stakeholders. As shown in Figure 29, most stakeholders found that the financial instruments were able to address energy sector needs in the BMCs, although many did not know (45%). Furthermore, most stakeholders found that the adaptability of the financial instruments in the context of market dynamics was “good” (55%) or “very good” (15%).

*Figure 29: Ability of the Financial Instruments Deployed by CDB to Address Energy Sector Needs in BMCs*



*Figure 30: Adaptability of the Financial Instruments Deployed by CDB in the Context of Market Dynamics*

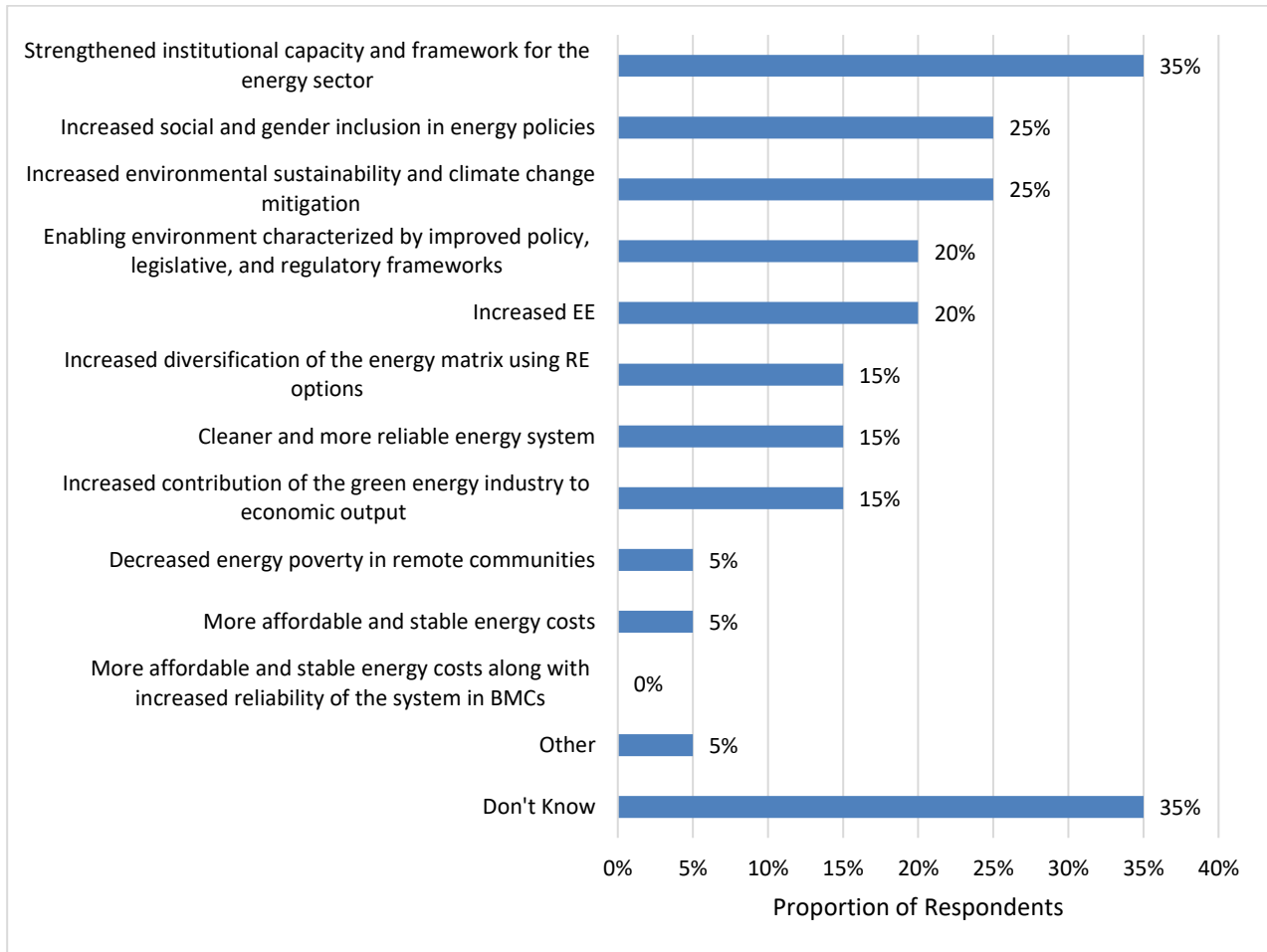


## IMPACT

### IMPACTS OF THE ESPS

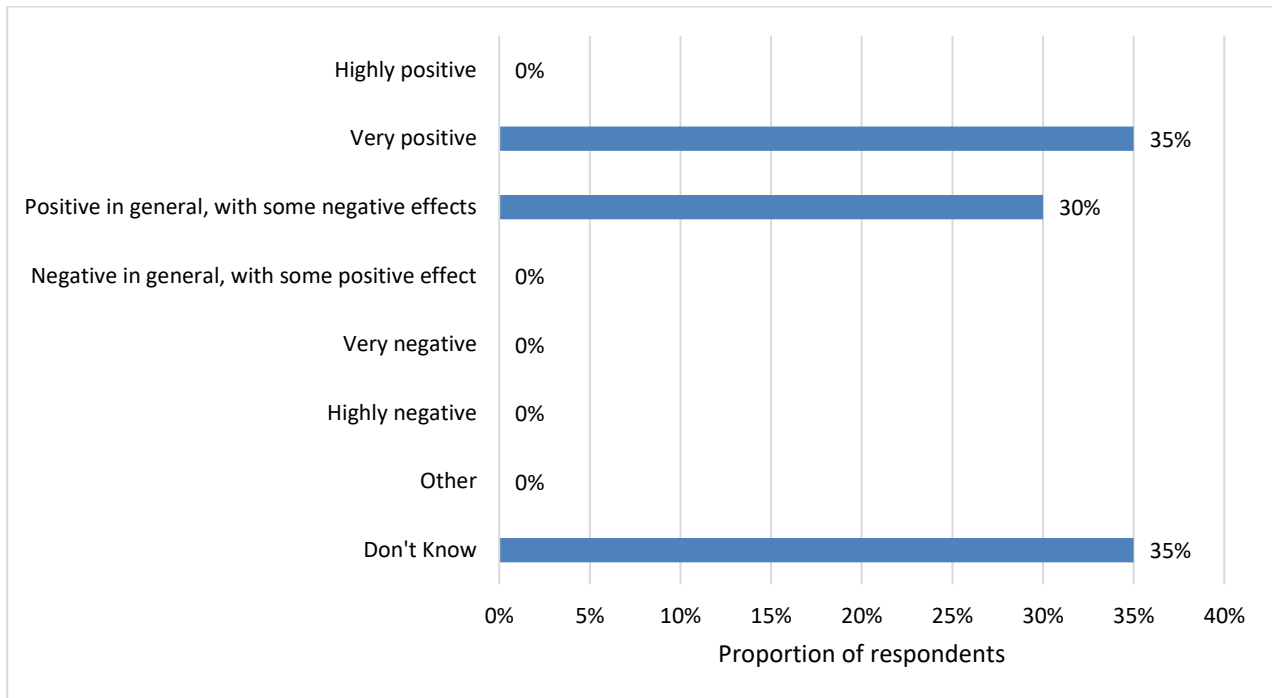
Figure 31 demonstrates that the beneficial impacts of the ESPS on BMCs were wide-ranging. The most cited positive effects of the ESPS are that it strengthened institutional capacity and framework for the energy sector (35%), increased social and gender inclusion in energy policies (25%) and increased environmental sustainability and climate change mitigation (25%). Notably, 35% of survey respondents were unaware of any beneficial impacts of the ESPS on their country.

*Figure 31: Impacts of the ESPS on Respondent’s BMC (Multiple response)*



Econoler also asked respondents to characterise the technical, economic, social, and environmental impacts of the ESPS and the results are presented in Figure 31. Again, 35% of the respondents were unable to provide an answer. The others found that the impacts were very positive (35%) or generally positive (30%).

