UN environment programme | Evaluation Office

Terminal Evaluation of the UNEP/GEF Project

"Energy for Sustainable Development in Caribbean Buildings"

GEF ID 4171

2013 – 2020

UN environment programme

gef

Evaluation Office of the United Nations Environment Programme

Distributed: October 2022

Photos Credits:
Front cover: Solar array at the Department of Environment of Antigua & Barbuda complete with battery backup used as a demonstration of the solar possibilities in the country ©UNEP/ (Ms. Melesha Banhan), United Nations Environment Programme, Evaluation Mission (2021-22)

For further information on this report, please contact:

Evaluation Office of UNEP
P. O. Box 30552-00100 GPO
Nairobi Kenya
Tel: (254-20) 762 3389
Email: unep-evaluation-director@un.org
Website: https://www.unep.org/about-un-environment/evaluation

(Energy for Sustainable Development in Caribbean Buildings)
(GEF ID 4171)
(Date 10/22)

ACKNOWLEDGEMENTS

This Terminal Evaluation was prepared for UNEP by Mr. Roland Wong and Ms. Melesha Banhan as the independent evaluation consultants.

The Evaluation Team would like to express their gratitude to all persons met and who contributed to this evaluation, as listed in Annex II.

The evaluation team would like to thank the Project team at UNEP (Mr. Asher Lessels, Mr. Geordie Colville, Ms. Leena Darlington and Ms. Fatima Twahir) and the Caribbean Community Climate Change Centre (Mr. Keith Nicolls, Ms. Lisa Cervantes and Ms. Alison Williams). Sincere appreciation is also expressed to the many stakeholders of the Project (named in Annex II) who took time to provide comments to the draft report.

The Evaluation Consultants hope that the findings, conclusions and recommendations will contribute to the successful transformation of all participating countries to a low carbon economy.

BRIEF CONSULTANTS' BIOGRAPHY

The Principal Evaluator has over 25 years' experience with a recent focus on the development and management of projects in renewable energy and energy efficiency, sustainable transport, and green city development. These projects encompass his experience in environmental management, institutional capacity building, policy and economic analysis, planning, management, monitoring and evaluation for projects in more than 40 countries. His demonstrated abilities and experience include adoption and market transformation of sustainable low carbon technologies; formulation and preparation of low carbon and climate change investment projects; partnership building as a means to achieving adoption of clean technologies and energy efficiency practice; development and mentoring of energy, environmental and water resource professionals; networking, coordinating and negotiating projects in low carbon and climate change in several countries.

The In-country Support Consultant in Antigua & Barbuda is an Environmental Consultant who works with Governments, NGOs, and Regional and International Environmental agencies to promote sustainable management of the natural resources within the Caribbean Region. With her degrees in International Relations (Bachelors), Environmental Health and Safety Management (MSc) and a Doctorate in Psychology from the University of The West Indies, she has had great success in managing, implementing or participating in various environmental projects throughout the Caribbean, including projects spanning multiple countries. She is very familiar with the region and the intricacies of managing a multi-disciplinary team and the uniqueness of the Caribbean environments. As a regional project manager with a focus on biodiversity management, climate change and environmental policy development, she knows what underscores behaviour change, biodiversity protection as well as the development of environmental policies and laws in the Caribbean Region.

Evaluation team
Roland Wong – Principal Evaluator
Melesha Banhan – In-country Support Consultant in Antigua & Barbuda

Evaluation Office of UNEP
Victor Beguerie – Evaluation Manager
Mela Shah – Evaluation Programme Assistant

ABOUT THE EVALUATION

Joint Evaluation: No

Report Language(s): English.

Evaluation Type: Terminal Evaluation

Brief Description: This report is the Terminal Evaluation of the UNEP/GEF project: "Energy for Sustainable Development in Caribbean Buildings" implemented between March 2013 and June 2020. The Project's overall development objective was to reduce fossil-fuel based electricity and GHG emissions through the promotion of renewable energy and energy efficiency in the building sector in 5 Caribbean countries. The evaluation sought to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the Project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, and the relevant agencies of the project participating countries.

Key words: Building Codes; Building Standards; Caribbean; Climate Change; Energy Efficiency; Energy Efficiency in Buildings; Energy Efficiency Benchmarks; GEF; GEF Project; Governance; Green Buildings; Project Evaluation; Renewable Energy; Terminal Evaluation; TE; tropical climate; Small Island Developing States; SIDS; Small Islands; Sustainable Building Practices; Sustainable Energy; Zero Net Energy Building (ZNEB)

Primary data collection period: September 2021 to May 2022

Field mission dates in Antigua & Barbuda: December 2021 to April 2022

TABLE OF CONTENTS

LIST OF ACRONYMS

5Cs	Caribbean Community Climate Change Center
A&B	Antigua & Barbuda
AC	Air conditioning
APR	Annual Project Reports
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
BEL	Belize Electricity Limited
BSP	Bali Strategic Plan
CARICOM	Caribbean Community
CC	Climate Change
CCM	Climate Change Mitigation
CCREEE	CARICOM Center for Renewable Energy and Energy Efficiency
CDB	Caribbean Development Bank
CDF	CARICOM Development Fund
CFL	Compact fluorescent lamp
CHEM	Chemicals Programme at GEF
COTED	Council for Trade and Economic Development for CARICOM
CREEBC	CARICOM Regional Energy Efficiency Building Code
CROSQ	CARICOM Regional Organization for Standards and Quality
CW	Chemicals and Waste Programme at GEF
DFC	Belize Development Finance Corporation
EA	Expected Accomplishment or Executing Agency
EE	Energy efficiency
EOP	End-of-Project
EOU	Evaluation Office of UNEP
ER	Emission reduction
ESCO	Energy service company
FMO	Fund Management Officer
GCF	Green Climate Fund
GEEREF	GCF-funded “Global Energy Efficiency and Renewable Energy Fund”
GDB	Grenada National Development Bank
GE	Green Economy
GEF	Global Environment Facility
GHG	Greenhouse gas
GRENLEC	Electricity distributor for Grenada
HVAC	Heating, ventilation and air conditioning
IA	Implementing Agency
IAQ	Indoor air quality
ICC	International Code Council
IECC	International Energy Conservation Code
IMF	International Monetary Fund
IRENA	International Renewable Energy Agency
KAP	Knowledge, aptitude and perception

KHMH	Karl Heusner Memorial Hospital
kW	Kilowatt
kWh	Kilowatt-hour
LED	Light emitting diode
LIA	Likelihood of impact assessment
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MEPS	Minimum energy performance standards
MoA	Memorandum of agreement
MoU	Memorandum of Understanding
MTE	Mid Term Evaluation
MTS	Medium Term Strategy
MVE	Monitoring, Verification and Enforcement
NC	National Coordinator
NDC	Nationally Determined Contribution
NEMO	National Emergency Management Office in SVG
NGO	Non-Governmental Organisation
NPMU	National Project Management Unit
NSC	National Steering Committee
PCA	Project Cooperation Agreement
PIR	Project Implementation Review
PMU	Project management unit
PoW	Programme of Work
PRC	Project Review Committee (internal UNEP committee that approves new projects)
PRF	Project Results Framework
ProDoc	Project Document (must be reviewed by PRC before any project can be undertaken, with the approval of the managing division director)
PV	Photovoltaic
RE	Renewable energy
REEBC	Regional energy efficiency building code
RPT	Regional Project Team
SC	Sustainable Consumption
SD	Sustainable Development
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SIDS-DOCK	A UN-recognised international organisation for addressing climate change, resilience, and energy security in small islands
SMART	Specific, Measurable, Achievable, Realistic and Timely
SLDB	St. Lucia Development Bank
SSC	South-South Cooperation
SVG	St. Vincent and the Grenadines
T&T	Trinidad & Tobago
tCO_{2eq}	Tonnes of CO_2 equivalent

ToC	Theory of Change
ToR	Terms of Reference
ToT	Training of trainers
TPR	Regional Advisory Review
TTR	Terminal Regional Advisory Review
UNDESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UWI	University of the West Indies
WEEE	Waste from Electrical and Electronic Equipment
WINDREF	Windward Islands Research and Education Foundation

PROJECT IDENTIFICATION TABLE

Table 1: Project Identification Table

GEF Project ID:	4171		
Implementing Agency:	UNEP	**Executing Agency:**	Caribbean Community Climate Change Centre (5Cs)
Relevant SDG(s) and indicator(s):	**SDG 7:** Ensure access to affordable, reliable, sustainable and modern energy for all **Target 7.2:** By 2030, increase substantially the share of renewable energy in the global energy mix **Target 7.3:** By 2030, double the global rate of improvement in energy efficiency		
Sub-programme:	Climate Change	**Expected Accomplishment(s):**	MTS 2010-2013: Para 35a[1] MTS 2014-2017: CC-EA2 2[2] MTS 2018-2021: pgs 24 and 40[3]
UNEP approval date:	1 November 2012	**Programme of Work Output(s):**	PoW (2016-2017) Output 3[4] (2016-17), PoW (2020-2021)[5]
GEF approval date:	27 August 2012	**Project type:**	Full-size project
GEF Operational Programme #:	4	**Focal Area(s):**	Climate Change
		GEF Strategic Priority:	CCM-1: Technology Transfer Promote the demonstration, deployment, and transfer of innovative low-carbon technologies CCM-2: Energy Efficiency: Promote market transformation for energy efficiency in industry and the building sector CHEM-3: Pilot sound chemicals management and mercury reduction
***Expected* start date:**	1 November 2012	**Actual start date:**	1 March 2013

[1] Expected Accomplishment in Para 35 (b) states that "countries make sound policy, technology and investment choices that lead to a reduction in GHG emissions and potential benefits, with a focus on clean and renewable energy sources, energy efficiency and energy conservation".

[2] Expected Accomplishment 2: "Energy efficiency is improved and the use of renewable energy is increased in partner countries to help reduce greenhouse gas emissions and other pollutants as part of their low emission development pathways".

[3] http://wedocs.unep.org/bitstream/handle/20.500.11822/7621/-UNEP_medium-term_strategy_2018-2021-2016MTS_2018-2021.pdf.pdf?sequence=3&isAllowed=y

[4] Output 3: "Tools and approaches designed and piloted in countries to develop mitigation plans, policies, measures, and low emission development strategies, and spur sector investment and innovation within and across selected sectors".

[5] Accessible under "UNEP_PoW_Budget_2020-2021_Final.pdf", Para 117 and Table 8 showing Output: "Countries increasingly adopt, integrate and/or implement low greenhouse gas emission development strategies and invest in clean technologies".

Planned **completion date:**	31 October 2016	**Actual operational completion date:**	30 June 2020	
Planned **project budget at approval:**	US$ 12,484,500	**Actual total expenditures reported as of 30 June 2020:**	US$ 33,699,907	
GEF grant allocation:	US$ 4,859,000	**GEF grant expenditures reported as of 30 June 2020:**	US$ 3,883,285	
Project Preparation Grant - GEF financing:	US$ 125,000	**Project Preparation Grant - co-financing:**	US$ 175,000	
Expected **Full-Size Project co-financing:**	US$ 7,625,500	**Secured Full-Size Project co-financing:**	US$ 29,816,622	
First disbursement:	21 February 2013	**Planned date of financial closure:**	October 2016	
No. of formal project revisions:	2	**Date of last approved project revision:**	26 February 2020	
No. of Steering Committee meetings:	7	**Date of last/next Steering Committee meeting:**	Last: 26 June 2020	**Next:**
Mid-term Review/ Evaluation ***(planned date):***	January 2015	**Mid-term Review/ Evaluation (actual date):**	March 2018	
Terminal Evaluation ***(planned date):***	January 2017	**Terminal Evaluation (actual date):**	September 2021 – August 2022	
Coverage - Country(ies):	Antigua and Barbuda, Belize, Grenada, St. Lucia, St. Vincent and the Grenadines	**Coverage - Region(s):**	Caribbean	
Dates of previous project phases:	n/a	**Status of future project phases:**	n/a	

EXECUTIVE SUMMARY

Project background

E-1. The vast majority of the countries in the Caribbean were and are still dependent on imported petroleum products for more than 90% of commercial energy consumption. This has resulted in high levels of energy inefficiency and the energy cost of these Caribbean countries being among some of the highest in the world. In response, many of these countries recognize that achieving their goals of sustainable economic development (as set out in the Barbados Plan of Action and the Mauritius Strategy of Implementation) require an increase in energy efficiency (EE) and the use of their renewable energy (RE) resources.

E-2. However, barriers exist in the uptake of RE and EE in the Caribbean:

- low cost of oil during various years of Project execution;
- many countries locked into long-term agreements with oil companies which disincentivizes promotion of RE in country;
- high upfront costs of energy efficiency and renewable energy systems;
- inadequate access to capital on favourable financial terms;
- lack of knowledge of the most appropriate systems to install;
- lack of technical capacity to install and maintain the systems adequately;
- absence of guarantees by providers of the promised performance of the energy efficiency and renewable energy systems; and
- lack of adequate knowledge in life cycle benefits of energy efficiency and renewable energy systems over their costs;
- inefficient subsidies which result in consumers not feeling the extent of energy costs and thus have less incentive to undertake EE practices.

E-3. The implementation of the GEF ID 4171 "Energy for Sustainable Development in Caribbean Buildings" Project (hereby referred to as the Project) was a first attempt in 2012 to develop a regional project to address the inefficient use of energy in buildings in 5 countries within the Caribbean Community (CARICOM): Antigua & Barbuda (A&B), Belize, Grenada, St. Lucia, and St. Vincent and the Grenadines (SVG).

This evaluation

E-4. This Terminal Evaluation (TE) was undertaken 14 months after the completion of the Project and is guided by the Terms of Reference in Annex XI, and undertaken in line with the UNEP Evaluation Policy, the UNEP Programme Manual and the Guidelines for GEF Agencies in Conducting Terminal Evaluations. This TE set out (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned from UNEP, the 5Cs and other executing partners. The TE is intended to identify lessons of operational relevance for future project formulation and implementation.

E-5. The primary focus for the TE was to ascertain from key stakeholders the effectiveness of technical assistance provided under the Project in establishing renewable energy (RE) and energy efficiency (EE) systems for private and public sector entities, and to assess the dissemination of positive information on RE and EE projects that show operational cost savings and GHG emission reductions. Stakeholder consultations under this TE focused on confirming the actual outcomes of the Project, and the surrounding circumstances of these outcomes.

E-6. Data collection came mainly from Project reports related to the Project, interviews with relevant stakeholders (the Project team, National Executing partners, Project partners and beneficiaries), and stakeholder analysis of a Project team in A&B. In A&B, methods used to ascertain information for the TE included a desktop review of the associated Project documents, on-site visits to 4 demonstration sites, 15 interviews (9 males and 6 females) with stakeholders from

different organizations, and 19 responses (including 9 females and 8 males) from a questionnaire on RE and EE used to survey the general public in A&B. The COVID-19 pandemic in A&B placed restrictions to movements during the evaluation period that interfered with the data collection exercise. For Belize, Grenada, Saint Lucia and SVG, no site visits were made but 24 interviews (16 male and 8 female) from 17 different entities were conducted virtually from the Principal Evaluator's home base.

E-7. Limitations to this TE included lack of access to critical project documentation and data sources, COVID-19 restrictions leading to no field visits being made to various sites by the International Evaluator, weak recall among respondents due to significant time lapse between operational completion of the Project and the evaluation data collection period, and a lack of access to key project personnel. The mitigative strategy for the limitation of Project information was the establishment of a credible association between the implementation of Project activities and observed positive effects where a strong causal narrative can be made to a chronological sequence of events, and the active involvement and engagement in critical processes of key actors.

Key findings

E-8. Though the strength of the Project design is in its holistic approach, preparation of Project Results Framework (PRF) was not compliant with best practices, and there was poor allocation of resources to the National Coordinator (NC) position. The Project, however, did:

- improve its institutional capacity for management of the RE and EE sectors by implementing energy audits and demonstration buildings in 5 countries but not the assessment and monitoring systems for EE and RE measures. There was no formalized Project support for the monitoring of energy consumption post-installation on the demonstration buildings (Para 149);
- build some technical capacity and awareness for EE and RE in participating countries;
- adopt appropriate financial and market-based mechanisms supporting energy efficiency in Belize, Grenada and St. Lucia with significant co-financing from national development banks;
- initiate implementation of demonstration buildings where EE/RE benefits were recognized;
- lead to the adoption of some regulatory instruments such as CREEBC that covers standards and codes for both commercial and residential construction but not net metering for solar PV installations.

Conclusions

E-9. From March 2013 to March 2019, the Project made little progress in its activities. There were successes on the Project during this period including progress towards adoption of regulatory instruments for energy efficient building codes and MEPS for appliances and equipment. However, there were also several failures including a failure to establish an assessment and monitoring system for EE and RE in buildings, poor progress in launching financial and market-based mechanisms to support EE and RE measures, a failure to launch a demonstration program for sustainable energy in buildings partly due to the low price of oil, and with no gender or human rights considerations.

E-10. A Mid-Term Evaluation was done on the Project which had a positive impact on Project performance and progress. The post-March 2019 period of the Project saw an accelerated pace of development including a system for energy audits for demonstration buildings for EE and RE investments, and completion of demonstration EE and RE measures in buildings in all 5 participating countries but without a replication strategy initiated. Furthermore, regional energy efficiency standards were developed and 3 financial mechanisms were created in partnership with 3 national development banks. Though the 44-month delay in the Project completion did not have an impact on the potential obsolescence of renewable energy and energy efficiency technologies for demonstration buildings, the overall Project objectives were not achieved. It seems highly unlikely that cumulative target reductions were achieved. The overall performance rating of the ESDCB Project was ***moderately unsatisfactory***. A summary of Project findings and ratings can be found on Table 6.

E-11. Notwithstanding the direct implementation of the Project, significant investments are being made into RE and EE measures, both publicly and privately, in all participating countries and regionally. While there were RE and EE issues related to the drop in oil prices in 2016 to 2018, RE and EE adoption has been trending upwards since 2018 when the oil price rose again. With each participating country having energy policies encouraging low carbon economies and less dependence on imported oil, and reporting obligations to the Paris Agreement, a sustained trend of increased RE and EE investments is happening in all participating countries making the rating for likelihood of impact of the Project as *moderately likely*.

Lessons Learned

E-12. Lesson 1: In the context of projects that have multiple target countries, building capacity in these countries should be a major objective (Para 195).

E-13. Lesson 2: Ensure there are sufficient resources identified for all project positions (Para 196).

E-14. Lesson 3: In small countries, there will be instances where installer or supplier personnel is connected with government due to the small number of energy professionals to supply and install EE and RE equipment. In this context, a focus on small and medium-size enterprises may be ineffectual due to the lack of such actors in these countries (Para 197).

E-15. Lesson 4: Elections and changes in governments should be anticipated and planned for especially in projects of 4 or more years duration, to minimize their impact (Para 198).

E-16. Lesson 5: Virtual offices can operate within modern business practices (especially with the COVID-19 pandemic) provided there is broad agreement on the mode of execution of a project (Para 199).

E-17. Lesson 6: A project designed where countries are assigned responsibilities which demand the completion of one task by one country before another country can implement its agreed workplan, is too risky and should not be executed (Para 200).

E-18. Lesson 7: Under normal circumstances, it is beneficial to prolong projects for obtaining measurement of RE and EE impact (Para 201).

Recommendations

E-19. Recommendation 1: For future UNEP/GEF EE or RE projects, ensure resources for dedicated and continued training of electrical technicians and energy professionals to build their capacities for the installation of lighting systems, air conditioners and renewable energy systems as well as for updating of best practices for high vocational and market surveillance skills (Para 202).

E-20. Recommendation 2: Future UNEP/GEF RE and EE initiatives in the next 5 years should focus on partnering with development banks for financing EE and RE initiatives for commercial and industrial sectors in developing countries where greater national energy savings can be generated (Para 203).

E-21. Recommendation 3: The Ministries of Environment should seek assistance from CARICOM to facilitate implementation of technical assistance for the provision of international good practices for managing Waste from Electrical and Electronic Equipment (WEEE) streams across several countries (Para 204).

E-22. Recommendation 4: Future UNEP/GEF projects involving several countries should be designed to ensure full-time project management staff, a strong governance mechanism and effective mechanisms for ensuring engagement of all stakeholders. Furthermore, effort should be made to ensure country political commitment to the project (Para 205).

E-23. Recommendation 5: Gender and indigenous issues should effectively be considered at the design stage and during implementation of all UNEP/GEF projects approved in 2012 or after. This is especially important for EE and RE projects which have documented differentiated gender impacts (Para 206).

E-24. Recommendation 6: Terminal evaluations should be started at the latest 3 months after project technical completion (Para 207).

I. INTRODUCTION

1. In August 2012, the Global Environmental Facility (GEF) granted approval for the commencement of the full-sized project "Energy for Sustainable Development in Caribbean Buildings" (herein referred to as "the Project") which had as its strategic priority, the promotion of energy efficient technologies and practices in appliances and buildings in five Caribbean countries (Antigua and Barbuda, Belize, Grenada, Saint Lucia and Saint Vincent and the Grenadines[6]). The Project was implemented by UN Environment Programme (UNEP) under its Climate Change Mitigation Unit, Energy Branch, Economy Division. It was executed by the Belize-based Caribbean Community Climate Change Centre (5Cs).

2. The Project contributed to:

- UNEP Medium-Term Strategy of 2014-2017 with the Expected Accomplishment 2 (EA2) of "Low emission growth: Energy efficiency is improved and the use of renewable energy is increased in partner countries to help reduce greenhouse gas emissions and other pollutants as part of their low emission development pathways"; and
- UNEP Medium-Term Strategy of 2018-2021 by "reducing emissions consistent with a 1.5/2^{0}C stabilization pathway (aligned with SDG-7)".

3. While approved in November 2012 by UNEP, the Project commenced operations on 1 March 2013 with an intended completion date of 31 October 2016. However, due to several logistical issues, including changes in government in participating countries and the resulting difficulties in appointing National Coordinators (NC) and convening National Steering Committee (NSC), the Project actually started in April 2014. It was designed as a 48-month project but was extended an additional 44 months to 30 June 2020.

4. The Project was supported by a GEF grant of USD 4,859,000 and a planned co-financing (cash and in-kind) of USD 7,625,500 with a planned total project budget of USD 12,484,500.

5. A Mid-Term Evaluation (MTE) of the Project was conducted in March 2018. More details of the MTE are provided in Paras 44 to 52.

6. In line with the UNEP Evaluation Policy[7], this Terminal Evaluation was undertaken 14 months after completion of the Project (and completed 25 months after the actual end-of-project date of 30 June 2020) to assess its performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the activities of the Project including sustainability. This Terminal Evaluation serves two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned from UNEP, the 5Cs and other executing partners. Therefore, the TE is intended to identify lessons of operational relevance for future project formulation and implementation.

7. More precisely, this Terminal Evaluation Report is expected to provide assistance in the following areas:

- strengthening of local capacities to monitor, verify and enforce the standards to facilitate a transition to energy efficient buildings;
- enabling the Governments of Antigua & Barbuda (A&B), Belize, Grenada, St. Lucia and St. Vincent and the Grenadines (SVG) to enact and enforce national policies that extend responsibilities of sound environmental management to building energy efficiency and renewable energy;

[6] St. Vincent and the Grenadines (SVG) confirmed participation in May 2014 after Trinidad & Tobago (T&T) formally withdrew from the Project in March 2014.

[7] http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx

- facilitation of decision makers in government, the private sector and the general public to reach consensus on the increased use of energy efficient equipment and renewable energy in domestic, commercial and industrial applications; and
- increasing the awareness of consumers and decision makers of the economic benefits of energy efficient equipment and renewable energy through demonstration programmes.

II. EVALUATION METHODS

A. UNEP's evaluation approach

8. This TE is guided by the Terms of Reference in Annex XI, and undertaken in line with the UNEP Evaluation Policy, the UNEP Programme Manual and the Guidelines for GEF Agencies in Conducting Terminal Evaluations. This TE has been carried out using a set of 9 commonly applied evaluation criteria which include: (1) Strategic Relevance[8], (2) Quality of Project Design, (3) Nature of External Context, (4) Effectiveness *(incl. availability of outputs; achievement of outcomes and likelihood of impact),* (5) Financial Management, (6) Efficiency, (7) Monitoring and Reporting, (8) Sustainability and (9) Factors Affecting Project Performance and Cross-Cutting Issues (see Annex VII for Evaluation Framework Matrix for more details on each evaluation criterion).

9. Most evaluation criteria are rated on a 6-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability and Likelihood of Impact are rated from Highly Likely (HL) down to Highly Unlikely (HU) and Nature of External Context is rated from Highly Favourable (HF) to Highly Unfavourable (HU). The ratings against each criterion are "weighted" to derive the Overall Project Performance Rating. The greatest weight is placed on the achievement of outcomes, followed by dimensions of sustainability.

10. For the matrix of ratings levels for each criterion, the UNEP Evaluation Office has developed detailed descriptions of the main elements required to be demonstrated at each level (i.e. Highly Satisfactory to Highly Unsatisfactory) for each evaluation criterion. The Evaluation Team has considered all the evidence gathered during the evaluation in relation to this matrix in order to generate evaluation criteria performance ratings.

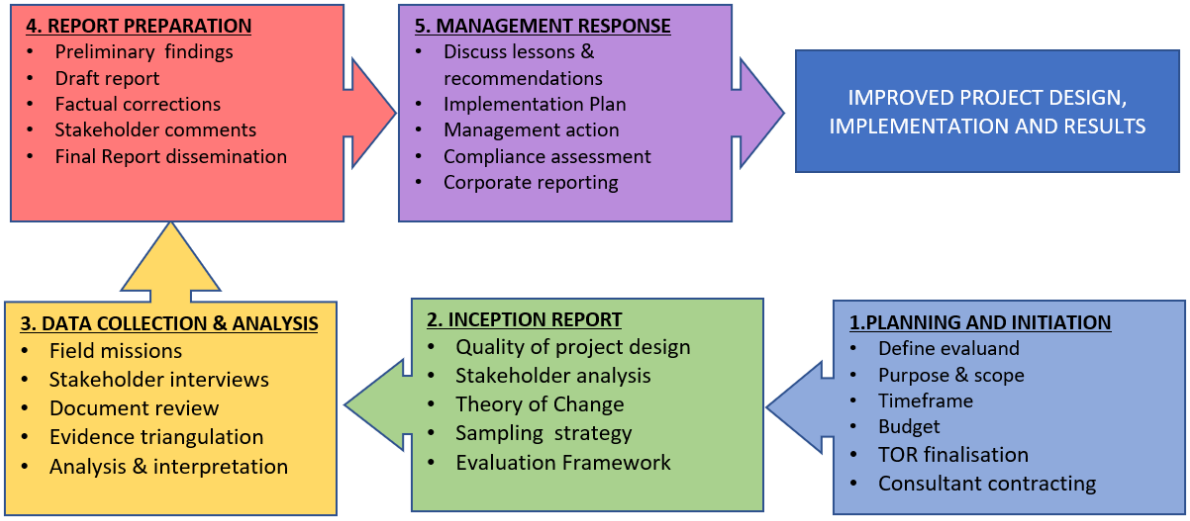
11. With regards to strategic evaluation questions and in addition to the 9 evaluation criteria outlined in Para 8, the TE addresses a number of strategic questions that were formulated in the Terms of Reference. These questions were posed by the UNEP Evaluation Office in conjunction with members of the Project Team. Findings from the evaluation of GEF projects are to be uploaded in the GEF Portal. To support this process, evaluation findings related to the 5 topics of interest to the GEF are summarised in Annex IX. The intended results on the 5 topics were described in the GEF CEO Endorsement and Approval documents. The 5 topics are: i) performance against GEF's Core Indicator Targets; ii) engagement of stakeholders; iii) gender-responsive measures and gender result areas; iv) implementation of management measures taken against the Safeguards Plan and v) challenges and outcomes regarding the project's completed Knowledge Management Approach.

B. Evaluation Process

12. This evaluation adopted a participatory approach, consulting with Project team members, partners and beneficiaries at several stages throughout the process. Central to the evaluation was the analysis (and reconstruction) of the Project's Theory of Change. Consultations were held during the evaluation inception phase to arrive at a nuanced understanding of how the project intended to drive change and what contributing conditions ('assumptions' and 'drivers') would need to be in place to support such change. The Reconstructed Theory of Change (RToC), supported by a graphic representation and narrative discussion of the causal pathways, was discussed further with respondents during the data collection phase, and refined as appropriate. The final iteration of the RToC is presented in this final evaluation report and has been used throughout the evaluation process. The Evaluation process is illustrated on Figure 1.

[8] This criterion includes a sub-category on Complementarity, which closely reflects the OECD-DAC criterion of 'Coherence', introduced in 2019. Complementarity with other initiatives is assessed with respect to the project's design. In addition, complementarity with other initiatives during the project's implementation is assessed under the criterion of Efficiency.

Figure 1: UNEP Evaluation Process



13. The primary focus for the TE was to ascertain from key stakeholders the effectiveness of technical assistance provided under the Project in establishing the RE and EE systems for private and public sector entities, and to assess the dissemination of positive information on RE and EE projects that show operational cost savings and GHG emission reductions. Stakeholder consultations under this TE focused on confirming the actual outcomes of the Project, and the surrounding circumstances of these outcomes. These outcomes could have led to intermediate states and intended impacts of global reduction of GHG emissions from the reduced electricity and primary fuel consumption from RE and EE measures undertaken by the Project.