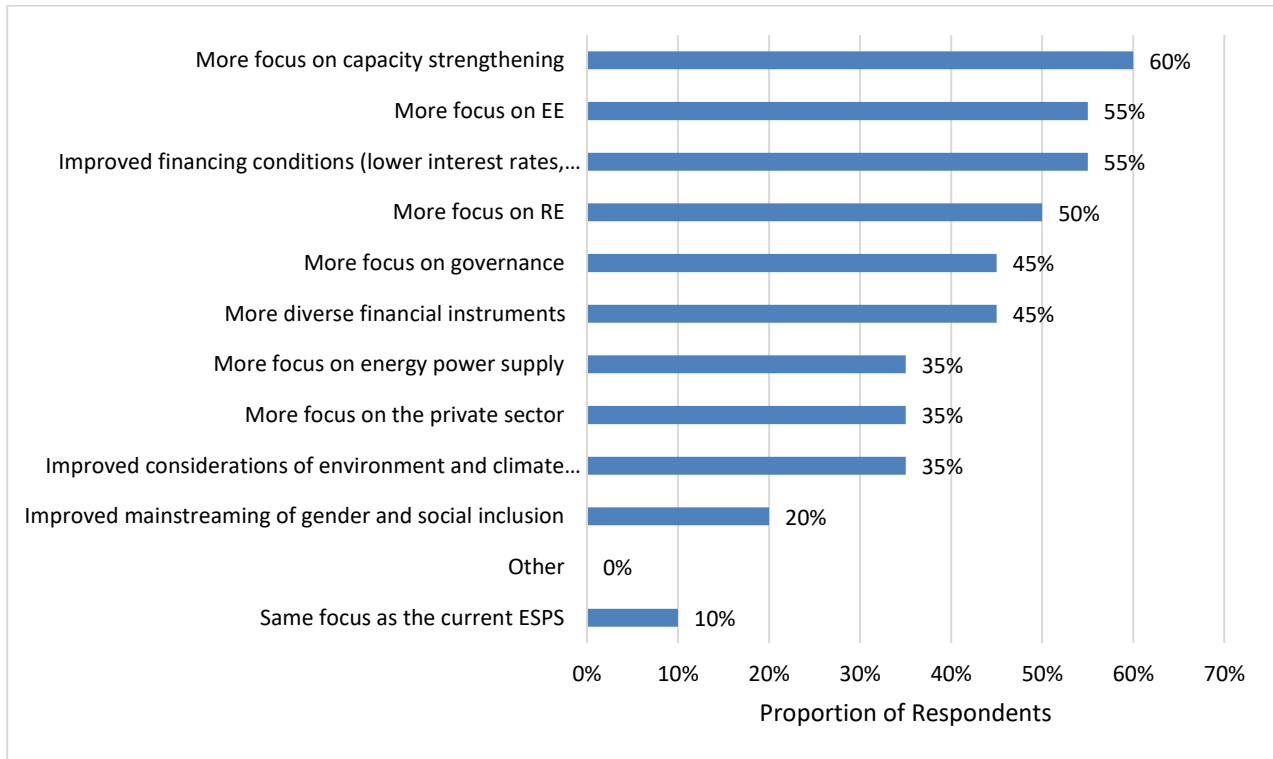
*Figure 32: Technical, Economic, Social and Environmental Effects of the ESPS Compared to the Initial Situation*



### NEXT VERSION OF THE ESPS

As illustrated in Figure 33, the survey respondents shared that they would like to see more focus in certain areas or improvements in the next version of the ESPS. Only two respondents said that they wanted the next version of the ESPS to focus on the same areas as the current version. The most cited areas where respondents would like to see greater focus are capacity strengthening, EE and improved financing conditions (lower interest rates, longer tenors, less strict collateral requirements, etc.).

*Figure 33: Desired Areas of Focus for the Next Version of the ESPS (Multiple Response)*



In terms of how stakeholders would like to be involved in the development of the next version of the ESPS, the most frequent answer was that stakeholders want to take part in consultations. Here are some examples of the answers provided.

*“I can provide more input or be part of the committee that will update the ESPS. I can provide insights from the utility perspective.”*

*“Broad consultations are necessary for the effective formulations of such policy instruments.”*

*“I can help provide more specific information about my country.”*

*“I would like to be able to contribute to public consultations, focus stakeholder interviews and the development of the ESPS.”*

## APPENDIX 12 EVALUATION MATRIX

Table 16: Evaluation Matrix

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
1) Relevance	1.1 Whether 2015 ESPS appropriately analysed energy sector challenges in the Region and identified the appropriate focus for the Bank to adopt in addressing them.	<p>KEQ 1.1.1 Does the 2015 ESPS document provide an in-depth analysis of the energy sector clearly highlighting the main challenges to be addressed in the region?</p> <p>KEQ 1.1.2 Are the 2015 ESPS general/specific objectives and results intended to address energy sector challenges in line with the CDB mandate, sector specialisation, and expertise?</p>	<p>I.1.1.1 The 2015 ESPS document includes an accurate assessment of the main challenges of BMCs using qualitative and quantitative data from a given country and at the regional level. It also refers to the social impacts of the challenges.</p> <p>I.1.1.2 The objectives and results are assessed as adequate, and their achievement is likely to contribute to addressing the main challenges.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMC public energy institutions</p>
	N/A	KEQ 1.2.1 Were the main stakeholders (incl. direct beneficiaries) involved in the design of the ESPS?	I.1.2.1 Level of engagement and inclusiveness of main stakeholders in the design of the ESPS.	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMCs public energy institutions</p>
	N/A	KEQ 1.3.1 Did the ESPS address the main needs of both direct and indirect beneficiaries?	I.1.3.1 Perception of direct beneficiaries that the ESPS priorities/objectives addressed their main needs.	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMCs public energy institutions</p> <p>In-depth sampled projects analysis</p>
2) Internal Coherence	3.5 Whether, as outlined in the ESPS, complementary instruments including the CTCS, and BNTF were mobilised in support of the Strategy.	<p>KEQ 2.1.1 Were energy sector themes such as EE/RE included in CTCS and BNTF?</p> <p>KEQ 2.1.2 Could the use of CTCS, BNTF, DFIs, and other complementary instruments be considered supportive of ESPS implementation?</p>	<p>I.2.1.1 Involvement of instruments in the implementation of ESPS (in USD and percentage per instrument).</p> <p>I.2.1.2 Involvement of the CTCS, BNTF, and DFIs in the implementation of the ESPS (in USD and percentage).</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Database Analysis</p>



ENERGY SECTOR POLICY AND STRATEGY EVALUATION

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
2) External Coherence	3.3 Whether an adequate alignment of country strategies with the ESPS occurred.	KEQ 2.2.1 Were there synergies or complementarities, particularly in terms of the energy sector and governance reform, between the ESPS and other ongoing or planned national policies, action plans, or measures implemented by BMCs?	I.2.2.1 Synergies and complementarity between the ESPS and national policies can be demonstrated and evidenced.	Desk review Semi-structured interviews Survey with BMC public energy institutions
	2.3 Whether ESPS took proper account of the potential for complementarity and cooperation with other players.	KEQ 2.3.1 Did CDB consult with the key development partners in the energy sector in the region when designing the ESPS? KEQ 2.3.2 Were there any complementarity issues, particularly in capacity development, with other ongoing projects and programmes supported by other development partners in the energy sector? KEQ 2.3.3 Were there donor coordination mechanisms (at the country or regional level)? Did CDB appropriately participate in these coordination mechanisms?	I.2.3.1 Major financial contributors/players in the regional energy sector were consulted when designing the ESPS and perceived by them as sufficient to ensure complementarity among all the actions in energy sector. I.2.3.2 Number and level of overlapping cases/issues between capacity development projects (including TA projects) implemented under the ESPS and other projects implemented through other mechanisms/strategies in the region. I.2.3.3.a Number of coordination mechanisms and levels of participation of CDB in donor coordination mechanisms. I.2.3.3.b The donor coordination mechanism was used to ensure complementarity between ESPS implementation and the implementation of other interventions in the sector. The mechanism addresses overlapping issues.	Desk review Semi-structured interviews Survey with BMC public energy institutions