14. In summary, the assessment of Project performance was based on key strategic issues identified within the evaluation framework (see Annex VII)[9] including:

- the degree of success of the Project interventions to overcome identified barriers, gaps and challenges to the demonstration of energy efficient buildings with renewable energy while promoting rapid uptake of such projects;
- the holding of key assumptions identified by this Evaluation to achieve the desired impact (and address the challenges in energy efficiency and renewable energy in the Caribbean) and their sustainability during the post-Project period. This may include sustained consumer perceptions of the affordability of LEDs or solar panelling entering the Caribbean market; and
- the existing opportunities that have already been set in motion to stimulate replication or a catalytic effect of positive outcomes and best practice experiences within a country and region.

C. Data Collection Process

15. As mentioned in Para 1, this Project was designed to execute different activities in each of the 5 participating countries. Data collection came mainly from Project documentation that includes all Project reports related to the Project, interviews with relevant stakeholders, and stakeholder analysis of a Project team in A&B.

16. A&B and Belize were chosen for field missions with the hiring of 2 In-country Support Consultants, one in Antigua and one in Belize. The choice of A&B was justified given the local active level of execution of the Project activities. Belize was also selected for field activities given its technical and financial activities and being home of the Executing Agency. Unfortunately, the consultant in Belize withdrew his services leaving the Evaluation with only A&B with in-country consulting support.

[9] These questions were in line with the strategic questions provided in the evaluation ToR and were revised and specified to better serve the purpose of the evaluation.

17. Different key groups who were consulted about the Project included:

- The Project team. This involved interviews with UNEP and the 5Cs. The purpose of contact with UNEP and the 5Cs were the "rich" issues of implementation and execution;
- National Executing partners. This involved implementation teams in each country (National Coordinators, National PMU, National PSC);
- Project partners. This involved entities who worked in close collaboration with the national executing partners, including development banks, contractors and suppliers. For A&B, exhaustive information was obtained from these stakeholders on how the demonstration buildings were financed and the details of procuring and installing equipment;
- Beneficiaries. This involved ministries and public agencies responsible for demonstration buildings and the general public using the buildings. Information from the beneficiaries was supposed to account for the impacts of the demonstration buildings and their implications on energy savings for the building and residential sector. For some countries, the responsible ministries were supposed to have post-intervention energy audits to demonstrate the impact of the EE and RE measures undertaken. Persons for interviews were to be targeted (as would be the case for responsible ministries) or random (as would be the case for the general public).

Annex II presents a summary of persons consulted during the TE.

18. Throughout this evaluation process and in the compilation of the Terminal Evaluation Report, efforts have been made in all countries to represent the views of both mainstream and more marginalized groups. Data was to be collected with respect to ethics and human rights issues. All pictures taken and other information gathered were taken after prior-informed consent from people. All discussions remained anonymous and all information was collected according to relevant UNEG guidelines and UN standards of conduct.

Belize, Grenada, Saint Lucia and SVG

19. For Belize, Grenada, Saint Lucia and SVG, no site visits were made and interviews were conducted virtually from the Principal Evaluator's home base (Table 2 summarizes the stakeholder responses while Annex II details the list of people interviewed). Relevant documents were reviewed (with a full list of the documents reviewed presented in Annex IV) and stakeholders were selected on the basis of being able to provide a perspective on RE and EE measures on building performance, and an analysis of Project performance against the Theory of Change. Most of the key stakeholders contacted in these countries ranged from project coordinators to installation personnel to building users. Twenty-three people from 17 different entities were interviewed (15 were male and 8 were female). Eight people from the Project Team (IA and EA) were interviewed. Six people from beneficiaries were consulted with 4 in A&B, 1 in Saint Lucia and 1 in SVG.

Antigua & Barbuda

20. There were four primary methods used to ascertain information to complete this evaluation of activities undertaken in A&B. These methods included a desktop review of the associated Project documents, on-site visit of the demonstration sites, interviews with relevant stakeholders and responses received from a questionnaire on renewable energy and energy efficiency used to survey the general public in A&B.

21. For A&B, a total of 4 demonstration sites were visited[10], consisting of lighting retrofits, installation of energy efficient AC units and solar PV installations with battery storage. Photos were taken and interviews conducted with relevant stakeholders. The stakeholders chosen for the interview process were based on their intimate involvement with the Project in various capacities, their involvement on a key topic on the Project, or their involvement with the demonstration sites for which they could share views on the national policy applications. A total of 13 stakeholders from different organizations were interviewed including 6 males and 7 females. Most interviews were conducted via telephone. The interview with the principal of the Grammar school was done face to face while interview questions for the Department of Environment (DoE) were completed and returned via email. The COVID-19 pandemic in Antigua and Barbuda placed restrictions to movements during the evaluation period that interfered

[10] A total of 5 demonstration buildings were constructed in A&B and are listed in Para 114.

with the data collection exercise. In addition, there were several persons who were out of office and in quarantine assisting other family member who were restricted of the pandemic (see Annex II for detailed list of people interviewed in A&B and Annex IV for the documents reviewed for A&B).

Table 2: Respondents' Sample

Type of Stakeholder	Agency or country name	# entities involved	# entities contacted	# people involved (M/F)	# people contacted (M/F)	# respondent (M/F)	% respondent
Project team	UNEP			4 (2M, 2F)	4 (2M, 2F)	4 (2M, 2F)	100%
	5Cs			4 (1M, 3F)	4 (1M, 3F)	4 (1M, 3F)	100%
National executing partners *(receiving funds from the project)*	Antigua & Barbuda	5	2	2 (1M, 1F)	2 (1M, 1F)	2 (1M, 1F)	100%
	Belize	2	1	2 (2M)	2 (2M)	2 (2M)	100%
	Grenada	2	2	2	0	-	-
	Saint Lucia	3	3	3	0	-	-
	St. Vincent & the Grenadines	3	1	2 (1M, 1F)	2 (1M, 1F)	2 (1M, 1F)	100%
Project collaborating/ contributing partners[11]	Antigua & Barbuda	10	7	7 (3M, 4F)	7 (3M, 4F)	7 (3M, 4F)	100%
	Belize	1	1	2 (2M)	2 (2M)	2 (2M)	100%
	Grenada	6	2	2 (2M)	2 (2M)	2 (2M)	100%
	Saint Lucia	8	2	2 (2M)	2 (2M)	2 (2M)	100%
	St. Vincent & the Grenadines	5	2	2 (1M, 1F)	1 (1F)	1 (1F)	50%
	Barbados	4	3	4 (3M, 1F)	3 (2M, 1F)	3 (2M, 1F)	75%
Beneficiaries (demonstration buildings):	Antigua & Barbuda	5	4	4 (2M, 2F)	4 (2M, 2F)	4 (2M, 2F)	100%
	Belize	2	2	2	0	-	-
	Grenada	2	2	2	0	-	-
	Saint Lucia	3	1	3 (3M)	1 (1M)	1 (1M)	33%
	St. Vincent & the Grenadines	3	1	3 (3F)	1 (1F)	1 (1F)	33%

22. A questionnaire was also used to gather information on awareness of persons in A&B of RE and EE technology and the impact of this Project. The questionnaire was sent via mail or email to 55 random persons and organizations within the In-country Support consultant's network of environmental colleagues, church and NGO groups, business places, government offices, youth groups and homeowners. Due to an increase in the COVID-19 cases in A&B over the December 2021 to January 2022 period, it was not possible to hand out questionnaires to persons coming to each demonstration site or other public areas. Overall, a total of 19 questionnaires were returned, 9 females, 8 males and 2 who did not specify their gender. Ages of people surveyed ranged from 15 years to over 60 years old. In terms of socioeconomic status, these groups included persons from the low-, middle- and high-income categories. The questionnaire is provided in Annex V.

23. In total 13 people (6 male, 7 female) from 13 different entities were consulted during the evaluation and 19 questionnaires on EE and RE were gathered from the general public in A&B.

[11] Collaborating and contributing partners are Project consultants, personnel from electricity companies, other ministries and development finance banks.

D. Limitations and mitigation strategy

24. There were several limitations on this TE:

- lack of access to critical project documentation and data sources such as energy audits, post-installation energy reports, and reports on loan programmes. Energy performance data could not be collected for most demonstration sites. There was weak institutional record-keeping, some of it possibly exacerbated by staff movements;
- unexpected constraints on time and resources including an attempted field trip in A&B made in bad weather;
- COVID-19 restrictions leading to no field visits being made to various sites by the International Evaluator;
- no contact with personnel from the development banks in Grenada and Saint Lucia, leaving only the development bank in Belize on which to evaluate the financial aspects of this Project;
- weak recall among respondents due to significant time lapse between operational completion of the Project and the evaluation data collection period. Time lapses were more than one year before the launch of the evaluation;
- lack of access to key project personnel. These persons were simply not available to comment on the Project.

25. As previously mentioned, the consultant in Belize withdrew his services leaving the Evaluation with only A&B with in-country consulting support. The Principal Evaluator had to carry out the interviews for Belize online.

26. The mitigative strategy for the limitation of Project information was the establishment of a *credible association* between the implementation of Project activities and observed positive effects where a strong causal narrative can be made to a chronological sequence of events, and the active involvement and engagement in critical processes of key actors. Establishment of a *contribution was not made* by the Project. While a contribution relies heavily on prior intentionality in the form of an approved Project design for demonstration buildings (which was done with outputs for Outcome 4), there was not robust evidence that Outcome 4 delivered as designed would lead to "increased confidence of stakeholders to borrow and lend funds for RE and EE projects" and "permitting for RE and EE improvements becomes easier and enforces or incentivizes accelerated adoption of RE and EE".

III. THE PROJECT

A. Context

27. The vast majority of the countries in the Caribbean were and are still dependent on imported petroleum products for more than 90% of commercial energy consumption[12]. As a result of this reliance on imported fossil fuels, high levels of energy inefficiency have been manifested, resulting in the energy cost of these Caribbean countries being among some of the highest in the world and reducing their global competitiveness. In contrast, these same countries have considerable potential for increased use of renewable energy and energy efficiency. As a result, these countries recognize that achieving their goals of sustainable economic development (as set out in the Barbados Plan of Action and the Mauritius Strategy of Implementation) would require an increase in energy efficiency and the use of their renewable energy resources.

28. Besides the following barriers existed in the uptake to sustainable energy:

- low cost of oil during various years of Project execution;
- many countries locked into long-term agreements with oil companies which disincentivizes promotion of RE in country;
- high upfront costs of energy efficiency and renewable energy systems;
- inadequate access to capital on favourable financial terms;
- lack of knowledge of the most appropriate systems to install;
- lack of technical capacity to install and maintain the systems adequately;
- absence of guarantees by providers of the promised performance of the energy efficiency and renewable energy systems; and
- lack of adequate knowledge in life cycle benefits of energy efficiency and renewable energy systems over their costs;
- inefficient subsidies which results in consumers not feeling the extent of energy costs and thus have less incentive to undertake EE practices.

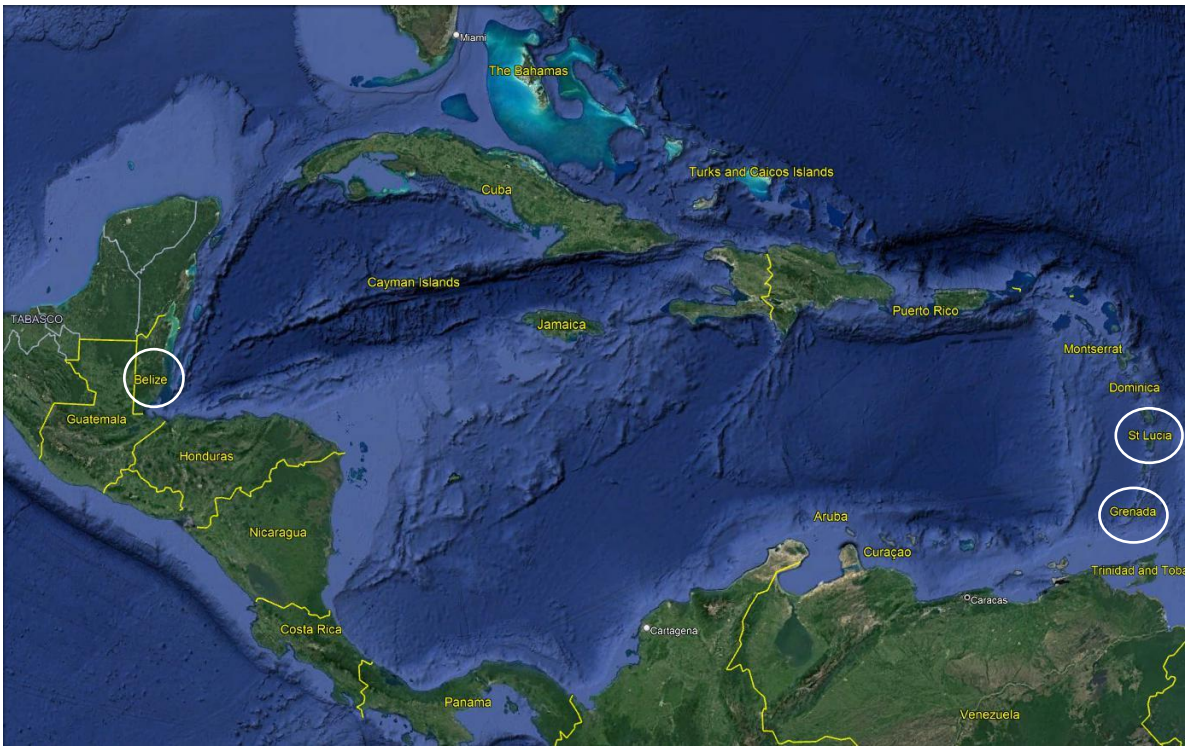
29. Regulation of the electricity sector had not become independent of the utilities, and energy efficiency standards in buildings and minimum energy performance standards (MEPS) in electrical equipment had not become mandatory. As a result, there was no prohibition on imports or use of inefficient energy equipment, nor were there any requirement for buildings to comply with an energy code.

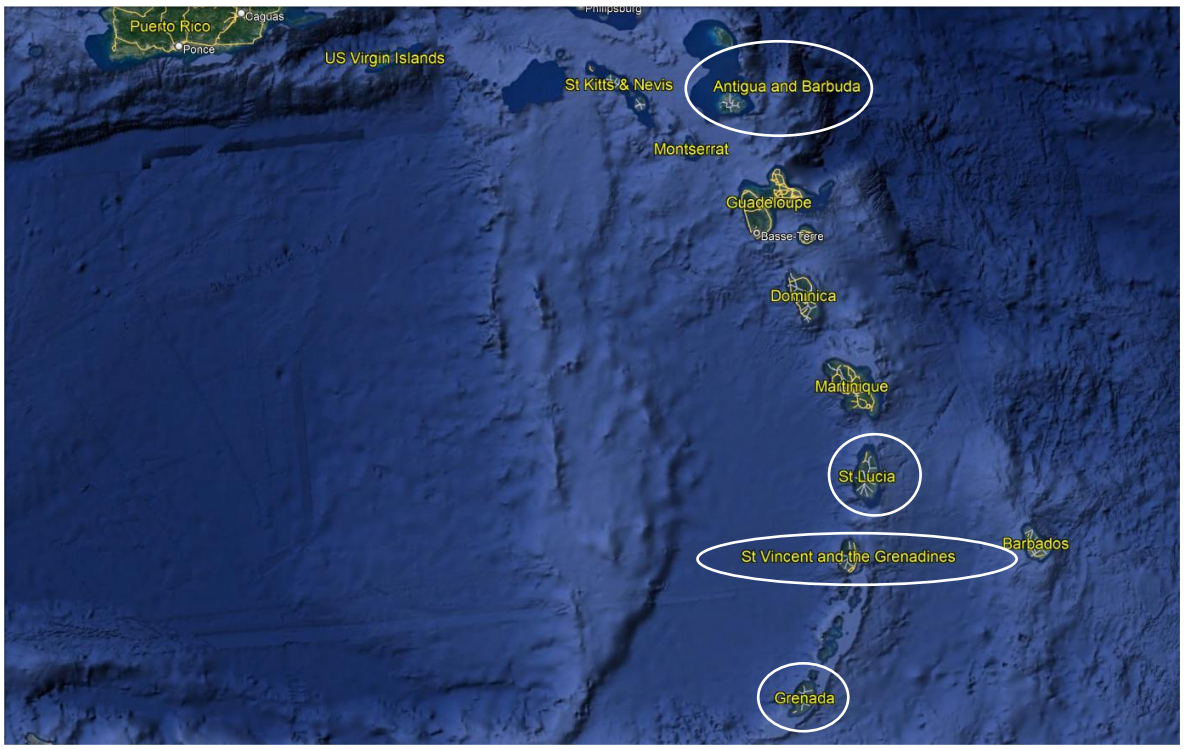
30. The implementation of the GEF ID 4171 "Energy for Sustainable Development in Caribbean Buildings" project was a first attempt in 2012 to develop a regional project to address the inefficient use of energy in buildings in the Caribbean Community (CARICOM). The Project was intended to be of global significance with renewable energy and energy efficiency technologies to be deployed to demonstrate mitigating GHG emissions (though small) while generating local social and economic benefits. The 5 participating countries in the project are shown on Figure 2.

31. The Project focused primarily on activities for sustainable energy use in buildings through more efficient energy use with the utilization of technologies to reduce the amount of energy required for such cooling and lighting while maximizing the use of renewable energy. With numerous opportunities within the Caribbean SIDS for reducing energy consumption and utilizing renewable energy in buildings, many of these opportunities have short payback periods as well as immediate environmental advantages. Under this Project, a mix of policy interventions, capacity building and demonstration activities capitalizing on these opportunities was to serve as forerunners towards an "energy efficient regional economy" within the Caribbean region.

[12] The Caribbean's Untapped Renewable Energy Potential (renewableenergyworld.com)

Figure 2: Map of project Participating Countries (countries circled)





32. Project activities were to include (i) baseline data collection and review; (ii) needs assessment to increase energy efficiency and use of renewable energy in buildings in 5 countries under the Project with the aim to set detailed targets for increasing energy efficiency and renewable energy use in buildings; (iii) consultations with governments, housing stakeholders, and other relevant parties to reinforce their buy-in of Project interventions; (iv) development of detailed implementation arrangements including appropriate financial and market-based mechanisms and the design of a Project work plan and terms of reference for consultants; and (v) monitoring and evaluation of post-installation interventions.

33. Significant capacity building programs were to assist with developing capacity and skills in the areas of "green building design", sustainable urban planning, and effective monitoring and verification of energy efficiency performance for building and construction material, as well as household appliances and equipment. The results of the Project would then significantly improve public perception of GHG emissions reductions strategies and sustainable energy interventions in the 5 participating countries and lead to an increased use of energy efficient and renewable energy technologies, contributing to even larger reductions of GHG emissions in the long-term.

B. Project Results Framework

34. The objective of the Project was to "reduce the GHG emissions intensity in buildings by 20%". Increased access to affordable energy services was and still is essential to drive economic development in the SIDS of the Caribbean.

35. The Project was comprised of 6 components, which provided the overarching structure for implementation of Project activities in the 5 participating countries, as shown on Table 3.

Table 3: Project Components, Outcomes and Outputs

Components	Outcomes	Outputs
Component 1: Establishment of an assessment and monitoring system for energy efficiency and renewable energy in buildings	Outcome 1: Institutional capacity for management of sector, monitoring and assessment	Output 1.1: Building audit reports, statistics on potential savings in domestic, commercial and public sectors
		Output 1.2: Identification of measures at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables
		Output 1.3: Identify equipment and lighting potentials to reduce fossil fuel use
		Output 1.4: Specific energy saving measures and policy options for various classes of buildings[13].
Component 2: Strengthening of national capacity for energy efficiency and renewable energy to support long-term development of the five SIDS	Outcome 2: Technical capacity and awareness for energy efficiency	Output 2.1: Development of training workshops, seminars on energy efficiency for building designers, contractors, architects, renewable energy installers and maintenance personnel
Component 3: Development and use of appropriate financial and market-based mechanisms that support sustainable energy use in buildings	Outcome 3: Appropriate financial and market-based mechanisms that support energy efficiency	Output 3.1: Reduced operating costs and risk hedging against fuel price spikes are integrated into lending;
		Output 3.2: Fiscal incentives program to increase market uptake and penetration of sustainable energy measures. This output, however, was never implemented presumably due to in-country efforts to reduce customs duties on RE and EE equipment
Component 4: Development and implementation of a demonstration program for sustainable energy use in buildings	Outcome 4: Demonstration program for sustainable energy	Output 4.1: Demonstrations of measures and benefits of energy efficiency in buildings at the national level
		Output 4.2: Challenge competition for private sector builders for construction and retrofitting of buildings to make a very low purchased energy target of some few kWh/m2 – Private sector competition for ESCOs
Component 5: Development and adoption of a regulatory framework energy efficient buildings (building	Outcome 5: Regulatory instruments	Output 5.1: Development of guidelines and standards for energy efficient construction practices including renewable energy and

[13] This output was dropped by the Project, presumably due to the realization by the Project in early 2019 that no post-intervention energy audits were going to be implemented leading to no policy options for various classes of buildings.

Components	Outcomes	Outputs
codes) and MEPS for appliances and equipment		products based on investigation of global and regional standards
Component 6: Increasing regional awareness and improving knowledge management, and sharing with regard to the benefits of energy efficiency and renewable energy and the development of a replication strategy	Outcome 6: Regional public awareness, knowledge management & sharing, replication strategy and regional reporting	Output 6.1: Task reports produced on subtopics

C. Stakeholders

36. The stakeholders identified by the Project Document were key players essential to the transformation of the energy efficiency and renewable energy markets in the Caribbean. More broadly, stakeholders of the Project were a broad coalition of public institutions, accreditation agencies, and NGOs who supported energy efficiency and renewable energy in the Caribbean. The main stakeholders in the 5 participating countries in the Project Document are listed in the following bullet points:

- In A&B, stakeholders were a mix of Government stakeholders (Environment Division, Development Control Authority, Statistical Division, Department of Public Works, Antigua Public Utilities Authority, Antigua State College and the A&B Investment Authority), as well as private sector stakeholders (such as the Electrical Contractors Association, Zero Waste Antigua and consulting firms);
- In Belize, stakeholders were mostly from the Government (including the Belize Development Finance Corporation, the Ministry of Finance, the Ministry of Natural Resources & Environment, the Department of Environment, the Belize Bureau of Standards, the Belize Tourism Board, the Ministry of Housing, and the Central Building Authority) as well as the private sector (major equipment suppliers);
- In Grenada, stakeholders were mainly from Government including technical advisors and representatives from the Grenada National Development Bank (GDB), the Ministries of Finance, Housing and Lands, Foreign Affairs and the Environment, the Town and Country Planning Division, and the Grenada Bureau of Standards;
- In St. Lucia, stakeholders were mainly from Government including the St. Lucia Development Bank (SLDB), the Ministry of Finance, the Economic Affairs & National Development, and the Ministry of the Public Service and Human Resource Development as well as from the private sector (equipment suppliers and the Bay Gardens hotel);
- In SVG, the main stakeholders were from Government including the Minister of Tourism, Civil Aviation, Sustainable Development and Culture, and the National Emergency Management Office (NEMO).

37. Other stakeholders in the Project Document included:

- Major equipment suppliers in all participating countries who were the key parties to ensure the supply and distribution of energy efficient products, appliances, and equipment as well as the supply of equipment and systems required for renewable energy production.
- Associations of Professional Engineers taking into account their responsibilities for certification and classification of engineers and engineering schools in many countries;
- Associations of Professional Architects taking into account their responsibilities for certification and classification of architects and their involvement in building codes, the development and application of building standards;
- Educational institutions who provided the required capacity building training that is required to demonstrate the technical feasibility and cost-effectiveness of using energy efficient and renewable energy technologies;

- Regional organizations for standards and quality to provide guidance for developing and implementing a regional energy efficiency building code (REEBC), and MEPS for buildings and household appliances.

38. However, gender and under-represented and marginalised groups (including those living with disabilities) were not included in the listing of stakeholders in the Project Document. This is further explained in Paras 182-183.

D. Project implementation structure and partners

39. UNEP served as the Implementing Agency for the Project, responsible for the supervision of Project execution to ensure consistency with GEF and UNEP policies and procedures and overall Project reporting. UNEP was also to formally participate in steering committee meetings and terminal evaluations, clearance of half yearly and annual reports, technical review of Project outputs, and additional technical assistance for the execution of the Project as may be requested.

40. UNEP designated the 5Cs as the lead umbrella Executing Agency with a team consisting of a Programme Manager, a Financial Administrator and a Procurement Officer[14]. The 5Cs were to be accountable to SIDS Governments and UNEP/GEF for ensuring:

- proper achievement of the objectives of the Project;
- monitoring and evaluation of the Project outputs and outcomes;
- more efficient use of allocated international and national resources due to its autonomous status and ability to more quickly execute service and procurement contracts outside the public sector;
- the required administrative support through 5Cs protocols, accountability and audits;
- timely availability of financing to support Project implementation;
- proper coordination among all Project stakeholders, in particular international dialogue; and
- timely submission of all Project reports, including work plans and financial reports of consolidated GEF expenditures from the national levels.

41. The Project arrangements to support national level implementation were to comprise of:

- a Regional Steering Committee headed by a Regional Coordinator (the 5Cs executive director), and comprised of a Project Technical Advisor, Project Coordinator, a finance manager, representatives from UNEP, GEF national focal points, and National Coordinators;
- National Coordinators (NCs) who were to execute the Project as consultants coordinating all national projects;
- National Project Management Units (NPMUs) who were required to monitor and track national GEF expenditures and co-financing budgets. As well, each participating country though their NPMU, were to take a lead in one topic area. Grenada was monitoring health, well-being on which there were to be surveys and guidelines on improvements; Antigua & Barbuda on public relations; Belize on ESCO guidelines; and St. Lucia on energy efficient lighting;
- NSCs who were to meet to review and discuss the overall progress of the national EE and RE retrofits and any other issues that need addressing. This was to include members of the Regional Steering Committee, representatives of relevant national ministries, government organizations, private sector companies involved in the buildings sector of the participating countries; and other relevant regional organizations (such as the Caribbean Development Bank). With most of the Project resources executed nationally, the NSCs were to provide the most important guiding function, ensuring national buy-in and impact.

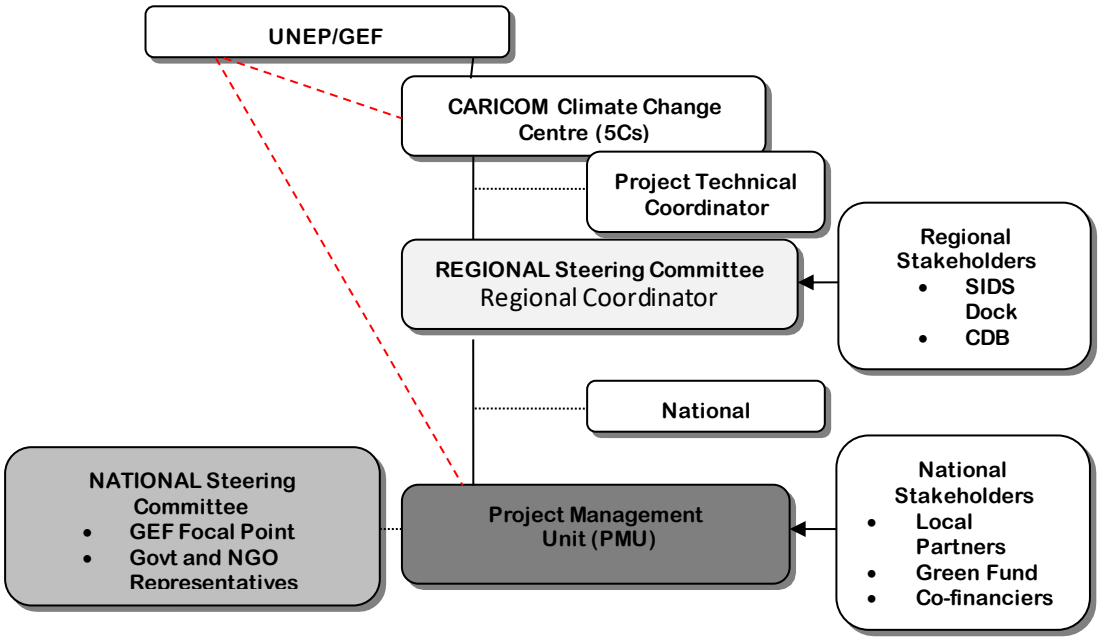
[14] This was after January 2020. In the pre-March 2019 period of the Project, the 5Cs had a team of 2 persons, one a Regional Project Coordinator and the other a Project Technical Advisor.

42. The Project arrangements for each participating country to support national level implementation were to be as follows:

- In A&B, the Environment Division in the Ministry of Agriculture, Lands, Housing and the Environment was to serve as the National Executing Partner Agency with an NPMU established in the Environment Division. The project was also to be supported by a National Steering Committee (NSC), comprised of the Environment Division, the National Sustainable Energy Unit (the Energy Desk), Development Control Authority, Statistical Division, Department of Public Works, Antigua Public Utilities Authority (Electricity Division), Antigua State College (Engineering Department), Electrical Contractors Association, and the A&B Investment Authority;
- In Belize, Ministry of Public Utilities, Energy & Logistics was to serve as the National Executing Partner Agency;
- In Grenada, the Ministry of Infrastructure Development, Public Utilities, Energy, Transport and Implementation was to serve as the National Executing Partner Agency with direct oversight from the Windward Islands Research and Education Foundation (WINDREF) Project Managers;
- In St. Lucia, the Ministry of Infrastructure, Ports, Energy and Labour was to serve as the National Executing Partner Agency. The NSC was to include the SLDB, the Ministry of Finance, the Economic Affairs & National Development (includes the GEF Operational Focal Point), and the Ministry of the Public Service and Human Resource Development;
- In SVG, the Ministry of Urban Development, Energy, Airports, Seaports, Grenadines Affairs and Local Government was to serve as the National Executing Partner Agency.

These arrangements are illustrated on **Error! Reference source not found.**. Actual Project implementation structure and partnerships are detailed in Paras 175 to 181.

Figure 3: Organigram of the Project with key project stakeholders



E. Project financing

43. Total Project cost *in the 2012 Project Document* was USD 12,484,500. This cost has been broken down into the GEF grant of USD 4.859 million and co-financing of USD 7.626 million as detailed in Table 4. The Project cost at the End-of-Project (EOP) was USD 31,772,104 where GEF funds were underutilized with over USD 0.975 million remaining and co-financing reaching more than USD 29 million, almost 4 times the pledged amount of USD 7.626 million. This is further detailed in Para 155.

Table 4: Project Budget by Component (as presented in the ProDoc)

Project Components	GEF Financing		Co-financing		Total ($)
	US$	%	US$	%	US$
1.Establish Assessment and Monitoring System including studies of long-term potentials	735,550	67	364,500	33	1,100,050
2.Strengthening of National capacity for energy efficiency and renewable energy	541,200	55	435,000	45	976,200
3.Appropriate financial and market-based mechanisms that support energy efficiency	604,450	25	1,841,500	75	2,445,950
4.Demonstration program	1,475,750	29	3,688,750	71	5,164,500
5.Regulatory framework to promote energy efficient buildings	530,250	47	602,800	53	1,133,050
6. Regional Technical Advice	485,900	70	207,050	30	692,950
7a. National Project management	242,950	50	242,950	50	485,900
7b. Regional Project Management	242,950	50	242,950	50	485,900
Total	**4,859,000**		**7,625,500**		**12,484,500**

F. Project Mid-Term Evaluation and Changes in design during implementation

44. The Mid-Term Evaluation (MTE) commenced in May 2017, undertaken by a consultant engaged by the UNEP Evaluation Office. By December 2017, a first draft was in circulation. The MTE highlighted major weaknesses in the Project as outlined in Paras 45 to 54, ranging from inadequate procurement procedures to low disbursement rates. The Project received an unsatisfactory rating with the risk rating being high and unsatisfactory. The Evaluation process took 11 months up to March 2018 when the final report was issued.

45. There were several implementation issues identified in the MTE that were due to a combination of issues including changes in government in some participating countries, inadequate project management at all operational levels, to the point where only 15% of the funds were spent and 16.5% of co-financing realized after 5 years. Several of these issues were identified as causes for the delay in Project implementation ranging from aspects of Project design to operational issues involving the Implementing Agency and the Executing Agency. These issues surfaced from as early as the first year of the Project, contributing to the creation of an environment of non-performance and disharmony, and threatening the viability and sustainability of the Project. The MTE posed the question as whether or not to close the Project, or to continue but with substantial changes to the management structure, with the choice having been made to continue with substantial changes to the management structure.

46. From a design perspective, the main issue was the inadequacy of the planned budget of US$58,500 for project implementation. Given that the Project was being implemented in 5 different countries, all countries had different project implementation responsibilities which required a complex level of coordination and more funds. Participating countries were constrained in their ability to hire full-time NCs, resulting in some part-time NCs being employed (details in Para 51).

47. From an institutional perspective prior to 2018, the Executing Agency personnel under the 5Cs (Project Technical Advisor and a Regional Project Coordinator who were hired for 15 days per month up to December 2019) were not permanent staff of the 5Cs, not occupying a physical space at the headquarters in Belize. While virtual offices do have their place in the modern communications environment, the virtual office setup prior to 2018 led to a weak Programme Development and Management Unit. More importantly, a physical presence at the 5Cs could have supported the Project in sharing general services provided by the 5Cs and ensured that information and documents pertaining to the operations of the project were centrally housed at the 5Cs. The absence of that physical presence and clear integration within the 5Cs normal project management structure created doubt as to the ownership of the Project and contributed to internal discord with respect to basic administrative functions. Furthermore, the Project Coordinator would engage consultants to work directly with the NSC, which had the unintended consequence of by-passing the management and oversight of the NSC, and laying the foundation for further tension between the NSCs and the 5Cs.

48. From a management perspective, there were several issues including UNDESA's abrupt withdrawal where replacements in the form of consultants did little to improve the pace of implementation. There was also Trinidad and Tobago dropping out of the project, general elections in all five participating countries, and protracted discussions with Antigua and Barbuda to resolve issues relating to the preparation of their workplan and budget and how the project funds assigned to them should be allocated. UNEP, the Implementing Agency, whose mandate it was to take "an adaptive management approach" to correct problems which arise in the implementation of the Project, did not perform that role in a commendable way. The interventions made at the Task Manager level, in terms of individual meetings with NCs, did not lead to improved performance.

49. Further to management perspectives, national level issues were related to delays in the procurement of project equipment and extended discussions regarding work plans and budgets and delayed payments. This only served to frustrate NSC personnel. NSC meetings were only convened where there was certainty that the meeting would be meaningful. In that regard, Belize, Grenada and St. Lucia convened Inception Meetings of their NSC in 2013 but delayed signing their Memorandum of Agreement by one year (2014) before any of them convened another NSC meeting. St. Lucia had not convened a NSC meeting since 2015.

50. From an operations perspective, one of the main successes of the Project highlighted by the MTE was capacity building in relation to the training of Energy Efficiency service providers from 2015 to 2018. The aim of the training was to create a cadre of professional engineers, technicians, architects, and relevant vendors to become qualified to deploy energy efficient technologies, products, and equipment in buildings thus accelerating the energy savings that can be achieved in public buildings, private entities and individual homeowners. This was achieved by the 5Cs contracting different agencies, such as IRENA, to convene national and regional training workshops. The Project contributed significantly, both directly and indirectly, to creating and improving the skill sets of Energy Efficiency service providers through several training workshops covering aspects of Energy Efficiency and Resource Efficiency technologies. Notwithstanding the satisfaction stated by participants and National Coordinators, one (unknown) participating country convened an additional two-week Energy Efficiency workshop for both public and private sector entities as it was believed that much more training was needed than was provided under the Project.

51. From a financial management perspective, Project expenditure between 2013 and 2017 was approximately 15%, extremely poor. A major reason for this low rate of expenditure was that very little funding has been disbursed to the countries, and to the entities responsible for launching and executing the demonstration buildings. This continued pattern of low expenditure and slow disbursement should have triggered some warning flags and prompted further interventions by the Fund Management Office or the Task Manager, seeking reasons for the delays. In addition, the constant need to request for timely submission of financial reports should also have warranted further intervention. While the Fund Management Office did make requests for timely submission of financial reports, there was little evidence of any sustained effort to address the real issues which were responsible for the low expenditure and disbursement to the countries. The poor progress of the Project also delayed disbursements to NCs, contributing significantly to difficulties in employing NCs in all participating countries:

- In A&B, the NC was employed from April 2016 to June 2020 as a long-term consultant with a lot of delays due to the works needing to conform to UNEP and GEF requirements;
- In Belize, two NCs were initially hired: one from March 2016 to March 2017 who was also employed as part of the Energy Unit, and the other from July 2016 to June 2017 sharing responsibilities but with little progress to report. A 3rd NC, was selected through a competitive process and served as NC for Belize from June 2017 to June 2020;
- In Grenada, nothing happened until a 2018 meeting when an NC was hired. However, no actions were performed by that NC; hence, no payments were made. Another NC was selected from 2019 to 2020 and paid for by the Government;
- In St. Lucia, an NC served from February 2015 to January 2017. The position was then vacant until May 2019 when a new NC was enrolled who served until June 2020;
- In SVG, an NC, served from 2015 to 2018 (through invoices submitted for services rendered) and from June 2018 and December 2019 under a contract.

52. Further to financial management, US$2,000,000 was disbursed by UNEP to the 5Cs in July 2017 to support the implementation of workplans in accordance with agreed documents. While this action may have been taken after considerable deliberation by the IA (TM and FMO) to honour project commitments, the transaction was somewhat premature given the fact that very little of the funds disbursed to the 5Cs were being disbursed to the participating countries for Project support. The advance of the US$2.0 million to participating countries should have been primary objective of the Executing Agency.

53. After the MTE of the Project, several changes in the Project design were made to address the unsatisfactory progress achieved up to 2018. This included:

- budgets that needed replenishment to allow recruitment of full-time NCs given that the US$58,500 allocation for NCs over a 4-year period was insufficient to provide the in-country leadership from NCs[15]. After 2018, NCs were employed to complete the demonstration buildings (details in Para 51);
- a full time Project manager/technical coordinator was employed at the 5Cs as of February 2019. He was based in Belize and responsible for both Project management and finance replacing the pre-March 2019 management regime of the Project (see Para 47). The complexity of the Project (its intrinsic coordination, supervision and support requirements) placed a demand on the need for a more permanent presence and clear integration into the operations of the 5Cs. The physical presence of the new Project Manager at the 5Cs resolved this anomaly and ensured that the information and documents pertaining to the operations of the Project were centrally housed at the 5Cs, and that all reports are tied to deliverables and associated payments;
- the Project structure being enhanced with greater technical support to bring institutional attention to the Executing Agency, the 5Cs, to trigger a response to Project risks to the unsatisfactory performance as reported in the PIRs. This included contracting regional organizations (such as CROSQ) to provide technical assistance to strengthen the capacity of participating countries to implement the Project interventions;
- appointment of a new UNEP Task Manager to lead the decision-making process regarding the disbursement of GEF funds and overall technical management of the Project. The previous Project structure did not lead to improved performance with the Task Manager needing to take a more assertive role in new commitments being made by the 5Cs;
- the NSC directly recruiting and engaging consultants to complete the projects in the demonstration buildings, making NPMUs redundant;
- the disbursement of the US$2.0 million to the 5Cs in July 2017 was made available to participating countries for EE retrofits and RE installations at the demonstration buildings as of March 2019[16];
- hiring of NCs completed by April 2019 for Antigua & Barbuda, Belize and St. Vincent and the Grenadines (Para 51);
- development of a calendar of future possible disruptive events (such as national elections and change of government) to ensure smooth implementation. This was done by Project Manager at the 5Cs, UNEP, and participating countries in April 2019. While external or unanticipated events can negatively impact a project, it was also possible to anticipate such events and ensure that immediately after these events. There was sufficient engagement between the Executing Agency and the local authorities to obtain reassurances and commitment for going forward;

[15] Saint Lucia was allocated $22,500 and St. Vincent and the Grenadines $44,200.

[16] This arrangement included the 5Cs directly dealing with suppliers and consultants at the national level without having to go through the administration of the NSC.

- the use of best practices in the procurement of goods, and the contracting of consultants for services using principles of highest quality, economy and efficiency. This was done in April 2019 to avoid long delays in procurement of goods and contracting consultants;
- a commitment and specific attention given to gender and indigenous issues relevant to EE and RE management which should have been considered in planned activities, together with other issues of social equity. It is common knowledge that a significant percentage of households in the Caribbean are headed by women, and more importantly, they are the primary users of EE appliances and technologies in the home. In addition, a large percentage of the population in Belize are categorised as indigenous who may have had specific concerns in how they embrace EE/RE. Unfortunately, this commitment was not kept (Para 183).

54. Further changes in the design of the Project were formulated when the COVID-19 pandemic affected the Caribbean. While specific actions were undertaken for EE retrofits and RE interventions for each participating country, these retrofits and interventions were completed with no time remaining to verify energy consumption data or GHG emission reductions on demonstration buildings through monitoring and evaluation of those interventions, due to the pandemic (Paras 138 and 165).

IV. RE-CONSTRUCTED THEORY OF CHANGE AT EVALUATION

55. A Theory of Change (ToC) for a project essentially describes the roadmap of developmental pathways driven by regulatory or market drivers. This is in combination with Project activities to reach Project outcomes as well as intermediate states and impacts that reflect the long-term sustainability of the Project activities. No ToC was prepared for the Project Document since it was in GEF-4. However, the Project did have a Project Results Framework (PRF) as assessed in Para 84. As such, a ToC and a revised PRF have been developed to highlight causal pathways and provide sufficient indicators to measure the delivery of intended outputs and Project outcomes of the Project. Table 5 and Annex VI provide these improvements to the PRF's original language of outcomes, outputs, indicators and targets, and use them in a ToC that is linked to Project outcomes and impacts of the Project.

56. Through corrective actions taken in Table 5 to reword impact, intermediate states, Project outcomes and outputs, the ToC diagram for the Project was developed as illustrated in **Error! Reference source not found.**. The logic of the ToC diagram flows in a horizontal direction (from the baseline on the left to the long-term impact on the right) flowing from outputs (green boxes) to Project outcomes (yellow boxes) to intermediate states (brown boxes) to long-term impacts (dark blue boxes) to global environmental benefits (aqua boxes), namely from reduced electricity consumption in buildings to GHG emission reductions. The Project outcomes from the PRF for this evaluation and ToC formulation were slightly changed from the original PRF to become clearer with outputs to be delivered as a means to achieve clarified Project outcomes.

57. The ToC clarifies these development pathways from the baseline and identifies where there are drivers and assumptions behind the intended Project activities to deliver outputs, Project outcomes, intermediate states and impacts. This has been done to:

- reflect the baseline conditions of the Project;
- clarify Project outcomes that would lead to intermediate states, which would include the "increased number of energy professionals and equipment suppliers and installers in RE and EE related to higher confidence in RE and EE projects", the "increased confidence of stakeholders to borrow and lend funds for RE and EE projects" and "permitting for RE and EE improvements becomes easier and enforces or incentivizes accelerated adoption of RE and EE";
- illustrate an impact after the building demonstrations (and the new objective of the Project as reviewed in Para 84, 4th bullet) of a "reduction of fossil-fuel based electricity and GHG emissions through the promotion of Renewable Energy and Energy Efficiency in the building sector in the Caribbean". This would serve as an indicator of initial stages of market transformation and generate tangible reductions in GHG emissions;
- harmonize the language of the ToC and PRF outputs, indicators and targets mentioned in the Project Document pgs 78-83. There are simplifications suggested to more clearly state intended outputs that are required from the Project, and to provide SMART indicators for the purposes of monitoring on this Evaluation;
- show common drivers to deliver Project outcomes, intermediate states and impacts including "Governments promoting transition to RE and EE as a pillar of its national energy efficiency and energy strategy" and "stakeholders willing to incorporate lessons learned in demonstration buildings to catalyse EE and RE investments",
- show common assumptions to deliver Project outcomes, intermediate states and impacts including "successful demonstrations", "rising fuel costs" and "economic conditions stabilized to permit EE and RE investments".

Table 5: Proposed Changes in ToC and Project Results Framework (PRF) Language

Original PRF language for Outcomes, Outputs and Indicators	Justification for Re-formulation	Formulation for Reconstructed ToC at Evaluation Inception (RTOC)
Impact: N/A	Adapted from the overarching goal of the project ("to develop and implement measures for promoting sustainable energy development within the buildings sector") and the project objective ("to reduce the GHG emissions intensity in buildings by 20%") stated in the project document.	**Impact:** Reduction of GHG emissions through the promotion of Renewable Energy and Energy Efficiency in the building sector in the Caribbean
Intermediate State: N/A		**Intermediate State 1:** Increased number of energy professionals and equipment suppliers and installers in RE and EE related to higher confidence in RE and EE projects
		Intermediate State 2: Increased confidence of stakeholders to borrow and lend funds for RE and EE projects
		Intermediate State 3: Permitting for RE and EE improvements becomes easier and enforces or incentivizes accelerated adoption of RE and EE
Project Objective: To reduce the GHG emissions intensity in buildings by 20%	Objective not specific or achievable. The indicator "Demonstration results and mechanisms to propagate savings at this level for 5 to 7 years" not a SMART indicator.	***Project Objective:*** To reduce fossil-fuel based electricity and GHG emissions through the promotion of Renewable Energy and Energy Efficiency in the building sector in 5 Caribbean countries. Direct cumulative GHG emission reductions (by country), tCO_{2eq}[17]: • Antigua & Barbuda – 160,000 • Belize – 65,000 • Grenada – 100,000 • St. Lucia – 30,000 • Trinidad & Tobago – 880,000
Outcome 1: Institutional capacity for management of sector, monitoring and assessment	Outcome is stated as an output and language needs to be clarified.	***Project Outcome 1***: Improved institutional capacity for management of sector, monitoring and assessment is demonstrated by participating countries
Output 1.1: Building audit reports, statistics on potential savings in domestic, commercial and public sectors	Output is formulated as an activity.	***Output 1.1:*** Audit reports on buildings available to decision makers with statistics on potential savings in domestic, commercial and public sectors
Output 1.2: Identification of measures at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables	Output is formulated as a completed activity. Reformulation to mention the beneficiaries.	***Output 1.2:*** Identified measures available to building professionals and equipment installers at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables
Output 1.3: Identify equipment and lighting potentials to reduce fossil fuel use	Output is formulated as an activity and is superfluous due to Output 1.2. Output should be dropped	Output dropped.

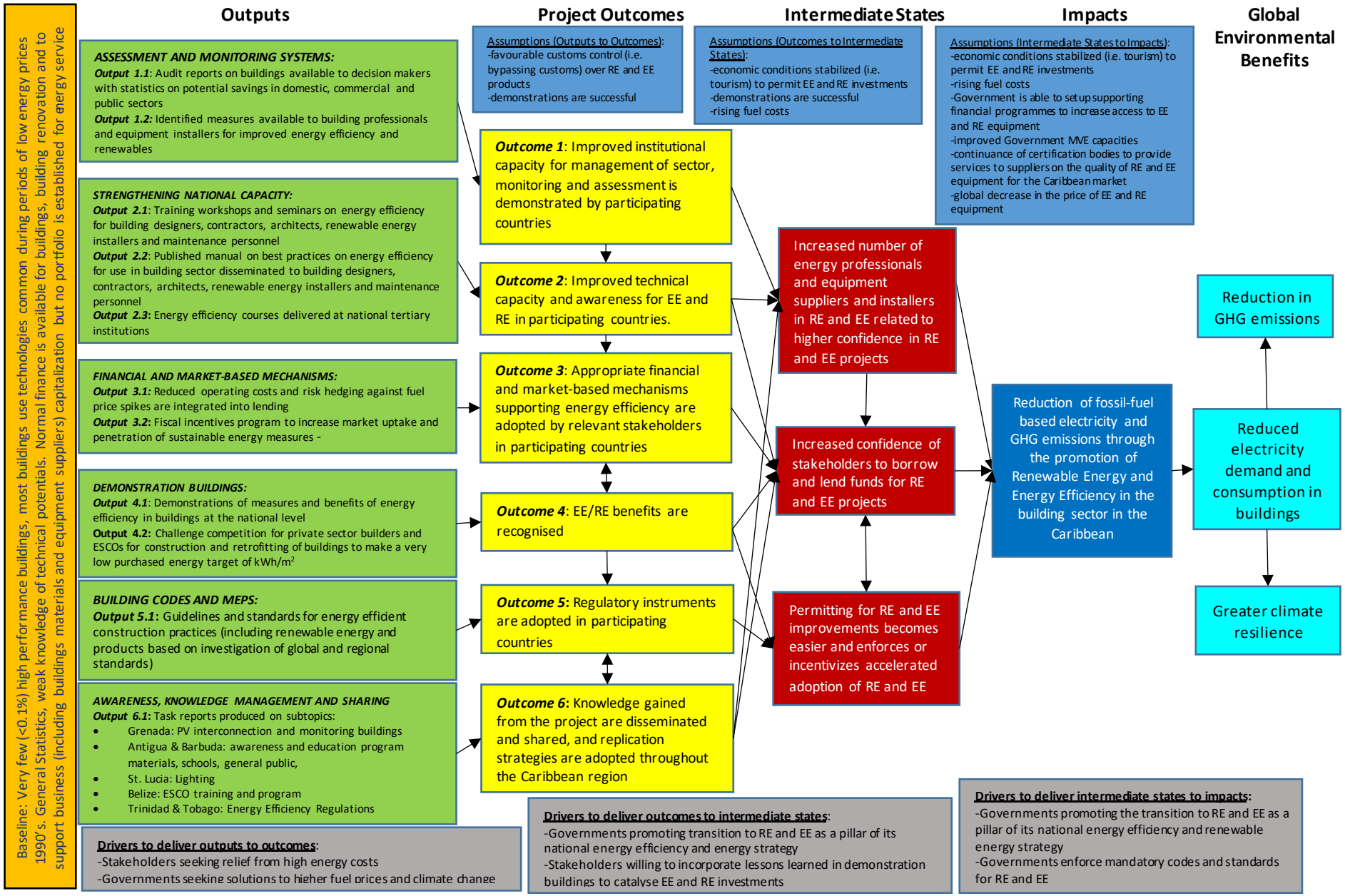
[17] These are the estimated direct (cumulative) GHG emission targets taken from the Project Document on Table 10 but explained in detail in Paras 43 to 76 and Tables 1, 2, 3, 4 and 9.

Original PRF language for Outcomes, Outputs and Indicators	Justification for Re-formulation	Formulation for Reconstructed ToC at Evaluation Inception (RTOC)
Outcome 2: Technical capacity and awareness for EE (Grenada – PV, St. Lucia – Lighting, Belize – ESCOs)	At outcome level, technical capacity and awareness need to be reflected into concrete actions.	***Project Outcome 2***: Improved technical capacity and awareness for EE and RE in participating countries [18]
Output 2.1 Development of training workshops, seminars on energy efficiency for building designers, contractors, architects, renewable energy installers and maintenance personnel	Output is formulated as an activity.	***Output 2.1***: Training workshops and seminars on energy efficiency for building designers, contractors, architects, renewable energy installers and maintenance personnel
Output 2.2: Publication of manual on best practices on energy efficiency for use in building sector	Output is formulated as a completed activity. Reformulation to mention the dissemination and the availability of the manual.	**Output 2.2:** Published manual on best practices on energy efficiency for use in building sector disseminated to building designers, contractors, architects, renewable energy installers and maintenance personnel
***Output 2.3*:** Development of energy efficiency courses for national tertiary institutions	Output is formulated as a completed activity. Reformulation to mention the dissemination and the availability of the courses.	***Output 2.3*:** Energy efficiency courses delivered at national tertiary institutions
Outcome 3: Appropriate financial and market-based mechanisms that support energy efficiency	Outcome language needs to be reformulated to capture the uptake and adoption of the financial mechanisms.	***Project Outcome 3***: Appropriate financial and market-based mechanisms supporting energy efficiency are adopted by the relevant stakeholders in participating countries
Output 3.1: Reduced operating costs and risk hedging against fuel price spikes are integrated into lending	Output is formulated as a completed activity. Reformulation to an output.	***Output 3.1:*** Reduced operating costs and risk hedging against fuel price spikes and integrated into lending
***Output 3.2*:** Fiscal incentives program to increase market uptake and penetration of sustainable energy measures	Output intent is clear	No changes proposed
Outcome 4: Demonstration program for sustainable energy	Outcome language needs to be clarified.	***Project Outcome 4***: EE/RE benefits are recognised
***Output 4.1*:** Demonstrations of measures and benefits of energy efficiency in buildings at the national level. Voluntary projects	Clarity in the output description.	***Output 4.1:*** Demonstrations of measures and benefits of energy efficiency in buildings at the national level
Output 4.2: Challenge competition for private sector builders for construction and retrofitting of buildings to make a very low purchased energy target of some few kWh/m^2 – Private sector competition for ESCOs	Output stated as an activity.	**Output 4.2**: Challenge competition for private sector builders and ESCOs for construction and retrofitting of buildings to make a very low purchased energy target of kWh/m^2
***Outcome 5*:** Regulatory instruments - Trinidad and Tobago – Code compliance advice, mandatory equipment efficiency levels how-to establish	Confusing outcome with Trinidad and Tobago. Outcome needs adjustment to outcome language	***Project Outcome 5*:** Regulatory instruments are adopted in participating countries
***Output 5.1*:** Development of guidelines and standards for energy efficient construction practices including renewable energy and	Output needs adjustment to output language	***Output 5.1*:** Guidelines and standards for energy efficient construction practices (including renewable energy and

[18] Includes building designers, contractors, architects, renewable energy installers, maintenance personnel, and managers of buildings.

Original PRF language for Outcomes, Outputs and Indicators	Justification for Re-formulation	Formulation for Reconstructed ToC at Evaluation Inception (RTOC)
products based on investigation of global and regional standards		products based on investigation of global and regional standards)
***Outcome 6*:** Regional public awareness, knowledge management & sharing, replication strategy and regional reporting	Outcome needs to reflect an adoption.	***Project Outcome 6*:** Knowledge gained from the project are disseminated and shared, and replication strategies are adopted throughout the Caribbean region
***Output 6.1*:** Task reports produced on subtopics: • Grenada: PV interconnection and monitoring buildings • Antigua & Barbuda: awareness and education program materials, schools, general public, • St. Lucia: Lighting • Belize: ESCO training and program • Trinidad & Tobago: Energy Efficiency Regulations	Output stated as a completed activity. Reformulated to mention the dissemination of the reports.	***Output 6.1*:** Task reports on the following subtopics are made available and disseminated throughout the region: • Grenada: PV interconnection and monitoring buildings • Antigua & Barbuda: awareness and education program materials, schools, general public, • St. Lucia: Lighting • Belize: ESCO training and program

Figure 4: RToC Diagram



A. Causal pathways from Outputs to Project Outcomes

58. With regards to the ToC causal pathways from the newly worded outputs to the Project outcomes, relevant government agencies in participating countries are crucial:

- for delivery of all Outputs and achieving all direct Outcomes driven by governments seeking solutions to higher fuel prices and climate change, and stakeholders seeking relief from high energy costs. This would include the ministries in all participating countries related to the energy portfolio to facilitate and encourage the development of necessary standards and regulations (Output 5.1) that informs suppliers and manufacturers of RE and EE equipment that would be acceptable to those markets;
- to the use of GEF funds to install EE and RE equipment as a demonstration of sustainable energy use in Caribbean buildings. This assumes that there is favourable customs control over RE and EE products imported into that country, and that the demonstrations are successful;
- to disseminating knowledge products gained from these demonstration buildings to improve adoption of regulatory instruments in participating countries, and replication strategies throughout the Caribbean region.

B. Causal pathways from Project Outcomes to Impacts

59. With regards to the ToC causal pathways from the Project outcomes to impacts, achievement of the 6 Project outcomes was expected to lead to intermediate states of:

- an increased number of energy professionals and equipment suppliers and installers in RE and EE related from Outcomes 1, 2 and 6, driven by stakeholders willing to incorporate lessons learned in demonstration buildings to catalyse EE and RE investments, and assuming economic conditions stabilized to permit EE and RE investments and fuel costs are still rising;
- increased confidence of stakeholders to borrow and lend funds for RE and EE projects related from Outcomes 2, 3, 4 and 6, driven by stakeholders willing to incorporate lessons learned in demonstration buildings to catalyse EE and RE investments, and governments promoting the transition to RE and EE as a pillar of its national energy efficiency and renewable energy strategy. It also assumes that economic conditions have stabilized to permit EE and RE investments and that there is a global decrease in the price of EE and RE equipment; and
- permitting for RE and EE improvements becomes easier and enforces or incentivizes accelerated adoption of RE and EE related from Outcomes 4 and 5. This is driven by governments enforcing mandatory codes and standards for RE and EE, and assuming that fuel costs are still rising and that demonstrations are successful.

60. The impact of "reduction of fossil-fuel based electricity and GHG emissions through the promotion of Renewable Energy and Energy Efficiency in the building sector in the Caribbean" can be reached assuming that economic conditions are stabilized to permit EE and RE investments, governments are able to setup supporting financial programmes to increase access to EE and RE equipment, there is a continuance of certification bodies to provide services to suppliers on the quality of RE and EE equipment for the Caribbean market, and that fuel costs are still rising. This would eventually lead to a rapid uptake of EE and RE. Moreover, the governments of participating countries, through improved MVE capacities, will be able to witness first-hand the benefits of the activities of the Project, its impact on energy consumers to use higher energy efficiency products, and renewable energy to reduce electricity demand and consumption that meets the objectives of low carbon development strategies of the participating countries. This will positively reinforce the assumed participating Government actions, leading to a sustained period of time of rapid RE and EE uptake until market saturation.

V. EVALUATION FINDINGS

A. Strategic Relevance

Alignment to UNEP MTS, POW and Strategic Priorities

61. The Project aligns with the UNEP Medium-Term Strategy (MTS) 2014 to 2017[19], specifically Climate Change Expected Accomplishment 2 (or EA2/low emission growth) where "energy efficiency is improved" in partner countries to reduce GHG emissions and other pollutants as part of their low emission development pathways.

62. The Project aligns with the UNEP MTS for 2018 to 2021[20], specifically proposed outcomes in Climate Change where there are "reduced emissions consistent with a 1.5/2^{0}C stabilization pathway" through "emission reductions of greenhouse gases and other pollutants from renewable energy and energy efficiency", and where countries "increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies.