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
3) Efficiency	3.1 The extent to which CDB adapted its priorities, internal capacity, and processes to support ESPS implementation.	<p>KEQ 3.1.1 How did CDB identify the need to adapt internally to better support the ESPS? How was this adaptation justified and implemented?</p> <p>KEQ 3.1.2 Did CDB adopt specific measures (in terms of capacities or internal action plans, etc.) for the implementation of the ESPS to address needs and gaps that emerged during the design and implementation processes (incl. adapting to context changes)?</p>	<p>I.3.1.1.a Implementation of financial mechanisms was in line with expectations/objectives.</p> <p>I.3.1.1.b Internal processes allowed for transposing ESPS into specific investment actions.</p> <p>I.3.1.2.a Number and type of specific measures that the CDB put in place to address implementation needs and gaps identified during the design of the ESPS or as a result of changes in the context.</p> <p>I.3.1.2.b The measures were perceived as adequate and sufficient to support the implementation of the ESPS.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMC public energy institutions</p>
	3.2 The extent to which CDB was able to create and deploy appropriate and innovative instruments to address the needs of BMCs.	<p>KEQ 3.2.1a Was the design of the chosen implementation mechanisms based on an analysis of the market needs of BMCs?</p> <p>KEQ 3.2.1b Did the implementation require adaptation of the instruments in the context of market dynamics and as result of adapting CDB operation to the needs of the BMCs?</p> <p>KEQ 3.2.1c Were the instruments perceived as innovative within the CDB and outside of the CDB?</p>	<p>I.3.2.1.a % of the chosen implementation mechanisms that are based on prior BMC market needs analysis.</p> <p>I.3.2.1.b Number and type of new instruments (SFPs) created to adapt CDB operations to the needs of BMCs and perception of their effectiveness and levels of innovation.</p> <p>I.3.2.1.c Perception of financial instruments' innovation within CDB.</p> <p>I.3.2.1.d Perception of financial instruments' innovation outside CDB.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMC public energy institutions</p>
	N/A	KEQ 3.3.1 Were the ESPS output and outcome results achieved within the expected timeline? If there were any delays: (a) how important were they?; (b) were the reasons identified?; (c) were the planning revisions adequately implemented?	I.3.3.1. The outputs of ESPS projects were achieved as planned. In case they were not: (a) delays did not affect the achievement of results; (b) delays were justified or due to a force majeure; (c) project plans were updated accordingly and projects delivered as newly planned.	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Focus groups</p> <p>Survey</p> <p>In-depth sampled projects analysis</p>
	N/A	KEQ 3.4.1 Were the partnership/relations with BMCs conducive to the achievement of project results?	I.3.4.1 The implementation structure of the ESPS was assessed as appropriate, and the relations between CDB and BMCs were rated as excellent and favorable to the implementation of projects/the ESPS.	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMC public energy institutions</p>

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
	N/A	KEQ 3.5.1 How did CDB ensure coordination, complementarity, and synergies among the different SFPs and development partners funds used to implement the ESPS?	I.3.5.1. Documented efforts to ensure complementarity, synergies, and coordination among all the output and outcome results delivered by the projects/programmes under the ESPS.	Desk review Semi-structured interviews Database Analysis
	N/A	KEQ 3.6.1 Were any ESPS priority areas underfinanced (financing gap)?	I.3.6.1. Investment per priority area. I.3.6.2 Perception of sufficient funding for each priority area by CDB staff and externally.	Desk review Semi-structured interviews Survey with BMC public energy institutions Database Analysis
4) Effectiveness	2.4 Can lessons be learned from the approach of other Development Banks?	KEQ 4.1.1 Which are the approaches used by other development banks and development partners to support the energy sector in the Caribbean? KEQ 4.1.2 What are the lessons learned from applying those approaches?	I.4.1.1 Number and type of approaches used by other development banks and development partners. I.4.1.2 Application of the approaches led to a series of lessons learned perceived as relevant to the energy sector.	Desk review Semi-structured interviews Database Analysis
	3.4 Whether an appropriate monitoring and evaluation system provided valuable and reliable information for tracking progress and for adaptive management.	KEQ 4.2.1 Was an M&E system in place to monitor ESPS implementation? KEQ 4.2.2 Did the M&E system provide reliable and valuable information to ensure effective project implementation at both the strategy level and project level?	I.4.2.1 Verification of the existence of an M&E system that tracks progress toward the achievement of ESPS and includes planning of M&E activities, SMART indicators, data-collection tools, and specific sources of information. I.4.2.2 Use of the M&E system for decision-making and adaptive management.	Desk review Semi-structured interviews Focus groups Survey with BMC public energy institutions In-depth sampled projects analysis
	4.1 Whether the ESPS results framework was appropriate.	KEQ 4.3.1 Is the results chain of the ESPS clear and feasible? KEQ 4.3.2 Were the outputs and outcomes of the ESPS set to be achieved in a defined period and specific, measurable, achievable, relevant, and timebound (SMART)?	I.4.3.1. The analysis of the resulting chain allowed to establishing cause-effect between inputs and outputs at project, programme, and ESPS levels and contribution between outputs and outcomes at project, programme, and ESPS levels. I.4.3.2 Number of indicators that are designed according to SMART principles.	Desk review Semi-structured interviews Focus groups Survey with BMC public energy institutions Theory of change

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
	1.2 The extent to which the ESPS was able to facilitate energy sector assessments in BMCs and identify detailed roadmaps of action for support by CDB energy sector tools, with emphasis on sector reform and improved governance.	<p>KEQ 4.4.1 How many energy sector assessments supported by the ESPS were used in BMCS?</p> <p>KEQ 4.4.2 How many roadmaps of action aimed at sector reform and improved governance identified as part of the implementation of the ESPS were used by the BMCs?</p> <p>KEQ 4.4.3 What factors favored the facilitation of energy sector assessments and roadmaps for action?</p>	<p>I.4.4.1 Number, quality, and use of the energy sector assessments supported by the ESPS.</p> <p>I.4.4.2 Number, quality, and use of roadmaps, legal and policy reforms supported within the framework of the ESPS, and the levels of implementation of these reforms.</p> <p>I.4.4.3 Number and type – political (instability, elections), economic (crisis/sustained growth), social (issues in the community), or technical nature (related to the implementation modes, bureaucracy, etc.) – of factors that favored/hindered the implementation of ESPS.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Survey with BMC public energy institutions</p> <p>Database Analysis</p>
	4.3 To what extent have the portfolio of investments and TAs met their output and outcome targets?	<p>KEQ 4.5.1 What was the level of output delivery? Were outputs delivered?</p> <p>KEQ 4.5.2 What was the level of outcome achievement?</p>	<p>I.4.5.1 % of outputs delivered and target outputs achieved by sampled projects.</p> <p>I.4.5.2.a % of outcome targets achieved.</p> <p>I.4.5.2.b Whether or not the investment triggered sustainable market change/development.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Focus groups</p> <p>In-depth sampled projects analysis</p>
	4.4 What factors explain the success or failure of the portfolio of investments and TAs?	<p>KEQ 4.6.1 Were the criteria for success clearly defined (and aligned with the ESPS) for each investment and TA?</p> <p>KEQ 4.6.2 What factors explain the success or failure of of investments and TAs that make up the ESPS portfolio?</p>	<p>I.4.6.1.a Number or % of portfolio investments and TAs implemented versus planned (if any).</p> <p>I.4.6.1.b Number and type – political (instability/elections), economic (crisis/sustained growth), social (levels of education), or institutional (related to the implementation modes, bureaucracy, etc.) – of factors that contributed to the failure or success of the portfolios of investments and TAs.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Focus groups</p> <p>Database Analysis</p> <p>In-depth sampled projects analysis</p>

ENERGY SECTOR POLICY AND STRATEGY EVALUATION

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
	4.5 To what extent did the portfolio of investments and TAs respect CDB’s environment and social safeguards and gender equality policy?	<p>KEQ 4.7.1 Did the project include specific measures to address the environmental and social safeguard issues?</p> <p>KEQ 4.7.2a Was the relationship between the unit(s) in charge of the ESPS and the ESU/SSD appropriate to address the issues identified through the safeguards?</p> <p>KEQ 4.7.2b Did the projects include gender markers or targets? If yes, were those gender markers used to monitor the implementation of a gender sensitive approach in projects?</p> <p>KEQ 4.7.3 Were data collected and reported in a disaggregated manner by sex when pertinent and possible?</p> <p>KEQ 4.7.4 Did monitoring reports include a section stating progress on implementing the environmental and social safeguards and gender equality measures?</p>	<p>I.4.7.1.a Number and type of specific measures to address environment and social safeguards and their level of completion.</p> <p>I.4.7.1.b The relation between the unit(s) in charge of ESPS implementation and the ESU perceived as sufficient to address environmental issues resulting from the implementation of the ESPS.</p> <p>I.4.7.2.a Gender analysis took place at the design or implementation level of the ESPS, programme level, and project level and used to mainstream gender equality into the ESPS, programmes, and projects.</p> <p>I.4.7.2.b Levels of gender mainstreaming into ESPS, programmes, and projects assessed using UN rating: Gender negative, blind, sensitive, responsive, or transformative.</p> <p>I.4.7.3 Projects, programmes, and ESPS progress reports provide data disaggregated by sex when possible and pertinent (number of users, people trained, etc.).</p> <p>I.4.7.4 Projects, programmes, and ESPS progress reports include a section reporting progress in the implementation of measures to address environmental, social, and gender issues.</p>	<p>Desk review</p> <p>Semi-structured interviews</p> <p>Focus groups</p> <p>In-depth sampled projects analysis</p>
5) Impact	1.4 The extent to which ESPS strengthened institutional capacity and frameworks for the energy sector in BMCs.	KEQ 5.1.1 Is there early evidence (e.g. in terms of institutional performance, transparency, energy-related services) that the ESPS contributed to strengthening institutional capacity and frameworks for the energy sectors in BMCs?	I.5.1.1 Number and type of outcomes (policy reforms, legal reforms, organisational infrastructure-processes, protocols, structures, individual capacity) in institutional capacity improvement, as a result of the ESPS contribution to the sector.	<p>Desk review</p> <p>Focus Groups</p> <p>Survey with BMC public energy institutions</p> <p>ToC</p>