63. The Project aligns with the relevant Programme of Works (PoW) in 2013[21]. Specifically, Climate Change UNEP strengthens the ability of countries to integrate climate change responses by providing leadership in adaptation, mitigation, technology and finance. UNEP focused on facilitating the transition to low-carbon societies, improving the understanding of climate science, facilitating the development of renewable energy and raising public awareness. Another work programme area of concentration is Environmental Governance where UNEP supports governments in establishing, implementing and strengthening the necessary processes, institutions, laws, policies and programs to achieve sustainable development at the country, regional and global levels, and mainstreaming environment in development planning.

64. The *Bali Strategic Plan* (BSP)[22] has objectives to "strengthen the capacity of governments of developing countries through targeted capacity building within the mandate of UNEP, using and sustaining the capacity of technology obtained through training or other capacity building efforts, and developing national research, monitoring and assessment capacity that supports national institutions in data collection, analysis and monitoring of environmental trends and in establishing infrastructure for scientific development and environmental management (that will ensure sustainability of capacity building efforts)".

65. The BSP also has other specific objectives of "promoting, facilitating and financing as appropriate, access to and support of environmentally sound technologies and corresponding know-how, especially for developing countries as well as countries with economies in transition", and "strengthening cooperation amongst UNEP, multilateral agreement secretariats (that take into account their autonomous decision-making processes), and other bodies engaged in environmental capacity building including GEF". The Project was aligned to the BSP through its emphasis and efforts to achieve these objectives through local capacity building activities, and providing inputs into the Project where appropriate from other developed countries (such as Germany). The results of local capacity building are discussed in the Section V D.7 of this report.

66. With regards to South-South Cooperation (SSC), the Project was designed to foster partnerships between developed countries with best international practices and regional countries for the purpose of information exchanges to facilitate market transformation for energy efficient and renewable energy

[19] https://wedocs.unep.org/bitstream/handle/20.500.11822/7670/-UNEP_Medium_Term_Strategy_2014-2017-2015MTS_2014-2017.pdf.pdf?sequence=3&isAllowed=y

[20] http://wedocs.unep.org/bitstream/handle/20.500.11822/7621/-UNEP_medium-term_strategy_2018-2021-2016MTS_2018-2021.pdf.pdf?sequence=3&isAllowed=y

[21] https://www.un.org/youthenvoy/2013/08/unep-united-nations-environment-programme/

[22] https://wedocs.unep.org/bitstream/handle/20.500.11822/26642/Annex%202%20to%20the%20briefing%20on%20South-South%20Cooperation.pdf?isAllowed=y&sequence=1

technologies in the Caribbean. As such, SSC was not designed to be prominent in the Project notwithstanding other energy efficient and renewable energy projects in the Caribbean.

67. Rating for Alignment to UNEP's Medium-Term Strategy, Programme of Work and strategic priorities is *highly satisfactory.*

Alignment to UNEP/GEF/Donor Strategic Priorities

68. The GEF provides grants for projects in focal areas of biodiversity, climate change, international waters, land degradation, the ozone layer, persistent organic pollutants, and chemicals and waste. The GEF funds for the Project were approved as GEF-4; however, the Project was approved during the GEF-5 Operational Phase (2011 - 2014). At the time of approval for Project implementation in 2012, it had aligned with GEF-5 strategic programs under:

- CCM-1: Technology Transfer Promote the demonstration, deployment, and transfer of innovative low-carbon technologies;
- CCM-2: Energy Efficiency: Promote market transformation for energy efficiency in industry and the building sector.

69. With the rejuvenation of the Project in 2018, it was to deliver outcomes consistent with the strategic programming objectives of the overlapping GEF-6 (2015-2018) and GEF-7 (2019-2022). For GEF-6, the Project was highly relevant under CC 1: Promote Innovation, Technology Transfer, and Supportive Policies and Strategies to "develop and demonstrate innovative policy packages and market initiatives to foster new range of mitigation actions" (Program 2) [23].

70. For GEF-7, the Project remains relevant to the Climate Change Focal Strategy Objective 1: "Objective 1: Promote innovation, technology transfer for sustainable energy breakthroughs"[24].

71. Rating for Alignment to UNEP/GEF/Donor Strategic Priorities is *highly satisfactory*.

Relevance to Global, Regional, Sub-regional and National Priorities

72. The Project is highly relevant to:

- The Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) that started in 2016, to support the institutional capacity-building and technical activities and to encourage domestic entrepreneurs and start-ups to take advantage of the growing sustainable energy markets in the Caribbean region. The CCREEE was being supported technically and financially UNIDO, SIDSDOCK, the EU and the Austrian Development Agency;
- Antigua & Barbuda's the National Energy Policy (2011)[25] that states its intention of "creating a stable, efficient and sustainable energy sector that fosters national economic and social development by establishing an enabling environment that exploits indigenous energy resources and reduces the total dependence on fossil fuels";
- Belize's National Energy Policy Framework (2011)[26] that states its intention of "setting 2033 goals of becoming a net electricity and biofuels exporter, increasing GDP energy intensity by 30%, tripling energy recovery from waste streams, and reducing fossil fuel imports by 50%" as well as "generating over 50% of electricity from renewable energy by establishing a target to increase hydropower from 55MW to 70MW by 2033 and to supply 5MW of electricity from municipal solid waste";

[23] https://www.thegef.org/sites/default/files/documents/GEF-6%20Programming%20Directions.pdf, see pg 57

[24] https://www.thegef.org/sites/default/files/publications/GEF-7%20Programming%20Directions%20-%20GEF_R.7_19.pdf, see pg 37

[25] https://www.ctc-n.org/files/resources/antiguabarbuda_national_energy_policy.pdf

[26] https://energy.gov.bz/national-energy-policy-framework/

- Grenada's "National Energy Policy - A Low Carbon Development Strategy for Grenada, Carriacou and Petite Martinique" (2011) that states its "promotion of our indigenous renewable energy potential (geothermal, wind, solar, waste to energy) that is imperative so that by 2020 at least twenty percent (20%) of all domestic energy usage should be based on renewable energy sources"[27];
- Saint Lucia's National Energy Policy (2010)[28] and Saint Lucia's National Energy Transition Strategy (August 2017)[29] that aims to "reduce electricity costs and ensure energy independence through increased adoption of renewable energy and energy efficiency"; and
- St. Vincent and the Grenadines' "Sustainable Energy for SVG: The Government's National Energy Policy" (March 2009)[30] that acknowledges the central role of energy in poverty reduction, the importance of security of supply and of controlling carbon emissions, and encourages a liberalisation of the energy market and a shift towards local renewable resources (solar thermal, biomass, wind, geothermal, hydro, and solar).

73. Rating for relevance to global, regional, sub-regional and national priorities is rated ***highly satisfactory***.

Complementarity with Existing Interventions/ Coherence

74. An ongoing project to complement the Project was the "LGGE Promoting Energy Efficiency and Renewable Energy in Buildings in Jamaica" (GEF ID: 4167) implemented from 2013 to 2020 and executed by the University of West Indies (UWI) in Jamaica, where arrangements were to be made for exchange of information and joint meetings for exploring the need for harmonizing the building energy efficiency codes of both projects. Activities of the Organization of American States, Organization of Eastern Caribbean States and the CDB were to be coordinated through both 5Cs and UWI. However, there was limited evidence suggesting that opportunities for collaboration, information sharing and leveraging of synergies and networks were not actively pursued with this Project.

75. UNEP was also to ensure linkage with the Global Solar Water Heating Market Strengthening project (GEF ID: 2939), and the Global Market Transformation for Efficient Lighting Project (GEF ID: 3457), to offer tools and information regarding RE and EE deployment to the residential and commercial buildings. There was also limited evidence suggesting that opportunities for collaboration, information sharing and leveraging of synergies and networks were not actively pursued with this project.

76. The EU also provided funding to a joint effort by the Caribbean Association of Industry and Commerce (CAIC) and the Private Sector Organization of Jamaica (PSOJ) for "Capacity Building of Caribbean Private Sector Environmental and Energy Management Capabilities". This project aimed to develop private sector capacity in environmental and energy management and to promote a successful regional and national collaborative approach to efficient energy consumption through studies in Jamaica and Trinidad & Tobago. Data was to be exchanged with this project so as to optimize the available knowledge about energy consumption developments and opportunities as well as existing capacity gaps in Trinidad & Tobago. This project was also to be linked directly to the Task Reports linked with Output 6.1. Considering that Output 6.1 was mostly not delivered, there is evidence that opportunities for collaboration, information sharing and leveraging of synergies with this project were not pursued.

77. However, there were other projects implemented after the Project Inception that were also supposed to be complimentary to the Project listed as follows:

- For several islands including Grenada, Saint Lucia and SVG, the GCF project on "Sustainable Energy Facility for the Eastern Caribbean" is being implemented from 2017 to 2025 for

[27] http://www.oas.org/en/sedi/dsd/Energy/Doc/OASGrenada_HRprint.pdf

[28] http://www.oas.org/en/sedi/dsd/Energy/Doc/NEP_StLucia_web.pdf

[29] https://www4.unfccc.int/NAMA/Downloads/Saint%20Lucia%20NETS%20Final%20Report_%20Aug%209%202017%20(3).pdf

[30] https://www.ccreee.org/wp-content/uploads/2020/06/SVGNationalEnergyPolicyApprovedMar09.pdf

geothermal energy development by providing institutional strengthening, capacity building and a financing package that mitigates exploration risks and unlocks private sector investments. Total project funds are US$190.5 million. There is limited evidence found to suggest that opportunities for collaboration, information sharing and leveraging of synergies and networks from this project were not actively pursued;

- For several countries including Grenada, the GCF project "Global Energy Efficiency and Renewable Energy Fund (GEEREF)" is being implemented from 2017 to 2033. The project aims to be a first investor in RE and EE investment funds and encourage other investors to co-invest There is limited evidence found to suggest that opportunities for collaboration, information sharing and leveraging of synergies and networks were actively pursued;
- The Caribbean Development Bank and the Government of Canada are providing support to the project "Support to the Energy Sector in the Caribbean" being implemented since 2015 for US$4.0 million. There is limited evidence found to suggest that opportunities for collaboration, information sharing and leveraging of synergies and networks from this project were actively pursued;
- In St. Lucia, funding from the GEF, SIDS DOCK Support Program, the Government of New Zealand and the Clinton Climate Initiative is supporting the "Geothermal Resource Development Project" implemented in 2018, designed to conduct exploratory drilling for geothermal energy resources in the Sulfur Springs area and the Piton Management Area. There is limited evidence found to suggest that opportunities for collaboration, information sharing and leveraging of synergies and networks from this project were not actively pursued;
- In SVG, there was strong collaboration in the RE intervention at the airport where the Project added RE to an existing RE array for the airport. There was also the CDB, IDB, DFID, the European Union's Caribbean Investment Facility (EU-CIF) and the Government of New Zealand funding a geothermal energy-drilling project since May 2019 with US$27 million. There is limited evidence found to suggest that opportunities for collaboration, information sharing and leveraging of synergies and networks from this Project were actively pursued;
- There are other projects. However, these projects have not been identified by this Evaluation despite attempts to obtain the relevant information.

78. Rating for Complementarity with Existing Intervention/Coherence is *moderately unsatisfactory*.

Rating for Strategic Relevance: Satisfactory

B. Quality of Project Design

79. A review of the Project design is crucial towards a comprehensive understanding of Project outcomes and the actual Project outcomes achieved. This review of design strengths and weaknesses of the Project also incorporates the findings in the MTE report. A summary of this review is contained in the following paragraphs.

Project Design Strengths:

80. The Project was designed in 2010-11 with the intention of accelerating the adoption of energy efficiency and renewable energies in the Caribbean market as a means of rapidly reducing the region's energy consumption and related GHG emissions. Considering the lack of efforts in 2010 and 2011 to focus on energy efficiency and renewable energy as a means of reducing regional energy demand, the region still needed to overcome barriers mentioned in Para 28 to meet the Project's objective as stated in the Project Document of "reducing energy demand by 20%". As such, the Project served as a useful Project to demonstrate the removal of barriers towards energy efficiency and use of renewable energy.

81. The objective as stated in the Project Document of the Project was to "*reduce the GHG emissions intensity in buildings by 20%*". The design of the Project focused on a holistic approach to lowering the remaining barriers (as mentioned in Para 28) to widespread adoption of energy efficiency and renewable energy in the Caribbean to achieve the objective including:

- the Project representing another regional effort aimed at achieving energy efficiency improvements while at the same time promoting greater use of renewable energy[31];
- the establishment of a system for reducing energy costs and an opportunity to make significant changes to the economic and financial situation of persons in both the public and the private sector. Most importantly, from a national economic perspective, it presented opportunities for the five participating countries to become more competitive with reduced energy costs;
- the Project targeting the building sector in the region which is a major consumer of electricity;
- assessment and monitoring renewable energy and energy efficiency that allows for RE and EE opportunities to be identified in buildings, and for baseline estimates to be made for these opportunities;
- identified key stakeholders for assigned critical roles at both the regional and national levels. In addition, they were expected to play pivotal roles in developing policies, laws, regulations, standards, in-kind contributions and ensuring the transfer of knowledge, and the provision and receiving of training in RE and EE;
- the development of appropriate financial and market-based mechanisms that support sustainable energy use in buildings;
- demonstration buildings to provide examples of best practices for sustainable energy use in buildings and support for the regulatory framework to promote energy efficient buildings, appliances and equipment; and
- support for knowledge dissemination to increase awareness of government personnel, building professionals and the general public.

82. As such, the design of the Project incremental support was to augment the 2011 baseline to meet the intended results of the Project by:

- strengthening the competencies of government and professional staff at regulatory entities across the participating SIDS in the Caribbean region;
- developing a regional regulatory framework and strategy for environmentally sound management of RE and EE; and
- developing supporting policies to increase user acceptance and demand for high efficiency products and systems.

83. In conclusion and considering the size of GEF support of US$4,859,000 over a period of 4 years, the design of the Project was clearly scoped to provide incremental support to strengthen local capacities and enable government officials to regulate RE and EE changes in buildings in an environmentally responsible manner. The strength of the Project is in its holistic approach to achieving the Project objective.

Project Design Weaknesses:

84. A review of the Project Results Framework (PRF) revealed a "non-specific" intended objective with poorly worded Project outcomes and outputs whose achievements were to be measured with poorly-worded indicators and targets. While a small number of indicators and targets were SMART, there were several more examples of the indicators that were not SMART in the PRF which led to confusion over what are the indicators and targets to be achieved for the Project. There was a need to improve the description of indicators and targets for Project management personnel to deliver the intended outputs of the Project. Recognizing that the PRF does not align with the best practices in preparing PRFs, the following comments are provided as examples in simplifying and clarifying the achievement of intended outcomes (as summarized in Table 5) through delivery of outputs as measured with SMART indicators and targets:

[31] The first regional energy efficiency initiative was initiated under the Caribbean Hotel Energy Efficiency Action (CHENACT) in 2009, financed by IDB, GTZ, CDE, UNEP, BL&P, BHTA and Government of Barbados.

- The baselines of potential emission reductions were based on anecdotal evidence or general "rules of thumb". While the general rule of thumb might have been based on recognized criteria applied in other jurisdictions, reference to the CHENACT project previously mentioned would have provided greater assurances that the targets were realistic and achievable;
- Each country had responsibility for implementing one activity. However, delays in implementing one activity created a cascading effect of delays in other countries and other activities. The assumption being made with this design feature is that all countries will implement at the same pace, whereas in reality this was not the case. For example, Antigua & Barbuda's delay in commencing the public education and awareness component led to delays in other countries implementing education awareness activities in their respective countries. A more appropriate approach would have been to assign a regional agency to be in charge of a work activity, advancing long-term mandate for regional responsibilities (such as CROSQ for advancing EE and RE standards);
- Despite no obligations to monitor gender or indigenous groups in the GEF-4 Project Document, there has been an omission on the Project on GEF-6 and GEF-7 obligations to address gender and indigenous groups. In Belize, indigenous persons make up a significant percentage of the population, but no analysis was provided of their challenges in respect of EE and the use of RE. In addition, women are known to lead a significant proportion of households in the participating countries;
- The Project objective was not specific nor achievable. The indicator for the Project objective was "demonstration results and mechanisms to propagate savings at this level for 5 to 7 years" with a target of "a reduction in GHG emissions intensity of 20% as a result of more efficient energy consumption and renewable energy use in buildings". The PMU would not know if this refers to a specific set of buildings or all buildings in the 5 participating countries. If it refers to all buildings in the 5 participating countries, this reduction target is not sufficiently specific nor achievable. The Project objective and indicator has been corrected with measurable direct GHG emission reduction targets for the 5 participating countries as estimated on pg 39 of the Project Document;
- Many of the indicators are not clear on what is to be monitored. For example, Outcome 1 indicator is "baseline projection and monitoring system to be able to track and feedback on progress" and "opportunities and target potentials for energy savings are identified" with targets of "capacity to predict trends and assess impact of EE policies and programs" and "long range planning for deep GHG emission cuts of 50%", respectively. Knowing these are not measurable indicators, the indicator should have been something like "% of trainees able to predict trends, assess impact of EE policies and programs, and identify opportunities for GHG emission savings of more than 50%" with a target of 50 to 75%. Suggested edits have been made to the PRF indicators on Table 5 and in Annex VI;
- Output 1.3 indicator is "report on actual performance and potentials to be achieved" with a target of "> 20% energy performance improvement". Knowing this is not a "specific" indicator, the indicator should have been worded something along the lines of "number of reports on >20% energy performance improvements to be achieved" with a target of "15";
- There was poor allocation of resources to the NC position. With the poor progress of the Project combined with the extension of the tenure of some NCs, there were unintended impacts related to delayed payments to NCs, and general difficulties employing NCs (see Para 51).

85. Though the Inception Report of the TE rated the design as moderately satisfactory, the aforementioned factors were critical to the downgrading of the rating, especially the poor allocation of resources to the NC position. The Project Design Quality (PDQ) score table is contained in Annex VIII.

Rating for Project Design: Moderately Unsatisfactory

C. Nature of the External Context

86. Project operations can be affected by externalities beyond the control of the Project. This may include externalities such as severe and unexpected climatic events, high-risk security situations, poor

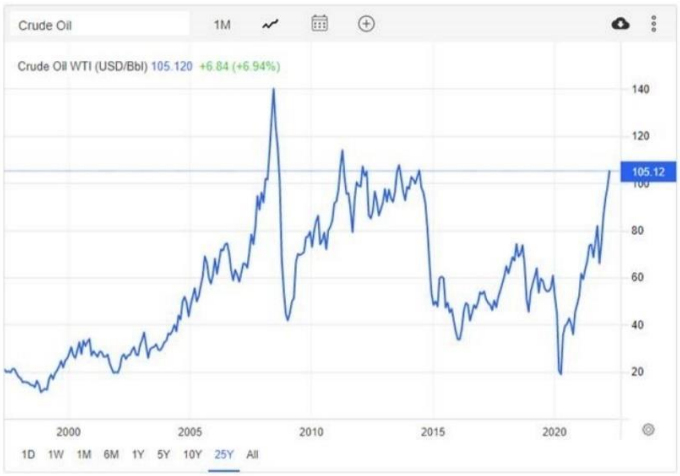
or lack of supporting infrastructure, economic instability, and politics. A review of the factors in assessing the nature of external context for the 5 participating Caribbean countries reveals that the Project operations were affected by a number of issues as described in the following paragraphs.

87. Two major events greatly impacted the Project causing a complete halt of activities, except in Belize. Firstly, Hurricanes Irma and Maria in September 2017, destroyed (Irma) the island of Barbuda, making it inhabitable; the entire population was evacuated to the main island of Antigua. The Hurricanes also caused major damage and flooding in Grenada, St. Lucia and St. Vincent and the Grenadines. As can be imagined, resources in these countries were diverted to reparations after the hurricanes. Secondly, there were elections in all countries that caused delays in the delivery of the outputs. The implementation of the Project over an 88-month period (against a 48-month Project period design) is a strong indicator of the unfavourable assessment of the nature of external context for the Project.

88. Another event that affected RE and EE was the drop in crude oil prices in 2015-17. This had the impact of affecting government priorities and interest in promoting energy efficiency and renewable energy. This lasted until 2018 when crude oil prices started to rise again. Figure 5 illustrates the volatility of recent oil prices.

89. Finally, there was the COVID-19 pandemic which had the impact of slowing down Project implementation. The impact was to the extent that post-installation energy consumption was not even monitored under Project resources.

Figure 5: Yearly oil prices[32]



Rating for Nature of the external context: Unfavourable

D. Effectiveness

D.1. Availability of Outputs for Outcome 1: Improved institutional capacity for management of sector, monitoring and assessment is demonstrated or acted upon in participating countries

90. Output 1.1: Audit reports on buildings available to decision makers with statistics on potential savings in domestic, commercial, and public sectors. By 2018, all countries had the requisite monitoring equipment, some of it purchased by the Project and some with their own funds[33]. By 2020, a total of 12 energy audits reports for 21 buildings was undertaken prior to retrofitting[34]. In some instances, the late

[32] https://tradingeconomics.com/commodity/crude-oil

[33] Grenada and Saint Lucia purchased monitoring equipment with their own funds.

[34] There were 5 for Antigua & Barbuda, 2 for Belize; 3 for St. Vincent and the Grenadines; and 2 for St. Lucia

provision of the monitoring equipment meant that audits were delayed or undertaken through other means.

91. By 2017, Antigua & Barbuda, Belize and SVG had completed their collection of baseline electricity usage data on demonstration buildings for which there was mostly no historical data. In Belize, baseline energy consumption was *estimated* for the Sir Edney Cain building based on data from a power logger for a 30-day period. This information was used to determine the best interventions for energy savings, which was mainly focused on lighting and air conditioning. Countries have not indicated co-financing with respect to additional equipment to facilitate audits.

92. Most of the other audit reports were made with data and statistics on baseline energy consumption on public sector buildings. In many cases, this was used to calculate potential savings in energy resulting from EE retrofits and RE installations. As a result, there was limited success on creating an energy efficiency baseline in each country. Grenada and St. Lucia did not undertake any audits until 2018 when their monitoring equipment was available through their own funds. Audits were made for proposed lighting retrofits in A&B, Belize, St. Lucia, and SVG generating a total annual savings of 122,692 kWh equivalent to 14 tonnes of CO_2 emission reductions (or US$ 46,623 in electricity bill savings), and the solar PV system installations for Grenada, A&B and SVG generating a total annual savings of 17,479 kWh, equivalent to a 2 tonne of CO_2 emission reductions (or US$ 2,971 in electricity bill savings). However, analyses to determine the GHG emission reduction impacts of retrofitted buildings was limited since the works on those buildings were completed in the final weeks of the Project in 2020. The Evaluator has had no access to any of the Project's energy audits except for the Sir Edney Cain Building in Belize. The availability of this output is *moderately unsatisfactory*.

93. Output 1.2: Identified measures available to building professionals and equipment installers at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables. A "Green Procurement in Public Buildings Manual and Tool Kit" was made available in September 2020 for the participating countries as well as regional countries outside the 5 SIDS of the Project. The manual has relevance and application throughout the wider CARICOM region. Training was provided by the CARICOM Regional Organization for Standards and Quality (CROSQ) in the application of the CARICOM Regional Energy Efficiency Building Code (CREEBC) and the development of the "Fiscal Incentives Policy" paper to provide the most comprehensive articulation of measures and information to improve the energy profile and reduce the carbon footprint of buildings in the Caribbean.

94. The process of identification of RE and EE measures to be undertaken was completed by the respective ministries of the participating countries in charge of the RE and EE installations and based on demonstration buildings that have been energy audited. For A&B, Belize and St. Lucia, this was completed by October 2019. For Grenada and St. Lucia, this was completed by February 2020, and SVG was completed in January 2019. ToRs and bidding documents for RE and EE installations for demo buildings were developed by early 2020 (except for SVG which was in early 2019) as well as a short-listing of contractors who could perform the works. The availability of this output is *satisfactory*.

D.2. Availability of Outputs for Outcome 2: Improved technical capacity and awareness for EE and RE in participating countries

95. Output 2.1: Training workshops and seminars on energy efficiency for building designers, contractors, architects, renewable energy installers and maintenance personnel. Work on this output began in 2015. During March 2015, the Project focused on training 93 participants from all countries at the Simulation Tools workshops[35]. In 2016, capacity building for Caribbean ESCOs was conducted at training workshops in St. Lucia with materials and toolkit developed in partnership with IRENA, NREL, SIDS-DOCK, and CDB. Major Project disbursements were made to facilitate workshops and procurement of services, exhausting the initial advanced funds of US$ 400,000 disbursed in March 2013.

[35] Half the Grenada, Belize, St. Lucia and St. Vincent and the Grenadines workshop participants came from private businesses. In Antigua and Barbuda, half of the participants came from government agencies.

96. In March 2018, several sessions were conducted in Belize with a MIKE (CROSQ marketing, information, knowledge and education) officer[36]. The sessions informed stakeholders of other energy efficiency initiatives going in the region and the latest developments in codes and standards development. CROSQ was instrumental in setting up countries for dissemination and adoption of the REEBC and MEPS. The Project has also been instrumental in assisting CROSQ to build capacity with training workshops with industry practitioners in the form of training of trainers (ToT). This involved engineers, architects and personnel from various Ministries of Energy from the participating SIDS.

97. In 2020, the establishment of the Caribbean Regional Energy Efficiency Building Code (CREEBC), as certified by the International Code Council and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), became the foundation for training of energy professionals in the region to be undertaken by the CROSQ. The Project has continued support of the training of local ESCOs, who are now able to access funds through the development banks. Training beyond the Project will continue to be conducted by the CARICOM Secretariat and CROSQ as part of their mandates to advance the adoption of RE and EE mechanisms in the wider CARICOM region.

98. The Project also funded technical sessions, attended by technical management committees for technical soundness and robustness, adhering to best international practices prior to government approval. The Energy Conservation Code was taken from the International Code Council (ICC) with the Project purchasing the licensing agreement to utilize the Codes in 2020. This was the first International Code used in the Caribbean for buildings as published on the ICC website. The Belize Handbook on Energy Efficiency for Belize satisfies this output as of 2020 and was to be customized for use in the remaining countries.

99. Training seminars were also conducted on the Green Procurement Manual and Toolkit (A&B in 2018, and all participating countries in 2020 with selected 5Cs staff), EE labelling of appliances and energy codes for buildings (in Jamaica, St. Vincent and the Grenadines and Suriname in 2019 and 2020), and implementing energy labelling standards for air conditioning based on the "Adopted Labelling Standards for LEDs, CFLs, Refrigerators and Air Conditioning Units" by the Antigua and Barbuda National Electro-Technical Committee (in A&B in 2020).

100. Countries also took advantage of the "Energy Week" organised by the CARICOM Secretariat in November of every year. This program was geared towards advancing information and knowledge on RE and EE in schools (all levels), in the commercial sector including hotels and in the public sector. After March 2020, this planned activity in St. Lucia was not possible because of the restrictions on activities and movements imposed because of COVID 19.

101. There is still a need for additional training. In Grenada, one company that specializes in renewable energy installations have several personnel who have certification for renewable energy installations. One individual in Grenada, however, mentioned that several of his staff, despite having the abilities to do renewable energy installations, do not have their certification yet.

102. In Belize, there was reportedly a lesson learned document from the retrofits on the 2 demonstration buildings in the hopes of setting up a vocational course and workshops with the Ministry of Education and a Canadian University for ESCOs on renewable energy and energy efficiency. To generate public and private sector interest in Belize, the Belize Electricity Limited (BEL), the national electricity distributor, proposed an integrated utility service model where BEL becomes an ESCO proposing an intervention that can be serviced by one of their contractors with payback for the intervention through their utility bills. ESCOs, however, are not operational in Belize and likely other participating countries.

103. In summary, the one successful activity of the Project was the training it provided to government personnel and private energy practitioners, for regional energy efficiency standards, renewable energy installations, Green Procurement and ESCOs. The availability of Output 2.1 is *satisfactory*.

104. Output 2.2: Published manual on best practices on energy efficiency for use in building sector disseminated to building designers, contractors, architects, renewable energy installers and maintenance personnel. CROSQ had supported energy efficiency standards development as of 2018 to

[36] Each country has one MIKE officer that works with CROSQ to disseminate information to the stakeholders and the general public.

2020 and was aided by the Project to disseminate the standards. As of 2018, CROSQ had a standards and labels initiative in all participating countries of the Project and other countries. This was developed independently for appliances such as refrigerators and LEDs complete with testing facilities with the Project informing countries how to run their compliance, and finding out how pilot countries are affected by the labeling scheme[37]. This was supported by the Project as a means of pushing the building codes; promotional materials were distributed in 2018 to all participating countries to inform retailers and equipment suppliers.

105. The Project-supported "Green Building Procurement Manual" published in September 2020 captures the energy aspects of building level decisions, by introducing product specifications that meet or exceed the international standards marks of renewable energy systems and energy efficiency as defined under the 2020 CREEBC. For energy efficiency products, this is achieved by codifying an internationally recognised energy efficiency label such as ENERGY STAR. This version of the Manual is a first version that is set to evolve beyond energy and product safety to include a fuller scope of Green Public Procurement. Currently, none of the countries have an arrangement in place for the guarantee of the performance of equipment for renewable energy or energy efficiency against promised performance. Thus, potential investors in renewable energy or energy efficiency have a perception of a high level of uncertainty about the level of electricity output or electricity savings that (s)he will get from a renewable energy and energy efficiency system. The effectiveness of Output 2.2 was *satisfactory*.

106. Output 2.3: Energy efficiency courses delivered at national tertiary institutions. The only activity to implement this output took place with Antigua State College who signed an MOA in December 2018 with the University of the West Indies Open Campus (UWI), based in Antigua, to provide additional support to develop courses. The training was rolled out in 2020 between Antigua and Barbuda and the UWI to be a "Training of Trainers" programme for which certification was to be provided. The training modality consisted of adopting RE and EE courses (that are offered free online globally) with training being offered through the UWI. Other countries did not follow-up on delivery of energy efficiency courses at national tertiary institutions. The availability of Output 2.3 is *moderately unsatisfactory*.

D.3. Availability of Outputs for Outcome 3: Appropriate financial and market-based mechanisms supporting energy efficiency are adopted by relevant stakeholders in participating countries

107. Output 3.1: Loan finance mechanisms that reduce operating costs and hedge risk against fuel price spikes. In 2016, close collaboration between the 5Cs, CDB, DFC, and the Government of Belize contributed to the development and finalisation of a memorandum of agreement (MoA) for the establishment of a Blended Grant Loan Finance Mechanism/Revolving Fund window for RE and EE to be managed by the Belize Development Finance Corporation (DFC) and the Ministry of Energy. This financing window became operational in September 2016 with the development of appropriate financial and market-based mechanisms that support sustainable energy use in buildings. The DFC provided loan finance of US$1.8 million (US$1.5 million co-financed from the CDB and $0.3 million as a grant from the Project) as a means of providing financing for the private sector for energy efficiency and renewable energy retrofits. In 2020, ESCOs were permitted to utilize these funds for energy efficiency and renewable energy economic activities. The Evaluator has no evidence of ESCOs using this financial mechanism (see Para 142).

108. This RE/EE Blended Grant Loan Finance Mechanism/Revolving Fund was also adopted in 2017 by the SLDB and the GDB in St. Lucia and Grenada respectively. The Project provided grants of US$100,000 and US$400,000 respectively in June 2020 with co-financing amounts reaching US$800,000 and US$1.2 million respectively. The majority of loan enquiries and by extension, the majority of loans were for solar PV installations. The Evaluator has not been able to contact bank officials or obtain information from Grenada. The availability of Output 3.1 is *satisfactory*.

109. Output 3.2: Fiscal incentives program to increase market uptake and penetration of sustainable energy measures. Fiscal incentives were necessary to increase energy efficiency and renewable energy in buildings as a means to decrease the upfront cost of investment, reduce the operating costs of

[37] Testing facilities are in T&T for LEDs and Jamaica for refrigerators.

buildings and provide an overall net present value benefit for owners. In 2019, a white paper on fiscal incentives was prepared to guide governments in the application of incentives or dis-incentives across the region. The development banks in St. Lucia, Grenada and Belize, all beneficiaries of funding from the Project, helped to propel the adoption of fiscal incentives and promote the adoption of renewable energy and energy efficiency technologies in the region. Specifically in Belize, at least 2 hotels and a supermarket were outfitted with EE and RE measures with DFC loan resources.

110. On 14 September 2020, a report on an "Action Plan for Implementation of Proposed Fiscal Incentives Programme" was issued. The report articulated the required action plan to implement a proposed programme of fiscal incentives to increase the market uptake of energy efficiency and renewable energy in the Project target countries of A&B, Belize, Grenada, Saint Lucia and SVG. This represents a significant movement towards incorporating market-based mechanisms in the RE and EE sector. Several consultations with many different institutions in both the public and private sectors were required to refine the programme, achieve consensus about the proposals, and build support for the initiatives. The Action Plan also recognises that increasing the market uptake and penetration of renewable energy and energy efficiency in buildings depends on:

- increasing the certainty and the chances of profitability, through fiscal incentives;
- a supportive ecosystem of required energy equipment and building standards, electricity sector regulation, facilitation of investment, and availability and dissemination of knowledge about investing in the sector; and
- the affordability of fiscal incentives related to the timing and cost to ensure they are affordable by the governments, who have limited available fiscal space and the general population facing tough economic conditions.

111. The availability of Output 3.2 is *moderately satisfactory*.

D.4. Availability of Outputs for Outcome 4: EE/RE benefits are recognised

112. Output 4.1: Demonstrations of measures and benefits of energy efficiency in buildings at the national level. In 2016, there was strong support from the 5Cs with the issuance of 2 RFPs for demonstration buildings in A&B, Grenada and St. Lucia. However, this did not result in any countries starting any work on their demo buildings, mainly due to the inability of local teams in measuring baseline energy consumption. With Project management being a significant issue in the implementation of the Project up to 2018, there was no progress on the demonstration buildings.

113. After the management response to the MTE in March 2019, regular communication was established between the PMU and the NCs. This led to movement on the demonstration projects for A&B, Belize, Grenada, and St. Lucia with RFPs for bidding out as of May 2020 and all installations and retrofits completed during the period of July-September 2020. This left no time for replication during the Project. More importantly, this left no time for the monitoring of energy consumption post-installation. SVG had their bidding RFPs earlier in October 2017.

114. For Antigua & Barbuda, EE and RE measures were undertaken in 5 demonstration buildings as of September 2020, after the EOP:

- Office of the Prime Minister: a total of 6 HVAC units replaced (each 75 Tons or 900,000 BTU cooling capacity through HVAC) and LED lighting retrofit.;
- Antigua and Barbuda Bureau of Standards: 3 new 4.5 tons inverter AC units were installed;
- Bolans Clinic: AC units were replaced by 2 new inverter AC Units 20 Tons. However, the retrofit at the Bolans clinic could not be verified as the person in charge of this retrofit could not be contacted;
- Department of Environment: 9.45 kW ground mounted solar PV with battery storage and LED lighting retrofit. Stakeholders interviewed on the retrofits have shown appreciation of this system as an effective way to show the public the value of EE and RE;
- Antigua Grammar School: LED lighting retrofit. All the 2 ft and 4 ft CFLs have been changed out to LED light bulbs. Results from the field mission suggest that a noticeable result from this retrofit has been the current bulbs have not needed to be replaced as frequently as the CFLs.

115. For Belize, EE measures have been undertaken in 2 demonstration buildings as of June 2020:

- Karl Heusner Memorial Hospital: LED lighting retrofit, insulation, and AC units;
- Sir Edney Cain (office) building: LED lighting retrofit, insulation, and AC units.

116. The design of these EE retrofits for these 2 buildings was focused mainly on lighting and air-conditioning in consideration of the budget available from the Project. Just prior to the COVID-19 pandemic, the work was tendered out with a requirement for certified installers to be on the installation teams. For KHMH, the entire building was retrofitted with LEDs with the help of maintenance crews during the COVID-19 pandemic. Replacement of only 30% of the air-conditioners to split units in KHMH was done due to the budget constraints.

117. One of the conditions of the tender was to set up energy monitors to monitor energy consumption post-installation. Energy monitors were set up in both buildings. However, monitoring energy consumption for the KHMH building has not been done due to the pandemic and access restrictions to the buildings, especially the hospital. Energy monitoring was being conducted in the Sir Edney Cain Building. However, there is a problem with the baseline energy consumption of this building which has been changed, making comparisons of energy consumption of this building difficult.

118. For Grenada, 2 demonstration buildings were implemented as of June 2020:

- St. Rose Modern Secondary School: 20 kWp Grid-tied 50% roof mounted and 50% ground mounted solar PV System;
- Blue Horizon Hotel: 5 kW solar PV installation.

119. The installation of a solar PV units for St. Rose Modern Secondary School was performed by a private contractor under the supervision of the Ministry for Infrastructure Development, Public Utilities, Energy, Transport & Implementation - Energy Division. The private contractor was fully informed on best practices for installation of solar PV units and storage facilities. Personnel from the Energy Division said that the school no longer has electricity bills as a result of the solar PV installations. In fact, the school is being paid for power generated, probably from the energy storage units, which are sufficient to provide energy for the early evening power spikes.

120. The installation of the solar PV units at the Blue Horizon Hotel was also performed by another private contractor with inspections performed by the Energy Division for correct panelling, cabling, storage and inverters. They also reportedly have experienced reduced energy consumption albeit it is not known if they are selling back any energy to GRENLEC, the local utility.

121. Though the timing of the solar PV installations in Grenada did not leave much time for replication, installation contractors have been writing proposals to the government to get them to invest and renewable energy, solar PV and wind installations. Only time will tell if these proposals are successful. The savings realized by the St. Rose Modern Secondary School serves as an incentive to installation contractors for further investments in renewable energy in public buildings.

122. For St. Lucia (and other countries), widespread use of solar water heaters is an encouraging indicator of RE and EE. Nevertheless, 3 demonstration buildings were implemented as a part of the Project as of September 2020:

- Richfond Police Station LED lighting retrofit;
- Sir Arthur Lewis Community College LED lighting retrofit;
- Bay Gardens wireless energy management monitoring of EE and lighting retrofit.

123. For St. Vincent and the Grenadines, 3 demonstration buildings were implemented:

- Argyle International Airport - 74kW ground mounted solar PV installations;
- National Emergency Management Organisation (NEMO) Headquarters - 40KW Roof Array Grid Connected Solar PV; and
- Georgetown Secondary School - LED lighting retrofit and 30kW Roof Solar PV.

124. The contract for the solar PV system for the Argyle International Airport was first signed in August 2016, but delayed in implementation until mid-2018. This solar PV installation has been producing energy for the airport as of April 2019, contributing directly to GHG reductions. The

Government of SVG targeted the National Emergency Management Office and the Central Court House for energy efficient and renewable energy retrofits by the Project. The Central Court House was eventually replaced by Georgetown Secondary School. These buildings have undergone walk-through energy audits supported by the Project, and were set up for energy monitoring. The public library was also retrofitted with LED lights in late 2020 as a part of the SVG Government co-financing which was not reported.

125. While COVID-19 has interrupted progress in some countries, contracts were secured to complete all the required works in demonstration buildings in all participating countries. Though replication was not catalyzed by the demonstration buildings (mainly due to the late implementation date and the COVID-19 pandemic), replication was not considered as a Project activity, and more of a flaw in the design of the Project. The availability of Output 4.1 is *satisfactory*.

126. Output 4.2: Challenge competition for private sector builders and ESCOs for construction and retrofitting of buildings to make a very low purchased energy target of kWh/m^2. While challenge competitions were planned, the countrywide lockdowns and curfews, and school closures resulting from the COVID-19 pandemic denied participating countries the opportunity to undertake this activity. The availability of Output 4.2 is *unsatisfactory*.

D.5. Availability of Outputs for Outcome 5: Regulatory instruments are adopted in participating countries

127. Output 5.1: Guidelines and standards for energy efficient construction practices (including renewable energy and products based on investigation of global and regional standards). The development of regulatory instruments got off to a slow start. In 2014, Trinidad had responsibility for developing RE and EE regulations and standards. With Trinidad's withdrawal from the Project, developing regulations fell into responsibilities of CROSQ in 2016 where the CARICOM Energy Program and the PMU were involved in the developments of a Regional Energy Efficiency Building Code. A Regional Validation Workshop was held on 7-8 December 2015 on Minimum Energy Performance Standards (MEPs) for public buildings hosted by CROSQ and the CARICOM Energy Unit. ISO 50001 was also adopted within the Building Energy Audit protocol training. In 2016, the Project PMU managed to secure an agreement with the Caribbean Development Bank (CDB) and the CARICOM Secretariat Energy Programme to co-finance development of strategies that promote buy-in and early adoption of a Regional Energy Efficiency Building Code (REEBC) and Minimum Energy Performance Standards (MEPS).

128. In March 2017, work had begun to establish and develop a REEBC with a review of the International Energy Conservation Code (IECC) in an effort to adapt it and present it for acceptance and adoption by Member States as an REEBC and MEPS for public and commercial buildings in CARICOM Member States. While this work had stalled from March to September 2018, two regional energy efficiency standards inclusive of MEPS for refrigerators and lighting appliances were presented at the 47th Meeting of COTED in November 2018 in Georgetown, Guyana.

129. Following COTED approval, 2 of these draft standards were finalized in March 2019 by CROSQ in collaboration with the International Code Council, ASHRAE, and the CARICOM Secretariat Energy Unit. They were published in March 2019 under the new CARICOM Regional Energy Efficiency Building Code (CREEBC)[38], which covered new energy efficiency standards in both commercial and residential construction. These new codes, which were developed with Project funds, were designed to help Caribbean states (including the participating project countries) to improve the energy efficiency of their buildings and support energy conservation efforts. Participating countries are now undertaking national processes to implement the standards, which are currently being implemented on a voluntary basis in member countries to familiarize stakeholders in participating countries with the standards for mandatory adoption. The standards will have significant long-term impact in reducing GHG emissions.

[38] The standards may be found here: https://codes.iccsafe.org/content/document/1335 and https://crosq.org/index.php/media-and-resources/item/131-crosq-releases-new-energy-efficiency-standards-developed-in-collaboration-with-the-international-code-council-and-ashrae

130. In 2019 and 2020, training workshops on EE labeling of appliances and energy codes for buildings had been held in Belize, Jamaica, SVG and Suriname. Belize is undertaking a contract for providing EE labeling. The Antigua and Barbuda National Electro-Technical Committee is currently implementing energy labelling standards for air conditioning. The availability of Output 5.1 is *satisfactory*.

D.6. Availability of Outputs for Outcome 6: Knowledge gained from Project are disseminated and shared throughout the Caribbean region, and replication strategies are adopted in the region

131. Output 6.1: Task reports produced on subtopics: In general, this output was not delivered in a manner anticipated in the Project Document. While A&B made significant advances on the knowledge aptitude and perceptions (KAP) tool, albeit at a late date (2019), other countries did not deliver their task reports: Grenada on PV interconnection and monitoring buildings, St. Lucia on lighting, and Belize on ESCO training. There was also no submission of a report on energy efficient regulations.

132. Work on a KAP survey on energy efficiency and renewable energy for A&B started in 2019 with a survey of 264 residents and 61 businesses on their awareness and knowledge on EE and RE. A toolkit was developed and shared with the other participating countries to become part of the foundation in regional countries to inform public awareness campaigns. The survey concluded that there was a measurable improvement in the knowledge of Antiguans and Barbudans about energy efficiency and the measures to achieve it. The improvement was greater in the business community than in the households. There was positive change in the attitudes of Antiguans and Barbudans towards energy efficiency.

133. A&B have acted and were prepared to take further action to reduce the use of energy such increasing the use of energy saving bulbs and reduce the use of air-conditioning. In addition, the practices of Antiguans and Barbudans towards energy efficiency are governed primarily by financial concerns. Other knowledge products produced by A&B in support of this output were as follows:

- Brochure: The Energy for Sustainable Development In Caribbean Buildings Project (available to all project countries as print and online versions);
- Flyer: SAVE ENERGY, SAVE MONEY & PROTECT THE ENVIRONMENT (online and print versions created);
- TIP Card: THE PEOPLE'S POCKET GUIDE: Distribution throughout A&B and developed by the PMU and Kingdom Consultants;
- Jingle: Dissemination by Antigua and Barbuda Radio 2019-2020 and developed by PMU and Calypso Jo;
- Six Memes developed by PMU and Kingdom Consultants for distribution to all participating countries.

134. The Project did deliver on energy efficiency regulations in the form of CROSQ's publication of the CREEBC as mentioned in Para 129. While it was not clear which country was leading on this effort, CROSQ was responsible for publishing the document in collaboration with the International Code Council, ASHRAE, and the CARICOM Secretariat Energy Unit.

135. In Belize, there was reportedly a lesson learned document from the retrofits on the 2 demonstration buildings (see Para 102). The lessons learned document was shared with the DFC of Belize which resulted in co-financing of US$1 million from DFC as a means of providing financing for the private sector for energy efficiency and renewable energy retrofits (see Para 107).

136. The availability of Output 6.1 is *moderately unsatisfactory* based on most of the participating countries not delivering knowledge products to the Project.

The overall rating for the availability of the Project outputs is Moderately Satisfactory.

D.7. Achievement of outcomes as defined in the reconstructed TOC

137. The RToC in Section IV illustrates the outputs and outcomes that the Project sought to achieve to contribute to an overall impact of "reducing fossil-fuel based electricity and GHG emissions through the promotion of RE and EE in the building sector in the Caribbean". In the RToC in Figure 1, this impact is spread along a development pathway with the following "intermediate state" to be prior achieved: "an increased number of energy professionals and equipment suppliers and installers in RE and EE related to higher confidence in RE and EE projects", "increased confidence of stakeholders to borrow and lend funds for RE and EE projects" and "permitting for RE and EE improvements becomes easier and enforces or incentivizes accelerated adoption of RE and EE" The evaluation of the effectiveness of the Project consisted of an assessment of causal pathways from the baseline to the outputs of the Project to generate the outcomes and Intermediate states that would eventually lead to impacts and generate global environmental benefits (all based on the RToC in Figure 4). As such, the outcomes of the Project include:

- Outcome 1: "Improved institutional capacity for management of sector, monitoring and assessment is demonstrated or acted upon in participating countries";
- Outcome 2: "Improved technical capacity and awareness for EE and RE in participating countries";
- Outcome 3: "Appropriate financial and market-based mechanisms supporting energy efficiency are adopted by relevant stakeholders in participating countries";
- Outcome 4: "EE/RE benefits are recognised";
- Outcome 5: "Regulatory instruments are adopted in participating countries";
- Outcome 6: "Knowledge gained from the project are disseminated and shared, and replication strategies are adopted throughout the Caribbean region".

138. With regards to drivers supporting the transition from outputs to outcomes, the driver of "stakeholders seeking relief from high energy costs" *is in place* due to a large proportion of stakeholders being concerned about these high costs (e.g. sufficient awareness raising in Belize, Grenada, Saint Lucia and SVG). However, the driver "governments seeking solutions to higher fuel prices and climate change" *is only partially in place* due to governments having other higher spending priorities (e.g. SVG in disaster relief from volcanic eruptions) and stakeholders still needing financial concessions before committing to an RE and EE investment. As such, drivers to support the transition from outputs to direct outcomes are only "partially in place".

139. The evaluation of assumptions from outputs to outcomes are as follows:

- the assumption of "favourable customs control (i.e. bypassing customs) over RE and EE products" *was held by all participating governments*. This permitted the purchase of additional RE and EE equipment;
- the assumption of "demonstrations are successful" *was held by all participating countries*. This allowed the opportunity for energy savings to be monitored (even though the monitoring reports were not completed) and benefits of RE and EE investments to be disseminated to a wider audience (though not formally).

140. The achievement of the Outcome 1 of "improved institutional capacity for management of sector, monitoring and assessment is demonstrated or acted upon in participating countries" can be described as follows:

- In A&B, the Project made a small contribution to the improved institutional capacity to manage EE and RE projects. This is due to other similar projects being undertaken in A&B (with the IRENA project mentioned in Para 77) that result in more confidence of the Ministry of Energy as well as the Ministry of Health, Wellness and the Environment, local building designers, energy professionals and equipment suppliers and installers, to assess and manage RE and EE projects. Despite existing capacities to monitor and assess RE and EE measures, it is unfortunate that the monitoring capacities of the institutions did not improve under this Project due to the demonstration sites not being completed before the EOP;

- In Belize, the Project helped to augment the capacities of the Energy Unit of the Ministry of Public Utilities, Energy & Logistics. The Energy Unit had decided to focus on energy efficiency based on the Project budget made available to them in February 2020. This included efforts and costs for walk-through energy audits, and organizing replacing all lighting devices with LED and AC retrofits. Despite existing capacities to monitor and assess RE and EE measures, the monitoring capacities of the Energy Unit did not improve under this Project due to the demonstration buildings being implemented at the EOP. The Energy Unit also mentioned that Project was one of several projects that has been undertaken in Belize to promote EE and RE;
- In Grenada, there were already built capacities at the Government of Grenada for solar installations. The Project, however, helped augment the capacities of the Ministry of Finance, Economic Development, Physical Development, Public Utilities and Energy in the management of RE projects, and the application of CREEBC and renewable energy codes and standards. Monitoring capacities, however, were not improved under this Project due to the demonstration buildings being implemented at the EOP;
- In St. Lucia, there were already built capacities within the Ministry of Infrastructure, Ports, Energy and Labour for managing EE and RE sector projects. The Project did augment the improved institutional capacities through government personnel familiarization to CREEBC, the Green Procurement Manual and Toolkit, and the Fiscal Incentives Policy Paper. Monitoring capacities were not improved under this Project due to the demonstration buildings being implemented at the EOP;
- In SVG, the Energy Unit within the Ministry of National Security has had ongoing capacity building from other similar projects. Conversations with personnel within the Energy Unit and stakeholders revealed they were performing maintenance of the solar panels and energy monitoring at Argyle International Airport reportedly with estimates of monthly savings from solar PV of US$13,000 to US$15,000 per month. Maintenance involved the cleaning of the panels and corrective maintenance where cable connectors burned out requiring considerable lead time to get spare parts. The NEMO building experienced reduction in electricity bills from US$1,480 to US$700, a reduction of 40-50%. The solar panels at Georgetown Secondary School were damaged by the April 2021 volcanic eruptions in SVG, delaying energy monitoring of that facility. With technical assistance workshops to government personnel on solar panel installation standards on CREEBC in 2015 and 2016, and on the Green Procurement Manual and Toolkit and the Fiscal Incentives Policy Paper in September 2020, the Project has made a small contribution to improving institutional capacities of the Energy Unit[39] to manage EE and RE projects. Despite existing capacities to monitor and assess RE and EE measures, the capacities for monitoring of RE and EE projects slightly improved although there were no formal post-installation monitoring reports of the demonstration buildings;
- However, in all participating countries under this Project, improvements in institutional capacity did not include assessment and monitoring systems for EE and RE measures in demonstration buildings. This also meant that reporting of GHG emission reductions from EE and RE measures in demonstration buildings was not formalized.

The overall rating for achievement of Outcome 1 of "improved institutional capacity for management of sector, monitoring and assessment is demonstrated or acted upon in participating countries" is *moderately satisfactory*.

141. The achievement of the Outcome 2 of "technical capacity and awareness for EE and RE in participating countries" can be described as follows:

- In A&B, improvements in technical capacity were demonstrated by the Antigua and Barbuda National Electro-Technical Committee who are currently implementing energy labelling standards for air conditioning based on the "Adopted Labelling Standards for LEDs, CFLs, Refrigerators and Air Conditioning Units". Additionally, stakeholders interviewed thought highly of the Project, welcoming the focus on renewable energy and energy efficiency

[39] This would have included engineers, architects and specialized technicians within the Government.

especially at a time when the impact of fossil fuels on the climate has become a public issue of importance;

- In Belize, the Project has made a small contribution to the technical capacity and awareness of EE. As a demonstration of this improved capacity, the Energy Unit recruited local assistance to undertake EE measures including walk-through energy audits, replacing all lighting devices with LEDs, replacing some of the old air conditioners with more efficient models, replacing false ceiling panels, and installation of energy timers, sensors and monitors. The Energy Unit mentioned, however, that the Project is one of several projects that has been undertaken in Belize to promote energy efficiency and renewable energy. This led to a Project-sponsored effort to develop vocational training courses for EE and RE installers by the Ministry of Education in collaboration with a Canadian university, delayed due to COVID-19. This effort, however, is still being planned. The country still lacks a critical mass of technicians who can guarantee the performance of EE and RE equipment, affecting public confidence of EE and RE investments. This is a barrier to an integrated utility service model that is being proposed by Government for Belize for implementation energy performance contracting for EE and RE measures in Belize[40];
- In Grenada, there is capacity for RE supply and installation. The country has several contacts with solar PV suppliers in Germany and China, and several technicians with licenses to install solar PV, wind and geothermal. Despite their extensive RE experience, several of the technicians do not yet have their RE certifications. The Project has made a small contribution to augment their capacities in terms of RE and EE standards and codes. However, in terms of technical capacity and awareness for EE and RE, solar PV installations are not being installed by ESCOs. Instead, they are done by local contractors followed by a government inspector who would give a certificate to the installer or the proponent to bring the solar PV system on-line with GRENLEC, the electricity distributor for Grenada. This is followed up by GRENLEC personnel who check the voltage to the invertor and perform the commissioning of the solar PV systems with the GRENLEC grid;
- In Saint Lucia, the Project made a small contribution to improved technical capacity through workshops for Saint Lucia-based technicians and managers on the topics of CREEBC, the Green Procurement Manual and Toolkit, and the Fiscal Incentives Policy Paper. There were also personnel responsible for the installation of LEDs at the demonstration buildings though the Project had limited inputs into the technical capacity of LED installation personnel;
- In SVG, there was sufficient domestic expertise to install solar PV panels at Georgetown Secondary School. The remaining demonstration buildings had expertise from foreign companies to install solar PV at Argyle International Airport (German company) in 2019 and NEMO Headquarters in 2020, and to install LEDs at Georgetown Secondary School; the foreign companies had local assistance to install the solar PV and LEDs with foreign supervision. The Project made a small contribution to improved technical capacity through workshops for SVG-based technicians and managers for solar PV installations at the Argyle International Airport that took place in 2019. There was also training on CREEBC, the Green Procurement Manual and Toolkit, and the Fiscal Incentives Policy Paper in September 2020. However, there was no awareness raising activities in support of the demonstration buildings;
- There needs to be attention paid to improving the capacities of the Ministries taking care of environment to enact the environmental laws, especially in dealing with Waste from Electrical and Electronic Equipment (WEEE) waste streams such as spent and waste CFL lights and solar PV panels. Considering the small sizes of the SIDS in the region, it would be of interest to provide international expertise on WEEE waste streams in an integrated manner across several countries;
- The Project has continued support of the training of local ESCOs, who were able to access funds through the development banks. However, this training did not materialize into any significant number of ESCOs operating in the Caribbean region performing energy

[40] This would involve the utility company serving as an ESCO (installing solar PV panels and other RE and EE equipment to be paid back in utility bills).

performance contracting. Stakeholders are still struggling with the paperwork of ESCO-type contracting.

The overall rating for achievement of Outcome 2 of "technical capacity and awareness for EE and RE in participating countries" is *moderately satisfactory*.

142. The achievement of the Outcome 3 of "appropriate financial and market-based mechanisms supporting energy efficiency are adopted by the relevant stakeholders in participating countries" can be described as follows:

- For all 5 participating countries, there were two documents that were produced by the Project for appropriate financial and market-based mechanisms supporting energy efficiency: "An Action Plan for Implementation of Fiscal Incentives Program Document for Antigua, Belize, Grenada, Saint Lucia and St. Vincent and The Grenadines to Increase the Market Uptake of Energy Efficiency and Renewable Energy in Caribbean Buildings" and the "Green Building Procurement Manual for Public Managers", both produced in September 2020 to assist in policies and procedures for public managers for green procurement;
- In Belize, the Belize Development Finance Corporation (DFC) and the Ministry of Energy launched a Blended Grant Loan Finance Mechanism/Revolving Fund window in October 2017, under an MoA developed in partnership with the CCCCC, the Caribbean Development Bank, and the Government of Belize as detailed in Para 107. Lending has totalled US$1.025 million from October 2017 to December 2021. The COVID-19 pandemic has created some disbursement problems for the programme, notably in the tourism sector where working capital became scarce with the pandemic. COVID-19 pandemic delayed the disbursement of some of these funds especially loans for the tourism sector. Currently, none of these loans went out to ESCOs as there are currently no true ESCOs in Belize[41]. There are also ongoing efforts to provide access to additional credit resources to the private sector (due to their limitations of collateral) through a master guarantee agreement with the CDF Climate Credit Risk Facility to bolster attractiveness to the private sector. This is a satisfactory outcome;
- In Grenada, the EE and RE loans at concessional rates as mentioned in Para 108, with the Project provided a grant of US$400,000 in 2020 with co-financing amounts reaching US$1.2 million. Unfortunately, the Evaluator does not have any further information on the performance of the Grenada loan programme. However, information received by the Evaluator indicates that solar PV installations are bought by the client at cost in Grenada. As such, there are no arrangements yet for ESCO-type energy performance contracting in Grenada. This is likely the case for the other 4 participating countries;
- In St. Lucia, the EE and RE loans at concessional rates as mentioned in Para 108, with the Project provided a grant of US$100,000 in 2020 with co-financing amount reaching US$800,000. For the year ending 30 June 2021, the total value of loans approved for RE/EE measures was US$203,264 while the value of grant funds approved was close to US$50,000, mainly for the housing sector. The majority of loan enquiries and by extension, the majority of loans were for solar PV installations. This is a satisfactory outcome;
- There is a strong likelihood that the Ministries taking care of energy in Belize, Grenada and St. Lucia are positioned well to promote EE and RE investments to the commercial and industrial sectors where greater national energy savings and GHG emission reductions can be generated. A number of the Project interventions using the demonstration buildings can be replicated through the rapid uptake of renewable energy and high energy efficiency electronic devices such as LED lighting;
- No concessional loan programmes for EE and RE projects were designed for A&B and SVG, consistent with the Project document;

[41] ESCOs are being trained under an IADB's Eco Micro Programme for 3 levels of energy audits in line with ASHRAE. Problems are being experienced with participants in getting them to do the proper amount of paperwork for the energy performance contract (EPC).

- Though the Project has continued financial support of local ESCOs (who were able to access funds through the development banks), this did not materialize into in any significant number of ESCOs operating in the Caribbean region performing energy performance contracting in the region. As noted in the lessons learned, in part, this is due to the small markets of the islands (some with populations under 200,000), meaning that often there are very few or no local ESCOs.

The overall rating for achievement of Outcome 3 of "appropriate financial and market-based mechanisms supporting energy efficiency are adopted by the relevant stakeholders in participating countries" is *satisfactory*.