OEDC-DAC Criteria	EQs as per the TOR	Key Evaluation Questions (KEQs)	Indicators (Is)	Methods to Answer Question
	4.2 What have been the results of the portfolio of investments and TAs in transforming the energy sector?	KEQ 5.2.1 What are the impacts/effects of the ESPS compared to the initial situation in BMCs in terms of (a) positive and negative/intended and unintended effects and (b) technical, economic, social, and environmental effects?	<p>I.5.2.1 Outcomes (positive/negative; intended/unintended) perceived as having addressed needs/issues (type of) in BMCs, classified as follows:</p> <p>Technical (e.g. capacity, protocols, process, laws). Economic (e.g. increased benefits, promoting business, green jobs). Social (e.g. access to affordable energy, increase of population access to energy, improved health issues/services). Environmental (e.g. increased use of green energy).</p>	<p>Desk review Semi-structured interviews Focus Groups Survey with BMC public energy institutions In-depth sampled projects analysis ToC</p>
6) Sustainability	2.1 The extent to which CDB was able to serve as a catalyst for attracting concessionary resources to the Region and as an intermediary for financial and technical assistance resources for BMCs.	<p>KEQ 6.1.1 Did the reforms/roadmaps supported by the ESPS in BMCs obtain (concessionary, non-concessionary, and grant) resources from other development partners for ESPS implementation?</p> <p>KEQ 6.1.2 If so, did CDB play any role in triggering that funding (e.g. intermediary, supporting search of funds, advice)?</p> <p>KEQ 6.1.3 To what extent did CDB contribute to leveraging private-sector capital?</p>	<p>I.6.1.1.a Number of reforms/roadmaps that obtained resources from other development partners.</p> <p>I.6.1.1 b Quantity and type of funds (concessionary, non-concessionary, etc.) to support reforms/roadmaps.</p> <p>I.6.1.2 Most of the funds were obtained with the support/facilitation/negotiation and active role of CDB and within the framework of ESPS implementation.</p> <p>I.6.1.3 Evolution of private capital leveraged by implemented investments throughout the evaluated period.</p>	<p>Focus Group Desk review Semi-structured interviews</p>
	2.2 Whether ESPS was able to facilitate private sector engagement to stimulate investment and support resilience in the energy sector.	<p>KEQ 6.2.1 Did the ESPS support and facilitate activities between beneficiaries and the private sector (including the ESCOs) at the country and regional levels?</p> <p>KEQ 6.2.2 Did ESPS trigger investment from the private sector (including the ESCOs) to implement reforms supported by the ESPS in partner countries? How much (in absolute and relative values)?</p>	<p>I.6.2.1 Number of activities (including meetings, conferences, events, workshops, etc. at the regional and national levels) between BMCs and the private sector organised with ESPS or CDB support.</p> <p>I.6.2.2 Quantity of financial resources from the private sector to support the ESPS, disaggregated per country in absolute and relative values of the overall investment/financial support under ESPS.</p>	<p>Desk review Semi-structured interviews Focus group</p>