143. The achievement of the Outcome 4 of "EE/RE benefits are recognised" can be described as follows:

- In A&B, 5 demonstration buildings were implemented with RE and EE benefits recognized. Notwithstanding that knowledge and interest in RE and EE systems is extensive, there is still a lot of work to be undertaken to initiate replication. Despite a major shift towards importation of EE and RE equipment, the policy environment and permitting for EE and RE systems needs to be mainstreamed. Another barrier to replication in A&B was the absence of a concessional loan programme for EE and RE projects, which was not designed for A&B under the Project;
- In Belize, the Project helped to focus on energy efficiency retrofits that were performed in May 2020 for which EE benefits have been recognized. With the Blended Grant Loan Finance Mechanism/Revolving Fund (to which the Project contributed as mentioned on Para 107), Belize is already funding replication of EE and RE projects, though the pace of loan disbursements has been slowed down by the COVID-19 pandemic;
- In Grenada, there were roof-mounted solar PV systems installed in 2 demonstration buildings. One of the buildings, St. Rose Modern Secondary School, has no electricity bill due to lithium battery storage which is used to sell power to the grid in the evenings. While there are EE and RE funds available for loans (see Para 108), there was certainly no government focus on EE and RE at the time of the writing of this report, partially due to elections. Proposals are being written now by the Ministry of Finance, Economic Development, Physical Development, Public Utilities and Energy to replicate Government spending on RE;
- In St. Lucia, the energy savings from the lighting retrofits at the Richfond Police Station and the Sir Arthur Lewis Community College were much appreciated by the personnel using these buildings and the students. While there are EE and RE funds available for loans (see Para 108), there was US$20 million in co-financing from the Government of Saint Lucia for RE and EE investments which was used to fund RE and EE measures in public buildings throughout the country. Most notable technologies deployed were solar PV and solar water heating installations;
- In SVG, the energy savings from the demonstration buildings was appreciated by Government personnel. The Energy Unit also indicates that there is a positive public perception from students, teachers and the general public of the EE and RE measures taken in the demonstration buildings. Despite there being plenty of discussion amongst Government personnel and the public about RE and EE investments for other public buildings, the absence of a concessional loan programme for EE and RE projects serves as a barrier to replication in SVG;
- The result of this Outcome was that EE/RE benefits were recognized. With each participating country having energy policies encouraging low carbon economies and less dependence on imported oil, and reporting obligations to the Paris Agreement, there has been a sustained trend of increased RE and EE investments happening in all these countries and regionally. As such, the impact of the Project was not as large as expected. The Project closed down in June 2020 shortly after the RE and EE measures in demonstration buildings were completed, though there has been recognition of the benefits of RE and EE on the buildings after the

closure of the Project[42]. However, there was no formal monitoring of RE/EE benefits that could have provided positive information on the RE/EE benefits from this Project. A major reason for the lack of monitoring of RE/EE benefits after the buildings were completed in September 2020 was the COVID-19 pandemic, which essentially restricted access to most buildings, and UNEP wanting to shut the Project down due to its long duration.

The overall rating for achievement of Outcome 4 of "EE/RE benefits are recognised" is *satisfactory*.

144. The achievement of the Outcome 5 of "regulatory instruments are adopted and followed in participating countries" can be described as follows:

- In A&B, Belize, Grenada, Saint Lucia and SVG, the Project helped with the adoption of CREEBC that covers standards and codes for both commercial and residential construction as well as adoption of the "Green Procurement Manual and Toolkit" to guide the acquisition of energy efficient appliances and equipment using global standards, and the "Fiscal Incentives Policy Paper and Action Plan" to strengthening the policy base. This served to facilitate adoption of RE and EE to varying degrees in the participating countries and in the wider CARICOM region;
- In A&B, an indication of regulatory instruments being adopted by the Government of A&B is the effort by the Antigua and Barbuda National Electro-Technical Committee implementing energy labelling standards for air conditioning based on the Adopted Labelling Standards for LEDs, CFLs, Refrigerators and Air Conditioning Units;
- In Belize, there is still no policy on net metering for solar PV installations. This is likely for the other participating countries. This has the effect of slowing investments into RE;
- In Grenada, Saint Lucia and SVG, training was done to augment the technical capacities of solar PV technicians to adopt new RE standards for installation and the new codes and standards of CREEBC.

The overall rating for achievement of Outcome 5 of "regulatory instruments are adopted and followed in participating countries" is *moderately satisfactory.*

145. The achievement of Outcome 6 of "knowledge gained from the Project are disseminated and shared throughout the Caribbean region, and replication strategies are adopted in the region" can be described as follows:

- In A&B, a KAP survey was completed in June 2020 to improve the technical capacity and awareness for EE and RE in the CARICOM region. In addition, A&B has prepared and implemented videos and radio products to raise the public profile on the benefits of EE and RE in buildings. This had some effect on positively influencing public opinion on EE and RE in A&B although the impact of the KAP study is not known on the other countries, leading to a conclusion that assigning a country with one task can lead to delays in other countries from implementing their work plan. In addition, the strengthening EE and RE replication strategies for A&B requires the streamlining of the policy environment and permitting for EE and RE systems, and the existence of a Blended Grant Loan Finance Mechanism/Revolving Fund for EE and RE projects;
- In Belize, the energy savings from these the KHMH and Sir Edney Cain demonstrations buildings was not officially documented for a variety of reasons: the COVID-19 pandemic restricted access to KHMH thereby limiting access to energy monitors, and the change of use of the Sir Edney Cain building. As a result, knowledge of energy savings from these demonstration buildings could not be shared;
- Grenada, St. Lucia and SVG did not produce any knowledge products, videos or radio products from the Project to raise the public profile on the benefits of EE and RE in buildings. St. Lucia had scheduled an effort to advance public education for RE and EE measures. This was not done mainly due to the poor organization in implementation and the COVID-19 pandemic.

[42] Recognition by stakeholders mentioning the reduced energy bills of some of the facilities such as the NEMO building in SVG and the KHMH building in Belize.

The overall rating for achievement of Outcome 6 of "knowledge gained from the Project are disseminated and shared throughout the Caribbean region, and replication strategies are adopted in the region" is *unsatisfactory*.

The overall rating for achievement of all Outcomes is Moderately Satisfactory.

D.8. Achievement of Likelihood of Impact

146. With the "likelihood of impact assessment" (LIA) based mainly on the holding of drivers and assumptions being in place to advance developmental results towards desired impacts, the following comments are made in response to the re-constructed ToC "drivers" (Figure 1) for the LIA:

- With regards to drivers to support the transition from outcomes to the intermediate states, the following comments are made:
    - the driver of "governments promoting transition to RE and EE as a pillar of its national energy efficiency and energy strategy" *is in place.* This includes new NDCs for Belize and other participating countries for reducing GHG emissions and developing low carbon economies seeking financial commitments from donor countries;
    - the driver "stakeholders willing to incorporate lessons learned in demonstration buildings to catalyse EE and RE investments" *is only partially in place*. This is due to:
        - the lack of urgency by some stakeholders (likely SMEs and other small investors such as residences) in some participating countries to execute EE and RE investments;
        - the different spending priorities of some stakeholders that may not necessarily include EE and RE investments;
        - the lack of a critical number of technicians and energy professionals to install EE and RE equipment in most of the participating countries. This may lead to a situation where an installer or supplier is connected with government due to the small number of energy professionals in a country;
        - the need for streamlined regulatory processes for EE and RE projects;
- With regards to drivers to support the transition from intermediate states to impact, the following comments are made:
    - the driver of "governments promoting transition to RE and EE as a pillar of its national energy efficiency and renewable energy strategy" *is in place* for the need for streamlined regulatory processes for EE and RE projects;
    - the driver of "governments enforce mandatory codes and standards for RE and EE" is *only partially in place*. There is no jurisdiction that is under mandatory enforcement of CREEBC or renewable energy standards and codes. However, the national bureaus of standards for each participating country have adopted CREEBC and renewable energy codes and standards. They will require time for the private sector to transition to the new mandatory codes and standards.

147. The evaluation of assumptions from outcomes to intermediate states are as follows:

- the assumption of "economic conditions stabilized (i.e. tourism) to permit EE and RE investments" *is only partially held in all participating countries*. The COVID-19 pandemic destabilized the tourism sector for all participating countries, taking away opportunities for RE and EE investments in tourism facilities;
- the assumptions of "demonstrations are successful" and "rising fuel costs" *is held in all participating countries*. This allowed stakeholders in the participating countries to have examples of successful RE and EE investments against the spectre of rising electricity costs since 2019 (notwithstanding that oil prices had dropped in 2016 to 2018);

148. The evaluation of assumptions from intermediate states to impacts are as follows:

- the assumption of "economic conditions stabilized (i.e. tourism) to permit EE and RE investments" *is partially held by all participating governments*. With the stabilization of economic conditions due to the ending of the COVID-19 pandemic, RE and EE investments will increase especially for tourism facilities;
- the assumption of "rising fuel costs" *is held in all participating countries*;
- the assumption of "Government is able to setup supporting financial programmes to increase access to EE and RE equipment" *is only partially held by participating governments*. Though not included in the original Project design, A&B and SVG do not yet have concessional loan funds dedicated for RE and EE investments; and
- the assumption of "continuance of certification bodies to provide services to suppliers on the quality of RE and EE equipment for the Caribbean market" *is only partially held*. There is a certification laboratory for LEDs in Jamaica. Despite no RE certification facilities located in the Caribbean, there has been the establishment of the CARICOM Center for Renewable Energy and Energy Efficiency (CCREEE) in May 2018 which has a specific mandate to implement CREEBC and other RE and EE codes and standards in the Caribbean region.

149. Overall, the likelihood of impact is rated as *moderately likely*. This is mainly due to significant investments are being made into RE and EE measures, both publicly and privately, in all participating countries and regionally (such as solar PV for airports and several manufacturing facilities, charging stations for electric vehicles in all participating countries, solar water heating, etc.), *notwithstanding the weak economies of the Caribbean SIDS, the large debts of each SIDS to the IMF, their reliance on tourism and direct implementation of the demonstration buildings by the Project*. While there were RE and EE issues related to the drop in oil prices in 2016 to 2018, RE and EE adoption has been trending upwards since 2018 when the oil price rose again. With each participating country having energy policies encouraging low carbon economies and less dependence on imported oil, and reporting obligations to the Paris Agreement, a sustained trend of increased RE and EE investments is happening in all participating countries[43]. The Project, however, implemented demonstration buildings in 5 countries without any formalized Project support for the monitoring of energy consumption post-installation. The fact that the Project was extended to June 2020 at the height of the pandemic would not have led to the monitoring of energy savings in the buildings as they were not being used during the pandemic. This was unfortunate and a lost opportunity to further public awareness of EE and RE measures undertaken.

The overall rating for likelihood of impact of the Project is Moderately Likely.

The overall rating for Effectiveness of the Project is Moderately Satisfactory.

E. Financial Management

Adherence to UNEP's Financial Policies and Procedures

150. The main issues to the overall adherence of the Project to UNEP's financial policies and procedures were:

- procurement procedures were not followed during the pre-March 2019 years of the Project. This has much to do with procurement of monitoring equipment for Grenada which was not procured using 5Cs procurement procedures;

[43] A 2022 meeting of all CARICOM heads of state in Belize was emphatic towards low carbon economies, proclaiming increased RE and EE investments, maximizing GHG emission reductions and less dependence on imported fossil fuels (https://caricom.org/caricom-and-central-american-leaders-to-meet-in-belize-3-march-2022/). This would reduce the CARICOM carbon footprint and increase resiliency to climate change. Even though the follow-up actions are voluntary, the meeting resolved that all countries should report on progress of their NDCs to the UNFCCC. This has resulted in significant RE and EE investment in all CAROCOM countries.

- during the pre-March 2019 period of the Project, the Fund Management Office did make requests for timely submission of financial reports which revealed problems of disbursement to participating countries. There is little evidence of any sustained effort by UNEP or the 5Cs to address the real issues in these reports of low expenditure and disbursement to the countries;
- a further USD 2,000,000 was disbursed by the Implementing Agency to the Executing Agency in 2017 to support the implementation of workplans in accordance with agreed documents. The transaction, however, was somewhat premature given the fact that there were still implementation issues at the national level and very little of the funds disbursed previously was being disbursed to the participating countries for Project support. The fact that this large sum was held by the Executing Agency for over one year and not disbursed to suppliers, contractors and consultants in the participating countries, gave rise to further concerns and complications to the pace of development under this Project;
- the Mid-Term Review of this Project changed the manner in which the Project was being managed after 2018. This led to National Coordinators being recruited in 2019 (see Para 51) with prepared work plans that support disbursements from the IA to the EA. The work plans had the commitment of all national steering committees on the Project's outstanding work being implemented;
- the Project experienced an upsurge in activity in 2019 and 2020 as the terminal date of the Project was approaching. Procurement issues took on a profile of completion and all countries put through a tremendous effort to secure agreements and contribute to the procurement of goods and services[44]. All the countries were expected to realise most if not all their goals within the Project period representing a major turnaround;
- at the EOP of 30 June 2020, 20% (USD 975,715) of the USD 4,859,000 GEF grant remained unspent.

151. Rating for adherence to UNEP's policies and procedures is *moderately satisfactory*.

Completeness of Financial Information

152. The following financial information was made available to the Evaluation from the 5Cs:

- Expenditure reports for all the years of Project implementation (2013-2021);
- Co-financing reports (cash and in-kind);
- Audit reports for all the years of implementation (2013-2021);
- Budget revisions mainly from 2019 and 2020;
- Proof of fund transfers (cash advance reports) for 2013, 2015, 2017 and 2020;
- Reports on assets and inventory audits;
- All relevant Project legal agreements including PCA1, PCA2, amendments, and extension applications.

153. Overall, the completeness of financial information for the Project is rated *highly satisfactory*. The final disbursements of the Project are shown on Table III-1.

Communication Between Finance and Project Management Staff

154. Early in the Project (pre-March 2019):

[44] This includes the performance of Grenada which had been informed of its exclusion of benefits under the Project owing to an absence of any work over the year amidst the closure of the window to secure benefits. The Chair of the NSC, who is also the Permanent Secretary of the Energy Ministry, took on the responsibility for securing country obligations and was able to turn around within one week the opportunities for Grenada's benefit. St. Lucia also was able to align all its goals to the existing timelines for contract execution at a late stage.

- cash advances were made to the 5Cs on the basis of all countries declaring to be ready for the funds in 2013, 2015 and 2017. The 5Cs communicated with the UNEP Fund Manager with expenditure reports, audit reports, work plans budget revisions and commitment from all the countries with requests for funds to execute the work plans;
- while cash advances were made in 2013, 2015 and 2017 to the 5Cs, reports from 5Cs to the Fund Manager indicated slow implementation resulting in a lack of disbursement to the national teams. This was reported by the Fund Manager to the Task Manager to which there was limited action taken by the Task Manager;
- there were problems getting information on co-financing.

The aforementioned provides evidence that there were issues during the pre-March 2019 period of the Project of reporting the utilization of GEF funds.

155. Later in the Project (post-March 2019):

- the management structure of the Project changed after the re-signing of the PCA in March 2019;
- the Project Coordinator provided assistance in national budgetary revisions in 2018 and 2019 prior to the signing of another PCA;
- the first PSC meeting after the signing of the PCA was in May 2019 with all NCs being able to communicate their workplans, budgets and procurement plans in 2019 for implementing the outstanding Project activities to the 5Cs;
- the 5Cs then communicated with the UNEP Fund Manager to secure a cash advance for outstanding work that was done in 2020. The management structure that was in place improved communications between the EA and the Fund Manager, reducing the work risks to low;
- co-financing information was disclosed and amounted to USD 29.8 million. Much of this is due to the public investments made by the Governments of St. Lucia and Antigua & Barbuda of USD 20 million and US$4.5 million respectively. One omission with the information was that SVG did not report any co-financing. Co-financing is shown on
- Table and Table .

156. The aforementioned provides the Evaluation with sufficient evidence that after March 2019, communications between the Project Manager, the UNEP FMO (within DGEF), and the UNEP Task Manager were satisfactory with all parties being aware of the financial status of the Project. Overall, the communication between finance and Project management staff for the Project is rated *moderately satisfactory*.

Rating for Financial Management: Satisfactory

F. Efficiency

Timeliness

157. The Project was originally scheduled for a period of 4 years from 1 November 2012 to 31 October 2016 in the Project Document. However, the Project did not start until 1 March 2013 with a new Project end date of 28 February 2017, and several no-cost extensions and a new PCA were requested to extend the terminal date of the Project to 30 June 2020, to provide more time for the PMU and the NCs of the participating SIDS to install the RE and EE equipment. No-cost extensions and a PCA were signed by the Project in:

- April 2017 for a no-cost extension to 30 April 2018 as Amendment No. 1;
- April 2018 for a no-cost extension to 31 October 2018 as Amendment No. 2;
- March 2019 for a second PCA signed to extend the Project until 31 December 2019;
- December 2019 for an extension to 30 June 2020 (with financial closure on 30 June 2021).

158. During the early years of the Project (pre-March 2019):

- Chronic delays were experienced due to problems with communications, disagreements with respect to the work plans, and delays in securing co-financing. In some cases, two years were required to prepare work plans;
- This led to problems convening NSC meetings in several of the participating countries primarily due to time extensions to the NC position, and the subsequent straining of the NC budgets. This was a major factor contributing to the delays in the work;
- This also led to problems in procurement of monitoring equipment which delayed the collection of baseline energy data;
- Overall Project management was being operated on a part-time basis but as a side activity away from the 5Cs (with a Project Manager operating remotely) rather than operating within the 5Cs;
- In Antigua and Barbuda, there were extended discussions concerning the management and disbursement of country allocations (which were deemed insufficient) as well as a change of administration, delaying the signing of the MoA until March 2015;
- In Grenada, the change of Government administration in 2013 was a major contributor to the delay in getting the MoA signed and convening of the NSC;
- There was the sudden withdrawal of Trinidad and Tobago from the Project, which was to be responsible for the development of building codes and appliance standards. While St. Vincent and the Grenadines was the replacement country, the responsibility for developing building codes and appliance standards remained divided amongst all 5 countries without a "lead" country. Furthermore, the withdrawal of T&T from the Project cast into doubt the achievement of the direct GHG emission reduction target of 880,000 tons CO_{2eq} since more than 70% of those ERs were to come from T&T;
- There was the abrupt termination of UNDESA involvement who were supposed to serve as an Implementing Partner. Their withdrawal denied the Project of valuable technical inputs and cash contributions. Reasons for this abrupt departure have not been made available to the Evaluators;
- There was a drop in crude oil prices in 2015-17 that adversely affected government priorities and interest in promoting energy efficiency and renewable energy as mentioned in Para 88.

159. During the latter years of the Project (post-March 2019):

- An MTE was conducted in late 2017, concluding that the Project encountered severe delays in implementation as a result of a combination of issues. This included changes in government in all participating countries and inadequate project management at all operational levels, such that with only one year left on the Project in 2017 and after being granted an extension, only 15% of GEF funds were spent and 16.5% of co-financing realized;
- The Project management structure was revised including a new full-time Project Manager who operated within the 5Cs core management team (as opposed to operating remotely);
- Demonstration buildings with EE and RE measures were implemented within a very short time: May-September 2020 for all countries except SVG which completed their solar PV and LED retrofits in September 2019;
- None of these demonstration buildings, however, were setup to formally monitor energy savings. Energy bills reside with the accounting administration in all countries. Though the Evaluation was not able to obtain any of these bills, the general thoughts from all stakeholders was that significant energy savings were realized from all RE and EE measures.

160. Capacity building workshops were the one aspect of the Project that was delivered in a timely manner. Some of the more important workshops included:

- training of EE service providers and the creation of a cadre of professionals capable of undertaking energy audits (engineers, technicians, architects, and relevant vendors who became qualified to deploy energy efficient technologies, products, and equipment in

buildings accelerating the energy savings generated by the Project). Several training workshops were conducted between 2015 and 2018 covering EE and RE technologies significantly contributing to the skill sets of EE service providers;

- a workshop for Caribbean ESCOs between 4-6 July 2016 in St. Lucia, which identified viable ESCOs within the region and organising themselves into an association. There were over 40 participants from around the Caribbean who participated in this workshop, several of whom were identified as suitable ESCOs to implement selected Project activities. However, there are currently no ESCOs operational in the 5 participating SIDS;
- a workshop on Regional Energy Efficiency Standards and Regulations in Buildings that took place in Grenada between 13-15 July 2016. This workshop was a result of the Project entering into an agreement with CDB, CARICOM and CROSQ to support the development of strategies and promote buy-in and early adoption of a Regional Energy Efficiency Building Code (REEBC) and MEPS;
- a workshop in March 2018 on the adoption of the Caribbean REEBC (CREEBC). This workshop was a result of the work of a Regional Project Team (RPT) established in March 2017 to develop CREEBC, and review CREEBC content for compliance with the IECC in an effort to adapt it, and present for acceptance and adoption by the Member States;
- Two of three regional energy efficiency Draft Standards for Appliances (which is inclusive of MEPS) for refrigerators and lighting were finalized. These two Standards were presented to the 47th Meeting of COTED in November 2018 in Georgetown Guyana.

Cost Efficiencies

161. Early in the Project (pre-March 2019), delays were experienced. For example:

- due to slow progress, the tenure of the National Coordinators was being extended to the point where the allocations for NCs were too small. As a result, there was no dedicated staff with responsibility for completing the work plans and budgets which was a pre-condition for the disbursement of larger funds to the countries. Delayed disbursements due to slow progress led to sheer frustration with the lack of payment to NCs and the inability of participating countries to hire full-time NCs. The problems of recruiting NCs were particularly acute in Belize, Grenada and St. Lucia as detailed in Para 51;
- the Project Coordinator was hired on a 15 day/month contract on a virtual basis up to December 2019. Clearly, the Project's poor progress extended the tenure of the Project Coordinator to the extent that fiscal resources for the position were strained to meet the Project's objectives. There was the possibility that the Project would have to proceed without the services of a PC or alternatively, with co-financing needing to be accessed;
- In 2013, 5Cs undertook bulk procurement of monitoring equipment and materials. Delays were encountered in trying, first, to get countries to identify equipment and then to engage potential suppliers who could meet the needs of countries. Then the first shipment of equipment was lost, resulting in 5Cs having to reorder and ship the equipment again, causing further delays. It was not until 2016 that countries started receiving the equipment and even then, several countries reported some equipment still missing or receiving the wrong equipment. This impacted commencement of monitoring of building baseline energy in all the countries specified in Outcome 1.

162. On 19 March 2019, the 5Cs and UNEP signed a new project cooperation agreement for the Project. With all NCs in place, all countries were able to finalize their workplans, budgets and procurement plans for implementing the outstanding Project activities. For this arrangement to work, the revised Project management structure had prioritized monthly reporting, and regular communication with NCs, NSCs and regional institutions. As a result, many of the scheduled works were completed by June 2020 including all demonstration buildings in all 5 countries; 21 energy audits for 21 buildings; adoption of regional building codes and standards; a completed KAP study in Antigua and Barbuda to become a part of the foundation in all countries to inform public awareness campaigns; and national development banks of Belize, Grenada and St. Lucia leveraging co-financing of more than US$2 million to provide financial products to local services providers for energy efficiency and renewable energy activities. Progress, however, on creating an energy efficiency baseline in each

country, on raising awareness with the public, on MRV and enforcement of standards, of training local ESCOs, and monitoring post-installation energy consumption has been less successful.

163. Overall, the efficiency of the Project is rated **moderately unsatisfactory** due to the problems the Project experienced during the 6-year period (2013-2018) of inefficient Project management and poor resource allocations, and the lack of delivery of a post-installation energy consumption monitoring programme.

Rating for Efficiency: Moderately Unsatisfactory

G. Monitoring and Reporting

Monitoring Design and Budgeting

164. Monitoring design is consistent with UNEP and GEF guidelines. Details of a budgeted Monitoring and Evaluation (M&E) plan can be found in Appendix 7 of the Project Document. Projects funded by GEF have specific evaluation requirements with regard to verifying documentation and reporting (i.e. the Project Implementation Reviews, Tracking Tool and CEO Endorsement template), in an effort to ensure that donor commitments are fulfilled. In that regard, a number of M&E instruments were included as part of the reporting requirements of the Project's M&E. These included Progress and Financial Reports, Inception Reports, Progress Reports, Annual Project Reports (APR), PIR, Regional Advisory Review (TPR), Terminal Regional Advisory Review (TTR), Project Terminal Report, Mid-term Independent Evaluation, Final External Evaluation. The Project budget also made allowance for the undertaking of both an MTE and Terminal Evaluation. Unfortunately, the lack of SMART indicators in the PRF made effective monitoring of progress of outputs and outcomes difficult. The monitoring design and budgeting has been rated as *moderately unsatisfactory*.

Monitoring of Project Implementation

165. The monitoring of Project implementation can be characterized as follows:

- Early in the Project (pre-March 2019), poor Project progress contributed to difficulties in employing NCs in all participating countries, resulting in a paucity of dedicated staff for completing the work plans and budgets which was a pre-condition for the disbursement of larger funds to the countries. The slow progress delayed disbursements that led to a lack of payments to NCs. Given the fact that disbursement was based on deliverables, it seems odd that neither the Task Manager or the Fund Manager at UNEP viewed this issue to warrant more specific interventions with the 5Cs, which should have triggered responses which would not only determine the reasons for these delays, but also corresponding action to have it addressed;
- Though it was clearly stated in the Project Document that the NSCs would have responsibility for the operations at the national level, including the hiring of National Coordinators, instances of the Executing Agency office involvement in the hiring of National Coordinators and direct communications with NCs were quite common, contributing to the high level of mistrust between the NSCs and the Executing Agency. As such, M&E activities would have suffered;
- Early in the Project (pre-March 2019), the Project Coordinator position was only a part-time virtual hire (Paras 47 and 161) with responsibilities for extensive reporting for each country and without the necessary administrative support. As such, simple tasks for the Project Coordinator, such as the convening of inception meetings and preparing reports, became a management challenge. As a gross underestimation of the financial and human resources needed to achieve the necessary coordination required to meet the Project's objectives, the Project did not properly conduct M&E activities;
- In 2017, there was the issue of unspent 2017 cash advances by UNEP to the 5Cs of $2.0 million. Though the issue was reported by the Fund Manager to the Task Manager, the lack of action by the Task Manager on the issue of low expenditure rates and disbursement to the countries only prompted further enquiries to the Task Manager as to reasons for the delays and initiating measures to specifically address the problem;

- After the MTE and on 19 March 2019, the 5Cs and UNEP signed a new project cooperation agreement for the Project. With all NCs in place, all countries were able to conduct proper M&E activities to support finalized workplans and budgets for implementing the outstanding Project activities which was mainly demonstration buildings;
- In 2020, monitoring of Project implementation proceeded normally with the exception of the monitoring of GHG emission reductions resulting from RE/EE installation on demonstration buildings. This was a gross omission to the extent that this Evaluation report cannot even estimate GHG emission reductions realized from this Project. Despite efforts to obtain this information from the 5 participating countries, no information on energy savings or GHG emission reductions was obtained, in part due to key project personnel in the 5 participating countries not being available or documentation of the energy savings and GHG emission reductions not being available and formalized after the Project ended;
- Throughout the Project, information was missing on participants of the different events as well as details on the origins of the loan inquiries and the outreach of the knowledge products of the KAP survey. The Evaluation could not determine if monitoring of these activities was not performed or if the information was not available. This was in part due to key project personnel not being available to report on what events were monitored and reporting on;
- Overall, the monitoring of Project implementation has been rated as *moderately unsatisfactory*.

Project Reporting

166. The Evaluation had access to the Project implementation reports primarily through PIRs from 2014 to 2020. These reports provided details of progress towards objectives, implementation progress, and risk management for the Project against the component indicators. These progress reviews provided details of all component efforts to conduct energy audits, provide training workshops for awareness raising, leveraging co-financing for EE and RE revolving funds, installation of RE and EE equipment in demonstration buildings, and setup new codes and standards for building energy efficiency.

167. Some of these PIRs provided result-based monitoring and reporting that were instrumental in providing continual improvements and adaptive management measures to the Project implementation[45]. However, some of these PIRs did not convey the issues of 2017 cash advances that were not being distributed to the countries for implementation, in particular the 2017 and 2018 PIRs. A mid-term review was deemed necessary due to the fact that that the Project was underperforming after 4.5-years of implementation. There also appears to no reporting on GHG emission reductions (as mentioned in Para 165, 6th bullet). Project reporting for the Project has been rated as *moderately satisfactory*.

Rating for Monitoring and Reporting:	**Moderately Unsatisfactory**

H. Sustainability

Socio-political Sustainability

168. The socio-political sustainability of the Project is primarily assessed against the 6 Outcomes of the Project:

- For Outcome 1, there appears to be strong ownership by building owners and technicians in all countries on the assessment, management, and monitoring of EE and RE measures in place based on interviews with building owners and users. This includes energy audits and management of the EE and RE measures, but not for systems in monitoring energy savings.

[45] In the PIR section of "3.3 Risk Rating", there is a column for each risk of "Mitigation at implementation" or "Action to take" which essentially requests the PM to propose adaptive management measures to rectify less than satisfactory ratings. This Evaluation notes this has been done in the 2016-2020 PIRs.

While all demonstration buildings realized energy savings from EE and RE measures, most of the energy savings data and information is tied up with the finance administrations of each building; the Evaluator did not obtain any copies of energy savings data and information. The socio-political sustainability of Outcome 1 is assessed as *moderately likely.*

- For Outcome 2, there is improved technical capacity amongst a critical mass of solar PV technicians and electricians installing LEDs and EE air conditioners for all countries. As well, there was training done for CREEBC and Green Procurement. However, there is still a shortage of technicians in many of the countries. For all participating countries, there is also a lack of high vocational and market surveillance skills to identify appropriate energy efficient technologies that provide the best qualities of maximize energy savings and service life of the appliances. This high degree of "market surveillance" skill involves the identification of and exposure to the different types of appliances available in the Caribbean regional market that are appropriate for a specific installation. For example, there should be an ability to identify LEDs with different back-plating metals which affects their heat dissipation that possibly affects their service life. As such, the socio-political sustainability assessment for Outcome 2 is *moderately unlikely*.
- For Outcome 3, there was enthusiasm for the EE/RE loan portfolios in Belize, and likely in Grenada and St. Lucia. However, the COVID-19 pandemic severely impacted the EE/RE loan programme as the tourism sector was in a downturn, forcing stakeholders to delay their EE and RE retrofits. The EE/RE loan programmes are slowly recovering in Belize, Grenada and Saint Lucia from the pandemic as the tourism stakeholders are aware of the energy savings potential of the EE and RE retrofits to their business. Though A&B and SVG was not included in the Project design of concessional financing, the lack of concessional finance facilities for EE and RE retrofits is stifling investment. As such, the socio-political sustainability of Outcome 3 is *moderately likely.*
- For Outcome 4, the demonstration buildings did not have much impact in catalysing EE and RE investments. Belize had an EE/RE loan programme in 2018 that assisted in catalysing EE and RE investments; thus, the demonstration buildings implemented in 2020 did not have the impact of catalysing RE and EE investment. For Grenada and St. Lucia, the co-financing of loan programmes in 2020 did assist in catalysing RE and EE investments. However, there was no concessional finance programme for EE and RE investments in A&B and SVG despite stakeholder interest in EE and RE measures. As such, the socio-political sustainability of Outcome 4 is *moderately unlikely.*
- For Outcome 5, MEPS codes and RE standard installation guidelines are being adopted by qualified and unqualified technicians. However, time is required in all countries for public and private sector stakeholders to transition to these codes and standards becoming mandatory. As such, the socio-political sustainability of Outcome 5 is *moderately likely.*
- For Outcome 6, the three key knowledge activities (A&B's KAP toolkit for surveying residents of the country on awareness and knowledge on energy efficiency and renewable energy; CROSQ's publication of CREEBC; and the Green Procurement Manual) were fully embraced by stakeholders. However, there were not as many knowledge products produced by the Project as had been planned in the Project Document (one knowledge product per country). As such, the socio-political sustainability of Outcome 6 is *moderately unlikely*.

169. In conclusion, the socio-political sustainability of the Project is rated as *moderately unlikely* based on strong stakeholder interest in EE and RE measures in all countries but a lack of concessional finance EE and RE investments in 2 out of the 5 participating SIDS.

Financial Sustainability

170. The financial sustainability of the Project is primarily assessed against the 6 Outcomes of the Project:

- For Outcome 1, all countries will depend on the donor community to improve their institutional capacities on the assessment, management, and monitoring of EE and RE measures. There is thus a donor dependency on future financing to sustain these improvements in institutional capacity. As such, the financial sustainability for Outcome 1 is ranked as *moderately unlikely*;

- For Outcome 2, all countries will depend on the donor community to improve technical capacities and awareness for EE and RE in participating countries. This includes donor dependency on future financing to sustain technical capacity improvements of building designers, contractors, architects, renewable energy installers, maintenance personnel, and managers of buildings. As such, the financial sustainability for Outcome 2 is ranked as *moderately unlikely*;
- For Outcome 3, there is no dependency on future funding in Belize, Grenada and St. Lucia with their long-term commitment with donors and the development banks to provide concessional finance for EE ad RE investments. Concessional finance for A&B and SVG, however, has yet to be established. As such, the financial sustainability of Outcome 3 is ranked as *moderately likely*;
- For Outcome 4, there is dependency on future funding from donors for demonstration buildings. The question that remains, however, is whether or not there are sufficient buildings that have been retrofitted by the EE/RE loan programme to catalyze the sector. In Belize, this seems to be the case, notwithstanding the programme slowdown by the COVID-19 pandemic. The Evaluator, however, has been unable confirm if this was the case in Grenada and St. Lucia though the information received from Belize would seems to indicate that the EE/RE loan programmes in St. Lucia and Grenada have catalyzed RE and EE investments in 2021. Moreover, the Government of St. Lucia has co-financed US$20 million in public buildings. For A&B and SVG, however, there is no development bank involved with EE/RE concessional financing to catalyze RE and EE investments. As such, the financial sustainability for Outcome 4 is *moderately likely*;
- For Outcome 5, there appears to be strong dependency on donors to contribute to the sustained development of regulatory instruments for EE and RE measures. This includes CROSQ with donor funding taking the lead in regulatory instruments. As such, the financial sustainability of Outcome 5 is assessed as *moderately unlikely;*
- For Outcome 6, there is dependency on future funding from donors for additional knowledge activities (such as for PV interconnection and monitoring buildings, lighting, ESCO training and energy efficiency regulations). Currently, there is no guaranteed funding for such activities. As such, the financial sustainability of Outcome 6 is *moderately unlikely*.

171. In conclusion, the financial sustainability of the Project is rated as *moderately unlikely* based on a strong dependency on future funding from donors for most of the outcomes. This is due to the weak economies of the Caribbean SIDS, the large debts of each SIDS to the IMF, their reliance on tourism, restrictions on national budgets to facilitate RE/EE investments and all participating country's dependency on fossil fuels. Hence, there is a strong dependency of all Caribbean SIDS to external donor funding for climate change mitigation and adaptation projects.

Institutional Sustainability

172. The institutional sustainability of the Project is primarily assessed against the 6 Outcomes of the Project:

- For Outcome 1, institutions in all countries will sustain improvements in their institutional capacities on the assessment, management, and monitoring of EE and RE measures, on the condition of donor funding is available to fund such activities. As such, the institutional sustainability for Outcome 1 is ranked as *moderately likely*.
- For Outcome 2, institutions in all countries will sustain their technical capacities and awareness for EE and RE in participating countries. However, improvements and updating the skills of government personnel in building design, contracting, renewable energy installations, maintenance, and management of buildings will rely on donors for future financing. As such, the institutional sustainability for Outcome 2 is ranked as *moderately likely*;
- For Outcome 3, there is institutional support for EE/RE concessional loan programmes in Belize, Grenada and Saint Lucia. However, there are no such facilities in A&B and SVG. As such, the institutional sustainability for Outcome 3 is *moderately likely*;

- For Outcome 4, institutions support demonstration buildings for EE and RE measures. In some countries such as SVG, this is the case as long as donors are paying the costs. As such, the institutional sustainability of Outcome 3 is *moderately likely;*
- For Outcome 5, there is strong institutional support for the sustained adoption of regulatory instruments for EE and RE measures, some of which were established by CROSQ. This stems from the strong institutional support for national energy policies and low carbon strategies of all participating countries. As such, the institutional sustainability of Outcome 5 is assessed as *likely;*
- For Outcome 6, institutional support for additional knowledge activities (such as for PV interconnection and monitoring buildings, lighting, ESCO training and energy efficiency regulations) appears strong (even though funding was not available for such activities). As such, the institutional sustainability of Outcome 6 is *likely.*

173. In conclusion, the institutional sustainability of the Project is rated as *moderately likely* based on all countries will sustain improvements to their institutional capacities on the condition that donor funding is available.

Rating for Sustainability: **Moderately Unlikely**

I. Factors Affecting Performance and Cross-Cutting Issues

Preparation and Readiness

174. During the March 2013 to December 2018 period of the Project, there was evidence of the poor preparation and readiness of the Project:

- withdrawal of T&T from the Project in March 2014, leaving the Project ill-equipped to meet their GHG emission reduction target;
- St. Vincent and the Grenadines replaced T&T in May 2014;
- departure of the UNDESA Technical Adviser in December 2014 without any communication from UNDESA, New York;
- by 2015, changes in government administration in all participating countries resulted in changes in National Executing Agencies/Ministries causing further delays;
- major challenges in procuring monitoring equipment up to 2017 to collect baseline data for interventions on demo sites;
- NC positions becoming destabilized due extended tenures resulting to irregular salary payments to NCs, forcing some NCs to be only part-time and other NCs to resign (some details of NCs in Para 51;
- high debt in participating countries with several countries operating under agreements with the IMF, which had the impact of severely limiting co-financing capabilities.

175. Only after the March 2018 MTE was there evidence of proper preparedness and readiness of the Project. Notwithstanding the delays due to the aforementioned uncertainties in Para 174, significant steps were taken to create a solid foundation for Project implementation:

- the 5Cs and UNEP finalized a plan to implement all recommendations of the mid-term evaluation. This included a revised management structure with the Project housed directly under the 5Cs Project Development and Management Unit;
- by October 2019, all countries appointed Project steering committee chairs and national coordinators. This led to all countries finalizing workplans, budgets and procurement plans for implementation of remaining project activities;
- all countries agreed to hold monthly calls with the 5Cs to take stock of Project implementation.

As such, the Project preparation and readiness is rated as *moderately unsatisfactory*.

Quality of Project Management and Supervision

176. The quality of Project management and supervision by the 5Cs varied considerably and as a result, was *moderately unsatisfactory*:

- 5Cs project management during the period of March 2013 to March 2019 can be characterized as follows:
    - by 2015, there was limited communication and technical support between participating countries and the 5Cs. In some countries, 12 months was required to hold national meetings such as in Grenada;
    - the NC positions became destabilized by 2017 (see Para 161, 1st bullet);
    - there was the inability of the A&B NC to coordinate due to internal issues and the change in administration and the national executing agency in A&B in June 2014;
    - there were delays in all countries due to major challenges in procuring monitoring equipment to collect baseline data for interventions on demo sites;
    - the 5Cs Project manager worked remotely and was not being a core member of the 5Cs management team;
    - several activities finally got started in Antigua, Belize and St. Vincent in 2017 including the launch of KAP Study in A&B, and the start of installation of solar PVs at Argyle International Airport in SVG;
    - for the first time, a set of comprehensive plans and budgets for all countries was drafted that facilitated the 3rd disbursement of US$2.0 million on 12 June 2017 (the 5Cs took responsibility for finalizing all country workplans, except for Antigua and Barbuda, to facilitate disbursement). The problem was that the US$2.0 million was not fully disbursed for several months due to problems in:
        - Belize where the contract for the NC was not renewed due to budget constraints in March 2017. The PMU assumed coordinating responsibility for Belize until January 2018 when a consultant trained under the Project was contracted as an NC to complete retrofitting of the buildings and other activities;
        - Grenada where there was no NC due to lack of remuneration, poor quality of reporting, and failure to convene an NSC meeting. There were also no energy audits conducted due to a lack of monitoring equipment. The position of NC was filled in May 2019 but no payments were made due to non-submission of monthly reports or invoices;
        - St. Lucia where there was an NC from February 2015 to January 2017 followed by another NC whose tenure was from May 2019 to June 2020 NSC;
        - SVG where the Director of the Energy Unit served as the NC as well as consultant to the project and where no appropriate NC candidates were identified. However, the NC payments were made to the Director between 2015 and December 2019;
- the 5Cs project management post-March 2019 was highlighted by adaptive management after the MTE, and can be characterized as follows:
    - The 5Cs fielded a competent team internalizing the Project and assigning it to the head of one of their divisions. They also had two administrative and finance staff dedicated to the project;
    - Antigua and Barbuda developed strong project teams (including engaged an NC), prepared energy audits for 5 buildings in early 2020, and completed implementation of demonstration buildings in September 2020;
    - Belize developed strong project teams (including an engaged NC), prepared energy audits for 2 buildings in early 2019, and completed their EE demonstration buildings in July 2020. They also initiated a Blended Grant Loan Finance Mechanism/Revolving Fund window of US$1.8 million (US$1.5 million co-financed from the CDB and $0.3 million as a grant from the Project) as a means of providing financing for the private sector for RE

and EE retrofits. Lending has totalled US$1.025 million from October 2017 to December 2021;

- St. Lucia made 2 energy audits in late 2019. Agreements have been signed by the St. Lucia Development Bank in June 2020 with grants of US$100,000 being provided by the Project. Co-financing amounts of US$800,000 have been agreed to by SLDB. Demonstration buildings were completed by July 2020;
- Grenada made progress despite problems in procuring monitoring equipment. Agreements were signed by the Grenada Development Bank in June 2020 with grants of US$400,000 being provided by the Project. Co-financing amounts of US$1.2 million have been agreed to by GDB. Demo buildings were completed by July 2020;
- Saint Vincent and the Grenadines finalized energy audits in late 2018 and early 2019, finished retrofitting of the Argyle International Airport in April 2019. All remaining demo buildings in SVG completed their retrofits in September 2020.

177. The quality of Project management and supervision by UNEP also varied considerably and as a result, was *moderately unsatisfactory*:

- UNEP project management during the period of March 2013 to March 2019 can be characterized as follows:
  - there was poor task management by UNEP up to 2017 when a new Task Manager was appointed;
  - calls for an MTR were made in 2017 by the new UNEP Task Manager because of the poor state of Project management and supervision;
  - there was the clearance by UNEP of fund usage from the US$2.0 million cash advance in 2017 to be used for energy audits and other preparatory work for the demonstration buildings during the period of May 2019 to June 2020;
  - the contentious Mid-Term Evaluation (MTE) dragged on from June 2017 to December 2017, with a Final Report submitted on March 2018. The period during which the MTE was conducted was most unproductive that essentially halted work in all participating countries. While progress was made in developing partnerships and with regional organizations, all work stopped in January 2018, except for one CROSQ activity in March 2018 that was pre-organized in December 2017.
- UNEP project management post-March 2019 was also highlighted by adaptive management after the MTE, and can be characterized as follows:
  - in March 2019, UNEP appointed a new Task Manager based out of Brasilia;
  - from April to October 2019, the new Task Manager implemented the entire MTE plan that included the revision of the Project management structure housed directly under the 5Cs Project Development and Management Unit. This included stabilization of the NC positions by May 2019;
  - there was the advance of funds cleared by UNEP for demonstration buildings in July 2020;

178. Overall, the quality of project management and supervision was *moderately unsatisfactory* considering the time (March 2013 – March 2018) during which the Project was not being managed properly.

Stakeholders Participation and Cooperation

179. Evidence based on available documents and discussions with Project personnel indicates that the executing agency, 5Cs, had some issues in engaging stakeholders during the period of March 2013 to December 2017:

- The 5Cs was able to organize training workshops for ESCOs for the Caribbean in 2016;
- The 5Cs was not able to smoothly engage National Coordinators to convene National Steering Committee meetings;

- By not being able to convene NSC meetings, the 5Cs did not properly engage with stakeholders from government to local energy professionals and local technicians.

180. After the 2018 MTE with the new Project management structure, stakeholder engagement with the 5Cs improved considerably. With the NCs engaged, the NCs served as the gateway to relevant ministries, societies of engineers and architects, chambers of commerce, national bureau of standards, customs officials, educational institutions, regional energy organisations[46], public and private sector agencies, hoteliers, and the National Development Banks in Grenada, St. Lucia and Belize. This is a strong indicator of the high effectiveness of the stakeholder recruitment process for the Project after the MTE. Though the COVID-19 pandemic did limit the participation of stakeholders, the engagement of stakeholders in the post-Project scenario was encouraging.

181. Overall, the quality of stakeholder participation and cooperation was *moderately unsatisfactory* considering the proportion of Project time (March 2013-March 2019) during which the Project struggled to properly engage stakeholders.

Responsiveness to Human Rights and Gender Equality

182. As a GEF-4 project, there was no specific UNEP or GEF requirement to respond to human rights or gender issues. Consequently, gender was not mentioned in the Project Document or the PRC meeting notes. The Project made efforts to mainstream gender through the constitution of the Project management team. The Chairs of the NSC in A&B, SVG, and Grenada were female. The PMU at the 5Cs constituted one male and two females (procurement specialist and financial administrator). The Project, however, had no control over the gender composition of the National Coordinators, all of whom were male.

183. In the context of an absence of GEF or UNEP requirements, no specific attention was given to gender and indigenous issues relevant to Project implementation of EE and RE interventions. While the MTE recommended that these issues should be taken into account in future activities together with other issues of social equity, there was no time available to deal with these issues post-March 2019 due the PMU having to address issues related to the MTE, revising the implementation structure, and advancing implementation of the Project. It is common knowledge that a significant percentage of households in the Caribbean are headed by women, and more importantly, they are the primary users of EE appliances and technologies in the home. In addition, a large percentage of the population in Belize are categorised as indigenous who may have had specific concerns in how they embrace EE/RE. As such, the rating for this Project's responsiveness to human rights and gender equality based on current UNEP evaluation criteria would be *unsatisfactory*.

Environmental and Social Safeguards

184. In terms of environmental and social safeguards, air conditioning is a major ventilation pathway in many buildings, and consequently, is heavily influential towards indoor air quality (IAQ). The Project, however, did not monitor IAQ against energy efficiency interventions on air conditioning. A measured impact on IAQ parameters and related public health issues (such as dust, mould and luminosity) was supposed to have been conducted even though the complexity of IAQ makes the task of designing an investigation very difficult.

185. There were other environmental and social safeguard parameters that could have been monitored including:

- the impact of concessionary financing for RE and EE technology deployment which would have reduced the use of fossil fuels to households or companies, and reduced impact on each participating country's balance of payments. There was insufficient time to monitor this parameter;
- the uptake of EE and RE in public buildings to reduce GHG emissions and other air pollution, improving the health of the local population. This was not monitored;

[46] Such as the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), the Caribbean Development Bank, and the CARICOM Energy Unit.

However, the Project was approved prior to 2013 where environmental and social safeguards were not considered. As such, the criterion for environmental and social safeguards is rated as "Not Rated".

Country Ownership and Driven-ness

186. The Project during the pre-March 2019 period was having problems engaging relevant governmental ministries and senior governmental personnel (Permanent Secretary or Department Head) who were to be assigned responsibility for coordinating the overall implementation through an NSC. Despite the Project benefitting from extensive governmental and private sector stakeholder consultations during the PPG phase, there was little evidence of country buy-in of the Project, except in Antigua and Barbuda, and to some extent, Belize. The environment of distrust resulting from non-approval of NC work plans and budgets and extended tenures of NCs contributed to this lack of buy-in (especially for SVG, St Lucia and Grenada). Notwithstanding, the high cost of energy supplies and products did sustain continuing interest in the Project, though the low cost of oil in 2015 to 2017 resulted in a noticeable waning of interest. In addition, there was the public announcement and advertisement in 2017 by 3 development banks in Belize, Grenada and Saint Lucia for concessional EE and RE financing to build climate resilience.

187. The post-March 2019 period of the Project after the MTE saw improvements to the Project management structure that saw proper preparedness and readiness of the Project (see Para 175) that translated into some country ownership and drivenness. However, this drivenness in some countries (notably Grenada and SVG) was confined to government representatives who are having to sell the idea of scaled-up EE and RE investments in their countries. Overall rating of country ownership and drivenness is *moderately satisfactory*.

Communication and Public Awareness

188. Communications and public awareness on the Project was inconsistent. There was the KAP survey on energy efficiency and renewable energy for A&B started in 2019 as detailed on Paras 132 and 133. The survey covered 264 residents and 61 businesses that raised awareness and knowledge on EE and RE with a toolkit developed and shared with the other participating countries to become part of the foundation in regional countries to inform public awareness campaigns. Though there was a measurable improvement in the public awareness of Antiguans and Barbudans about EE and RE, there was no transfer of this knowledge product to other participating countries to implement the EE and RE toolkit for raising public awareness.

189. There was also no dedicated website for the Project. This significantly hampered public awareness initiatives by the Project. Belize has a page on the Project hosted by the Energy Unit of the Ministry of Public Utilities, Energy and Logistics but not offering details on the Project. A UN website offers basic information on the Project but the site has not been updated since 2014. The dependence of the other countries on a KAP survey from A&B (that was completed in 2020) certainly delayed the launching of any website for the Project for the region. As a result, there was no website summarizing the Project's achievements. Communications and public awareness on the Project were *moderately unsatisfactory.*

Rating for Factors Affecting Performance and Cross-Cutting Issues: Moderately Unsatisfactory

VI. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

190. From 2013 to March 2019, the Project made little progress in its activities and none of the Project outcomes achieved. There were successes on the Project during this period including capacity building for Energy Efficiency service providers (Para 50), and progress towards adoption of regulatory instruments for energy efficient building codes and MEPS for appliances and equipment (Paras 96, 127 to 129, 160). However, there were also several failures including a failure to establish an assessment and monitoring system for EE and RE in buildings (Para 140), poor progress in launching financial and market-based mechanisms to support EE and RE measures (Para 142), a failure to launch a demonstration program for sustainable energy in buildings partly due to the low price of oil (Paras 51, 88 and 112), and with no gender or human rights considerations.

191. A Mid-Term Evaluation was done on the Project which had a positive impact on Project performance and progress. The post-March 2019 period of the Project, however, saw an accelerated pace of development with a system for and energy audits for demonstration buildings for EE and RE investments (Paras 113 and 143); completion of training programmes for EE labelling of appliances and energy codes for buildings (Paras 97-100, 141); 3 participating countries implementing a Blended Grant Loan Finance Mechanism/ Revolving Fund window for EE and RE investments to increase in market uptake of EE and RE in Caribbean buildings (Paras 107, 108, 142); completion of demonstration EE and RE measures in buildings in all 5 participating countries without a replication strategy initiated (Paras 113-124, 143); and the release in September 2020 of:

- the Green Procurement Manual and the CARICOM Regional Energy Efficiency Building Code (CREEBC) covering both commercial and residential construction by CROSQ;
- the Fiscal Incentives Policy Paper and Action Plan; and
- the Knowledge, Attitude, and Perception (KAP) toolkit for surveying residents of a country on awareness and knowledge on EE and RE from A&B (Paras 109 and 110).

192. Though the 44-month delay in the Project completion did not have an impact on the potential obsolescence of renewable energy and energy efficiency technologies for demonstration buildings, the overall Project objectives were not achieved. It was not possible to calculate direct cumulative GHG emission reductions due to a lack of available information on the scale or breadth of the RE and EE measures undertaken. As a result, it seems highly unlikely that cumulative target reductions were achieved[47].

193. However, significant investments have been made into RE and EE measures since 2018, coinciding with the rising price of oil, both publicly and privately, in all participating countries and regionally, *notwithstanding the direct implementation of the Project* (Para 149). With each participating country having energy policies encouraging low carbon economies and less dependence on imported oil, and reporting obligations to the Paris Agreement, a sustained trend of increased RE and EE investments is happening in all these countries. The highest risk to success in the transition to a more energy sustainable building sector in a post-Project scenario is likely the economic conditions that need to be stabilized to permit EE and RE investments. In conclusion, the impact of the Project was not as large as expected with a large gap of not having monitored the post-installation energy consumption of the EE and RE measures in demonstration buildings (Para 143).

B. Summary of project findings and ratings

194. Table 6 provides a summary of the ratings and finding discussed in Chapter V.

Rating for Overall Project Performance: Moderately Unsatisfactory

[47] This is primarily due to the completion of the demonstration buildings at the EOP (or in the case of SVG, 2019 which was late in the Project) leaving little or no time to accumulate GHG emission reductions.

Table 6: Summary of the Project findings and ratings

Criterion	Summary assessment	Rating
Strategic Relevance		**S**
1. Alignment to UNEP MTS, POW and Strategic Priorities	Strong alignment with MTS, BSP and SSC (see Paras 61-66)	HS
2. Alignment to UNEP Donor/GEF/Partner strategic priorities	Though a GEF 4 project, the Project strongly aligned with GEF 6 CC1 and CW1, and GEF 7's CC Focal Strategy Objective 1 (Paras 68-70)	HS
3. Relevance to global, regional, sub-regional and national environmental priorities	Relevance to all participating country energy policies (Para 72)	HS
4. Complementarity with existing interventions/ Coherence	A number of complementary projects have been and are being funded for RE and EE in the region. However, there was limited evidence suggesting that opportunities for collaboration, information sharing and leveraging of synergies and networks on most projects were not actively pursued with this Project (Para 74).	MU
Quality of Project Design	Though the strength of the Project design is in its holistic approach, preparation of PRF not compliant with best practices, and poor allocation of resources to the NC position (Paras 83-84).	**MU**
Nature of External Context	The Project was affected by hurricanes (except Belize) and elections in all countries that caused delays in the delivery of the outputs (Para 87) as well as a drop in oil prices (Para 88) and the COVID-19 pandemic (Para 89).	**U**
Effectiveness		**MS**
1. Availability of outputs	Most outputs delivered (Paras 90 to 136)	MS
2. Achievement of project outcomes	Few countries achieved the replication aspect of Outcome 4, while most other outcomes were modestly achieved (Paras 137 to 145)	MS
3. Likelihood of impact	Significant investments are being made into RE and EE measures, both publicly and privately, in all participating countries and regionally, notwithstanding the weak economies of the Caribbean SIDS, the large debts of each SIDS to the IMF, their reliance on tourism and direct implementation of the demonstration buildings by the Project (Paras 146 to 149).	ML
Financial Management		**S**
1. Adherence to UNEP's financial policies and procedures	Procurement procedures not followed during the pre-March 2019 period of the Project. Only after the MTE did the Project change the manner in which it was being managed including NCs being recruited and preparing work plans that support disbursements from the IA to the EA (Para 150).	MS
2. Completeness of project financial information	All expenditure reports available (Para 152).	HS
3. Communication between finance and project management staff	There were communication problems early in the Project (pre-March 2019). These were later resolved post-March 2019 (Paras 154-155)	MS

Criterion	Summary assessment	Rating
Efficiency	The Project was implemented over a period of 88 months against a design period of 48 months. This was primarily due to chronic delays related to problems with communications, disagreements with respect to the work plans, delays in securing co-financing, and participating countries constrained in their ability to hire full-time NCs, resulting in some part-time NCs being employed and the Project Coordinator. These problems were resolved after recommendations from the 2018 MTE were adopted (Paras 157-163).	**MU**
Monitoring and Reporting		**MU**
1. Monitoring design and budgeting	Monitoring design is consistent with UNEP and GEF guidelines (Para 164).	MU
2. Monitoring of project implementation	The Project Coordinator position was only a part-time virtual hire unable to properly conduct M&E activities. This was later resolved after the 5Cs and UNEP signed a new project cooperation agreement for the Project in March 2019 (Para 165)	MU
3. Project reporting	Progress reported primarily through PIRs from 2014 to 2020. Some of these PIRs did not convey the issues of the 2017 cash advances that were not being distributed to the countries for implementation (Paras 166-167)	MS
Sustainability		**MU**
1. Socio-political sustainability	Demonstration buildings implemented in 2020 for all countries did not have the impact of catalysing EE and RE investments (Para 168)	MU
2. Financial sustainability	All countries dependent on the donor community to improve institutional capacities, technical capacities and awareness and for sustained development of regulatory instruments for EE and RE measures in participating countries. This is due to the weak economies of the Caribbean SIDS, the large debts of each SIDS to the IMF, and their large reliance on tourism (Paras 149 and 170).	MU
3. Institutional sustainability	Institutional support for additional knowledge activities appears weak (Para 172).	ML
Factors Affecting Performance		**MU**
1. Preparation and readiness	During the March 2013 to December 2017 period, there was evidence of the poor preparation and readiness of the Project. Only after the March 2018 MTE was there evidence of proper preparedness and readiness of the Project (Para 174-175).	MU
2. Quality of project management and supervision	The quality of project management and supervision during was very poor during the March 2013-December 2017 period when there was limited communication and technical support between participating countries and the 5Cs. This got resolved after the March 2018 MTE when the Project management and supervision dramatically improved (Para 176-177)	MU
2.1. UNEP		MU
2.2. the 5Cs		MU
3. Stakeholders' participation and cooperation	The 5Cs had problems in engaging stakeholders during the March 2013 - December 2017 period. After the March 2018 MTE with the new Project management structure, stakeholder engagement with the 5Cs improved considerably with NCs engaged and serving as the gateway to relevant stakeholders (Paras 179-181).	MU
4. Responsiveness to human rights and gender equality	No specific attention was given to gender and indigenous issues relevant to EE and RE management (Paras 182-183)	U

Criterion	Summary assessment	Rating
5. Environmental and social safeguards	No environmental and social safeguards were monitored (Paras 184-185)	Not Rated
6. Country ownership and driven-ness	The pre-March 2019 period of the Project was having problems engaging relevant governmental ministries and senior governmental personnel, leaving country ownership in question. In the post-March 2019 period of the Project after the MTE, improvements to the Project management structure translated into some country ownership and drivenness (Paras 186-187)	MS
7. Communication and public awareness	No dedicated website for the Project (Paras 188-189).	MU
Overall Project Performance Rating		**MU**

C. Lessons learned

195.

Lesson Learned #1:	In the context of projects that have multiple target countries, building capacity in these countries should be a major objective.
Context/comment:	It is imperative that targeted countries are given opportunities to lead in important decision-making aspects of the project such as the hiring and supervision of National Coordinators. The Executing Agency (in this case the 5Cs) should have a role to play, such as vetting the Terms of Reference, and reviewing the selection process to ensure that the candidate selected satisfies the criteria of the Terms of Reference. Though it was clearly stated in the Project Document that the National Steering Committee would have responsibility for the operations at the national level, including the hiring of National Coordinators, instances of the Executing Agency office involvement in the hiring of National Coordinators and direct communications were quite common in the pre-March 2019 period of Project implementation, contributing to the high level of mistrust between the NSCs and the Executing Agency (Para 165, 2nd bullet). UNEP must ensure that these roles and associated lines of communications are clearly spelt out, monitored and reported on during supervision missions.

196.

Lesson Learned #2:	Ensure there are sufficient resources identified for all project positions.
Context/comment:	There was a shortfall of resource allocations for the National Coordinator position (Paras **Error! Reference source not found.** and 161, 1st bullet). This had the unintended impact of delayed payments to NCs, some NCs only being part-time, and resignation of some NCs due irregular salary payments. The GEF restriction on project management costs to 5% is not feasible for Caribbean SIDS which have high salaries and low capacity. A solution to overcome the shortfall in GEF project management costs can be splitting NC allocations between management and technical costs of the Project. At the design stage of a project, UNEP must ensure sufficient budgetary allocations for all project positions.

197.

Lesson Learned #3:	In small countries, there will be instances where installer or supplier personnel is connected with government due to the small number of energy professionals to supply and install EE and RE equipment. In this context, a focus on small and medium-size enterprises may be ineffectual due to the lack of such actors in these countries.
Context/comment:	In small countries such as in the participating SIDS, situations arise where there is a lack of a critical number of technicians and energy professionals to install EE and RE equipment (Para 146) leading to the possibility of government people serving as installers or suppliers to RE and EE equipment. This leads to potential conflicts of interest in the installation of RE and EE measures in public buildings. For example, the NC in SVG served as the Director of the Energy Unit as well as consultant to the Project, with no other candidates identified for the position of NC (Para 176, 8th bullet). UN Environment as well as the Executing Agency and the countries must ensure transparency in all project transactions involving public buildings.

198.

Lesson Learned #4:	Elections and changes in governments should be anticipated and planned for especially in projects of 4 or more years duration, to minimize their impact.
Context/comment:	Election cycles and change of governments have significantly impacted the administration and implementation of demonstration building projects in Antigua and Barbuda, Grenada, and Saint Lucia (Paras 48 and 87). Once an election is known to be taking place in a country, the Executing Agency, together with the Implementing Agency must devise a plan and strategy for timely intervention in the country to engage the necessary governmental officials and ascertain their continued commitment. This would minimize and avoid any unnecessary delays. At the inception stage of a project, UNEP must develop a risk mitigation strategy to ensure effective transition and management during political changes.

199.

Lesson Learned #5:	Virtual offices can operate within modern business practices (especially with the COVID-19 pandemic) provided there is broad agreement on the mode of execution of a project.
Context/comment:	This would include written and confirmed agreement to clear rules of operation, particularly as they relate to reporting, communications and all other administrative functions associated with project execution. In the pre-March 2019 management regime of the Project, the Project Technical Coordinator and Project Coordinator were not permanent staff of the Executing Agency and did not occupy a physical space at the headquarters in Belize, choosing virtual offices offsite and away from the 5Cs. The complexity of the Project (its intrinsic coordination, supervision and support requirements) placed a demand on the need for a more permanent presence and clear integration into the operations of the 5Cs. There was no clear agreements on how the "virtual" personnel were to operate within the 5Cs management structure (Para 47).

	At the inception stage of a project, UNEP and the Executing Agency must ensure agreements on executing modalities are agreed upon in writing.

200.

Lesson Learned #6:	A project designed where countries are assigned responsibilities which demand the completion of one task by one country before another country can implement its agreed workplan, is too risky and should not be executed.
Context/comment:	This would include a more appropriate approach to assigning a regional agency to be in charge of a work activity, advancing a long-term mandate for regional responsibilities such as CROSQ for advancing EE and RE standards (see Paras 47 and 84, 2nd bullet). The KAP study had some effect on positively influencing public opinion on EE and RE in A&B although the impact of the study is not known on the other countries (due to its late issuance in 2020), leading to a conclusion that assigning a country with one task can lead to delays in other countries from implementing their work plan (Para 145, 1st bullet). At the inception stage of a project, UNEP and Executing Agency must avoid this type of workplan, preferably choosing a regional agency to conduct the work.

201.

Lesson Learned #7:	Under normal circumstances, it is beneficial to prolong projects for obtaining measurement of RE and EE impact.
Context/comment:	The Project closed at the height of the COVID pandemic on 30 June 2020. At that point all islands were shut up and public buildings were not in use. There was no clarity at that time on when the pandemic would ease. This left the demonstration buildings in 5 countries without any formalized project support for the monitoring of energy consumption post-installation. This was unfortunate and a lost opportunity to further public awareness of EE and RE measures undertaken (Paras 149, 159, 165 (6th bullet) and 193). At the project closure stage, UNEP and Executing Agency must weigh the advantages of keeping the project open for energy consumption monitoring post-EE and RE installation.

D. Recommendations

202.

Recommendation #1	For future UNEP/GEF EE or RE projects, ensure resources for dedicated and continued training of electrical technicians and energy professionals to build their capacities for the installation of lighting systems, air conditioners and renewable energy systems as well as for updating of best practices for high vocational and market surveillance skills.
Challenge/problem to be addressed by recommendation:	This is important for these countries if there is to be a strong transition to energy efficient appliances such as LEDs as well as other appliances that fall under CREEBC. Ministries responsible for energy, UNEP and the donor community should allocate available budgets for training from regional partners specialized in vocational skills and market surveillance. Continual training is required to sustain the capacities of installation technicians and market surveillance personnel, mainly to identify and service a broad range of

	qualities of EE equipment (e.g. LEDs, air conditioners, refrigerators, pumps and other high energy consuming equipment) and RE equipment (e.g. solar panels). This should address the shortage of electricians in Caribbean countries with a high degree of vocational and market surveillance skills to identify appropriate energy efficient technologies that provide the best qualities to maximize energy savings and service life of the appliances and help countries achieve their NDC targets. This is important to sustain confidence of Caribbean consumers on the quality of EE and RE equipment. There is a shortage of electricians in Caribbean countries with a high degree of vocational and market surveillance skills to identify appropriate energy efficient technologies that provide the best qualities to maximize energy savings and service life of the appliances. This high degree of skill involves the identification of and exposure to the different types of appliances available in the Caribbean regional market that are appropriate for a specific installation. For example, it is possible that many LEDs are available in Caribbean market have different metals for the back-plating of the LEDs which affects their heat dissipation that possibly adversely affects their service life (see Para 168, 2nd bullet). These electricians should have the knowledge of the LEDs that they are installing to ensure not only maximum energy savings but also service life of the appliance. The current market surveillance setup is not likely to track this quality aspect of LEDs that is outside of MEPS. There are likely similar traits to air conditioners, other electrical appliances and RE equipment that would affect service life which the installation technicians should be aware of.
Priority Level:	Important
Type of Recommendation	Project level
Responsibility:	Task Manager
Proposed implementation time-frame:	Future renewable energy and energy efficiency programs in the Caribbean

203.

Recommendation #2	Future UNEP/GEF RE and EE initiatives in the next 5 years should focus on partnering with development banks for financing EE and RE initiatives for commercial and industrial sectors in developing countries where greater national energy savings can be generated.
Challenge/problem to be addressed by recommendation:	The Project has focused mainly on the public sector for EE and RE measures and the commercial and residential sectors, much of it through the Development Banks of 3 countries. The Ministries taking care of energy in those 3 countries are positioned well to promote EE and RE investments to the commercial and industrial sectors where greater national energy savings and GHG emission reductions can be generated. A number of the Project interventions using the demonstration buildings can be replicated through the rapid uptake of renewable energy and high energy efficiency electronic devices such as LED lighting (Para 142, 5th bullet). Moreover, a number of other actions can be replicated for rapid uptake of RE and EE measures in the Caribbean region using demo building models as well as the Green Procurement Manual and the CREEBC standards (Para 191).

	This recommendation would involve development banks offering concessional EE and RE financing in Belize, Grenada and St. Lucia as well as initiation of engagement of development banks in A&B and SVG. There is a strong likelihood of not achieving energy performance contracting through ESCOs since the ESCO model in the 5 participating countries has not yet been successful due to the lack of streamlined ESCO legislation where rules and regulations with regards to the determination of energy baselines has not been well defined. Instead, lessons from deployment models for the commercial and industrial sectors financed by the development banks can be considered where appropriate. However, this will require time to develop approaches to interest these sectors. It is likely that personnel in commercial and industrial entities consider that the time spent in sales or on their production lines is more valuable than spending time searching for EE or RE measures. Thus, demand will be placed on services required to make RE and EE investments not disruptive to their business operations, which can only possibly involve ESCOs. The transaction of converting to EE or RE systems for a commercial or industrial establishment could involve a business-to-business transaction that would minimize the down-time of a commercial or industrial entity.
Priority Level:	Important
Type of recommendation	Project level
Responsibility:	Task Manager
Proposed implementation time-frame:	Future GEF renewable energy and energy efficiency projects and programs in the Caribbean

204.

Recommendation #3	The Ministries of Environment should seek assistance from CARICOM to facilitate implementation of technical assistance for the provision of international best practices for managing Waste from Electrical and Electronic Equipment (WEEE) waste streams across several countries.
Challenge/problem to be addressed by recommendation:	With local knowledge needed for WEEE management for lighting devices and cell phones and refrigerators, CARICOM could assist the Ministries of Environment to focus on the management of WEEE waste streams that are high in volume such as air conditioners, lighting devices and solar PV panels. In addition to providing technical assistance towards improving the capacities of Ministries of Environment to enact the environmental laws, especially in dealing with spent CFLs and solar PV panels, there is a need to ramp up interest in the management of WEEE waste streams in an integrated manner across several countries requiring international expertise (Para 141, 6th bullet), and to identify desired approaches for technical assistance of environmentally sound management of a wider range of WEEE waste streams.
Priority Level:	Critical
Type of recommendation	Partner's recommendation
Responsibility:	The ministries responsible for environment and CARICOM

Proposed implementation time-frame:	Future renewable energy and energy efficiency programs in the Caribbean

205.

Recommendation #4	Future GEF projects involving several countries should be designed to ensure full-time project management staff, a strong governance mechanism and effective mechanisms for ensuring engagement of all stakeholders. Furthermore, effort should be made to ensure country political commitment to the project.
Challenge/problem to be addressed by recommendation:	This should include clear agreements drafted in the Project document from participating countries with sufficient funds to recruit full-time project management staff including National Coordinators and a Project Manager (see Lesson Learned #2, Para **Error! Reference source not found.**), a strong governance mechanism (such as a National Steering Committee) that ensures good communications between all stakeholders, and proper mechanisms to engage national stakeholders. The CEO endorsement document should also establish that a certain percentage of a national budget allocation should be immediately made available to the country. In the pre-March 2019 period, the Project struggled to engage all stakeholders early in the Project (Paras 174, 176 and 179). The root cause of this was a design issue with a shortfall of budget in the National Coordinator (NC) position. NCs hold a unique position in that they serve as the gateway to stakeholder engagement (Para 180). Without full-time NCs, all stakeholders would have a limited involvement with the Project. Furthermore, there was no full-time Project Manager at the Executing Agency that was the cause of several implementation issues.
Priority Level:	Important
Type of recommendation	UNEP-wide
Responsibility:	UNEP
Proposed implementation time-frame:	As soon as possible for future renewable energy and energy efficiency programs in the Caribbean or other projects involving SIDS

206.

Recommendation #5	Gender and indigenous issues should effectively be considered at the design stage and during implementation of all UNEP/GEF projects approved in 2012 or after. This is especially important for EE and RE projects which have documented differentiated gender impacts.
Challenge/problem to be addressed by the recommendation:	No specific attention was given to gender and indigenous issues relevant to EE and RE management on this Project (Para 183). Care must be taken to account for all indigenous groups, and the collection and processing of gender-related information in generating gender-related activities for the project. The Mid-Term Review is a good management tool to reset outcomes which can incorporate gender and indigenous issues into the project design. The

	management response to this should be compliance with the recommendations for consideration of gender and indigenous issues into project activities.
Priority Level:	Important
Type of recommendation	Project level
Responsibility:	UNEP
Proposed implementation time-frame:	As soon as possible

207.

Recommendation #6	Terminal evaluations should be started at the latest 3 months after project technical completion.
Challenge/problem to be addressed by the recommendation:	The problems conducting this Evaluation were related to the weak recall among respondents due to significant time lapse between operational completion of the Project and the evaluation data collection period. Time lapses were more than one year before the launch of the evaluation. In addition, there was a lack of access to key project personnel who could recall critical events on the Project (Para 25).
Priority Level:	Medium
Type of recommendation	UNEP-wide
Responsibility:	UNEP
Proposed implementation time-frame:	Future projects and programs globally.

ANNEX I. RESPONSE TO STAKEHOLDER COMMENTS

Table I-1: Response to stakeholder comments received but not (fully) accepted by the reviewers, where appropriate

Page Ref	Stakeholder comment	Evaluator(s) Response	UNEP Evaluation Office Response
Para E-18	Note this would have occurred in the middle of the Pandemic. You wouldn't have got accurate measurements as buildings were significantly underutilized during this time. Considering an extension was made at the height of the pandemic. TM: I don't agree. It wouldn't have made a difference due to COVID. As mentioned, this wouldn't have made a difference as the project closed at the height of the COVID pandemic. 30 June 2020. At that point all islands were shut up and public buildings were not in use. There was no clarity at that time on when the pandemic would ease. In fact it took another 18 months. You could keep this lesson if you say that: in normal circumstances it is beneficial to prolong projects for obtaining measurement of RE and EE impact.	TM is right. During this period, most countries were on lock down and persons were working remotely. So notwithstanding the investments in RE and EE measures, the building were not under optimal use and any figures would not have represented real values. Kept the lesson but was re-worded to reflect conditions mentioned by Asher.	
Pages 61-62	For me, communication with 5Cs was among the best that I have had in 26 projects.	While the communication post 2019 was highly satisfactory, you have to count the pre-2019 dysfunction. A satisfactory rating has been given.	
Para 167	I believe this is moderately satisfactory. No PIRs are missing, steering committee minutes and mission minutes are generally available and the project had a terminal evaluation. Financial reporting was all in order.	Rating left as is. Rating not only includes reporting, it includes monitoring activities which were rated moderately unsatisfactory As noted.	
Para 173	Not sure about this as we established financial mechanisms in three countries, which provide funds for on-going sustainability and scale-up of measures. In addition, all three of the development banks involved committed to providing significant co-financing to provide additional funds for EE and RE measures. I believe this is moderately likely.	Rating left as is. The overall sustainability rating is the lowest in the rating of all the activities, not the average. Both the socio-political and financial sustainability ratings were moderately unlikely.	
Para 183	A project cannot be penalized with highly unsatisfactory when it was not required to consider this at the time of design. We are incorrectly applying presentism: https://www.google.com/search?q=presentism https://www.bbc.com/news/magazine-23772194	The Project was approved during the GEF-5 cycle (2011-2014) even though it was classified as a GEF-4 project. The MTE recommended	UNEP Evaluation Office follows this historical sequence to assess Gender:

Page Ref	Stakeholder comment	Evaluator(s) Response	UNEP Evaluation Office Response
	There has to be some flexibility on such. I would suggest not rated for this element.	that these issues should be taken into account in future activities together with other issues of social equity. However, they were not dealt with as there was reportedly no time available to deal with these issues post-March 2019. I believe this should count against the Project but not so harshly. An unsatisfactory rating was given.	1/ Gender included in the Project Review Committee Review Checklist for new projects (GEF and non GEF) in 2010 as: 'Gender equality is adequately addressed' 2/ GEF Unit introduced Safeguards Review Checklist which includes consideration of disproportionate effects on vulnerable groups, including women, under Social Impacts. Hence, if a project design document is approved in 2011 or after, the Gender aspect should be assessed in the Quality of Project Design. If a project design document is approved in 2012 or after, Gender should be rated in the Evaluation Report. If a project is approved before 2012, the evaluator should assess gender but record "Not Rated" so that it does not affect the overall performance score. The Project having been approved in 2012, Gender should have been considered in its design. And efforts should have been made during its implementation.
Para 189	I think there was a website for some time, but it was closed by the time I joined in 2018. I believe that moderately unsatisfactory is more appropriate considering the work done by A&B.	I have no evidence of a website. Rating has been adjusted to MU for the work in A&B	
Table 6	Strategic Relevance - Complementarity with existing interventions/ Coherence - Not sure this is a reason to justify a rating? I believe this project was quite coherent and complementary – for example look at how the project financed intervention in Saint	Ratings remain the same. There were other projects where the Project could have complemented	

Page Ref	Stakeholder comment	Evaluator(s) Response	UNEP Evaluation Office Response
	Vincent and the Grenadines supported solar power to the airport, part of which was funded by the project and part of which was financed through co-financing.	activities. However, there was limited evidence suggesting that opportunities for collaboration, information sharing and leveraging of synergies and networks on most projects were not actively pursued with this Project	
	Effectiveness - Likelihood of impact - How do we judge the impact of the financial mechanisms and the CROSQ regional energy efficiency standards, both of which were created by the project? For me these two elements guide the participating countries in a certain direction of significant impact. I am not sure about this rating. There is longevity/sustainability in these investments so that must be considered.	There were other factors including the weak economies of the Caribbean SIDS, the large debts of each SIDS to the IMF, and their reliance on tourism.	
	Financial sustainability - This is a structural issue of the Caribbean. I believe this element has to be judged in that context. i.e., as this is the baseline for Caribbean countries, has this project made that better or worse. I think it has improved things as it created three financial mechanisms with seed capital and commitments of co-financing. Happy to discuss. Again, I agree with Asher. The economies in the participating countries and beyond will probably always be dependent on foreign support for those types of investments in the mitigation or adaptation areas. This is why the GCF, the GEF, the AF etc and other forms of donor support. It is because of this recognition.	Rating adjusted. See Effectiveness	
	Institutional sustainability - How do we bring in the CROSQ regional energy efficiency standards. Isn't this a major institutional development? CROSQ is a regional organisation with a mandate from CARICOM Heads of Government.	It is but there are other factors affecting the rating	
	Quality of project management and supervision - Agree on this, but how do we capture the fact that both 5Cs and UNEP acknowledge lessons and learned and managed to turn things around in the final few years. i.e. the MTE really had a significant impact, leading to positive project results. A lot of the commentary divides the project into two phases, before 2019 and after.	It is caught on Paras 176 and 177.	
	Communication and public awareness - But there were communication and public awareness activities… I believe U is a bit extreme in that regard.	Rating adjusted to MU	
Recommendation #2	This could be a lesson perhaps?	It should still be a recommendation for future activity	

ANNEX II. PEOPLE CONSULTED DURING THE EVALUATION

Table II-1: People consulted during the Evaluation

Organization or Location	Name	Position	Gender
UNEP	Asher Lessels	Task Manager	M
UNEP	Geordie Colville	Task Manager	M
UNEP	Leena Darlington	Fund Manager	F
UNEP	Fatima Twahir	Fund Manager	F
The 5Cs	Keith Nicolls	Head, PDMU, Programme Manager	M
The 5Cs	Lisa Cervantes	Financial Administrator	F
The 5Cs	Allison Williams	Procurement Officer	F
The 5Cs	Joan Samson	Environment Officer, Department of the Environment	F
Antigua & Barbuda	Diann Black-Layne	Director of the Environment Department	F
Antigua & Barbuda	Ruth Spencer	Zero Waste Antigua	F
Antigua & Barbuda	Arica Hill	Education Officer, Department of the Environment	F
Antigua & Barbuda	Sharon Richards-Dalso	Community Development Officer	F
Antigua & Barbuda	Samuel Roberts	Principal, Antigua Grammar School	M
Antigua & Barbuda	Mr. Ryley	Maintenance Manager, Prime Minister's Office	M
Antigua & Barbuda	Alex Spencer	Consultant	M
Antigua & Barbuda	Dorbrene O'Marde	Director, Kingdom Consultants	F
Antigua & Barbuda	Brian Challenger	National Energy Task Force	M
Antigua & Barbuda	Clarence Pilgrim	Permanent Secretary, Ministry of Works and Transport	M
Antigua & Barbuda	Mali Barnes	National Energy Unit	M
Antigua & Barbuda	Winston Whyte	Electricity Department, APUA	M
Antigua & Barbuda	Girvan Piggott	Electricity Department, APUA	M
Belize	Roger Espejo	National Coordinator	M
Belize	Ryan Cobb	National Coordinator	M
Belize	Ambrose Tillett	Director, Energy of the Ministry of Public Utilities, Energy & Logistics	M
Belize	Franklyn Magliore	Belize Development Finance Corporation	M
Grenada	Alex Stafford	Ministry of Infrastructure Development, Public Utilities, Energy, Transport & Implementation	M
Grenada	Dwayne Cenac	Generation Manager, GRENLEC	M
St. Lucia	Kurt Harris	National Coordinator	M
St. Lucia	Terrence Gilliard	National Coordinator	M
St. Lucia	Elvis D'Auvergne	Owner, Bay Gardens	M
St. Vincent and the Grenadines	Yvette Pompey	Permanent Secretary Ministry of Urban Development, Energy, Airports , Seaports, Grenadines Affairs and Local Government	F

Organization or Location	Name	Position	Gender
St. Vincent and the Grenadines	Josette Greaves	Electrician, Argyle International Airport	F
St. Vincent and the Grenadines	Ellsworth Dacon	Ministry of National Security, Air and Sea Port Development – Energy Unit	M
St. Vincent and the Grenadines	Michellle Forbes	CEO, National Emergency Management Office (NEMO)	F
Barbados	Darcy Boyce	Independent Consultant, Fiscal Policy Paper	M
Barbados	Janice Hiliare	CROSQ	F
Barbados	David Simmons	Independent Consultant, MTE	M

ANNEX III. PROJECT COSTS AND FINANCIAL MANAGEMENT

Table III-1: Project Disbursements - GEF funds

Outcomes	Budget (from CEO End. Doc)	2013*	2014	2015	2016	2017	2018	2019	2020**	Total disbursed	Total remaining
Outcome 1: Improved institutional capacity for management of sector, monitoring and assessment is demonstrated by participating countries	735,550		57,099	30,289	12,060	8,937	68,564	37,039	27,118	241,106	494,444
Outcome 2: Improved technical capacity and awareness for EE and RE in participating countries	541,200	7,204	55,896	117,136	56,990	35,556	50,673	104,744	81,390	509,590	31,610
Outcome 3: Appropriate financial and market-based mechanisms supporting energy efficiency are adopted by the relevant stakeholders in participating countries	604,450		1,400		2,542				549,067	553,009	51,441
Outcome 4: EE/RE benefits are recognised	1,475,750			3,595	148	233,730	131,192	48,196	1,003,873	1,420,733	55,017
Outcome 5: Regulatory instruments are adopted in participating countries	530,250					6,328	95,205		96,237	197,770	332,481
Outcome 6: Knowledge gained from the project are disseminated and shared, and replication strategies are adopted throughout the Caribbean region	485,900	25,166	12,534	43,250	70,693	57,425	50,252	130,783	86,219	476,321	9,579
Project Management	485,900	49,771	68,047	69,635	53,482	28,160	41,555	62,529	111,577	484,756	1,144
Total (Actual)	4,859,000	82,141	194,976	263,905	195,914	370,135	437,441	383,292	1,955,482	3,883,285	975,715
Total (Cumulative Actual)	4,859,000	82,141	277,117	541,022	736,936	1,107,071	1,544,512	1,927,803	3,883,285		
Annual Planned Disbursement (from CEO End. Doc)***	4,859,000	1,391,433	1,746,537	805,692	779,850	135,488					
% Expended of Planned Disbursement		**6%**	**11%**	**33%**	**25%**	**273%**					

Table III-2: Project Co-Financing

Co-financing (type/source)	UNEP own financing (million USD)		Government (million USD)		Partner Agency (million USD)		Private Sector (million USD)		Total (million USD)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								0.000	0.000	0
Loans/Concessions								0.000	0.000	0
· In-kind support			1.174	1.291	0.150		0.185	0.000	1.509	1.291
· Other			5.567	27.921	0.550	0.604		0.000	6.117	28.525
Totals	**0.000**	**0.000**	**6.741**	**29.212**	**0.700**	**0.604**	**0.185**	**0.000**	**7.626**	**29.817**

Table 7: Project Co-Financing by Stakeholder

Sources of Financing	Name of Financier (source)	Type of Financing	Financing Amount Committed (USD)	Financing Actual Amount (USD)
Partner agency	Caribbean Community Climate Change Centre (5Cs)	Cash	550,000	604,461
Partner agency	UNDESA	In-kind	150,000	
Government	Ministry of Land Housing and Environment, A&B	Cash	550,000	
Government	Ministry of Land Housing and Environment, A&B	In-kind	732,500	1,200,000
Partner agency	Government of A&B	In-kind		20,729
Government	Government of A&B	Public investment		4,500,000
Government	JICA in Belize	Cash	500,000	
Government	Development Finance Corporation, Belize	Soft Loan	800,000	800,000
Government	Central Buildings Authority, Belize	In-kind	45,000	
Partner agency	Ministry of Natural Resources and Environment, Belize	In-kind	92,000	7,268
Government	Grenada Development Bank	Soft Loan	1,200,000	1,200,000
Government	Government of Grenada	Public investment		600,000
Government	WINDREF	In-kind	185,000	
Government	St. Lucia Development Bank	Soft Loan	800,000	800,000
Government	Sustainable Development & Environment Unit, St. Lucia	In-kind	82,500	51,664
Government	Ministry of Infrastructure, Ports, Energy and Labour, St. Lucia	In-kind		32,500
Government	Government of St. Lucia	Public investment		20,000,000
Government	Ministry of Housing and the Environment T&T	Cash	1,716,500	
Government	Ministry of Housing and the Environment T&T	In-kind	222,000	
		Total Co-financing	**7,625,500**	**29,816,622**

ANNEX IV. KEY DOCUMENTS CONSULTED

Project planning and reporting documents

- Project Document July 2012
- PIRs from 2014 to 2020
- Half-Yearly report for 2013, 2018 and 2019;
- Final Report, October 2020

Project outputs – Overall

- 2018 Workplan
- 2019 Workplan

Project outputs work Outcome 1:

- Report on the Consultancy for the Development of Fiscal Incentives Programme for Increased Market Uptake of Energy Efficiency and Renewable Energy in Buildings in Antigua and Barbuda, Belize, Grenada, St. Lucia, and St. Vincent and The Grenadines, Desk Review of Existing Incentives, by Darcy Boyce, August 2020
- Green Building Procurement Manual for Public Managers (Version 1.0), by Roland Clarke, 15 September 2020;
- Toolkit for The Green Buildings Procurement Manual – Policies and Procedures For Public Managers, by Roland Clarke, 15 September 2020;
- ESD Project Demo Sites - APUA Electricity and Cost Analysis - June 2019 for A&B

Project outputs work Outcome 3:

- CCCC SLDB Annual Report period ending June 30 2021

Project outputs work Outcome 4:

- Antigua and Barbuda ESD Project - Presentation Sept.30.2020;
- A&B Energy Performance Report – Bolans Clinic, May 2017;
- A&B Energy Performance Report – Department of Environment, May 2017
- A&B Energy Performance Report – Antigua Grammar School, May 2017
- A&B Energy Performance Report – Prime Minister's Office, May 2017
- Interim Energy-Saving Implementation for Sir Edney Cain Building Report, by Amin Matar, Energy Officer, Ministry of Public Utilities, Energy & Logistics, 10 February 2021

Project outputs work Outcome 5:

- 2018 CARICOM Regional Energy Efficiency Building Code: (https://codes.iccsafe.org/content/CARICOMREEBC2018)

Project outputs work Outcome 6:

- Final Report on Post-Baseline Study on Knowledge, Attitudes and Practices (KAP) of Antiguans and Barbudans on Energy Efficiency in Caribbean Buildings, by Kingdome Consultants Inc, April 2018.

Previous evaluations

- Mid Term Evaluation of the UN Environment Project Energy for Sustainable Development in Caribbean Buildings, by David Simmons, March 2018

ANNEX V. GENERAL PUBLIC QUESTIONNAIRE FOR A&B

1. What is your gender, Male ☐ Female ☐ Do not want to Specify ☐
2. What is your age? Under 15 ☐ 16-24 ☐ 25-40 ☐ Over 41 ☐
3. What is your level of education?
   a. Primary School ☐
   b. Secondary School ☐
   c. Tertiary Education ☐
4. What is your occupation? _____
5. Are you aware of climate change, and its implications on the well-being and economy of Antigua & Barbuda: **Yes** ☐ **No** ☐
6. Are you aware that saving energy and using less fossil fuels to generate electricity is a means of mitigating (lessening) the impact of climate change? **Yes** ☐ **No** ☐
7. Are you aware that energy efficiency/renewable energy measures have been undertaken in buildings in Antigua and Barbuda? **Yes** ☐ **No** ☐ If so, what is your understanding? There has been solar PV systems installed on some government buildings (offices, schools and clinics). <u>There are awareness programmes that focus on energy efficient buildings, equipment and appliances</u>
8. What do you think of the added comfort of the buildings that have had enhanced energy efficiency / renewable energy measures undertaken? <u>No Comment</u>
9. Do you have a Renewable Energy and or Energy Efficient equipment at Home? Yes ☐ No ☐ If yes:
10. What Year did you get your equipment (s) _____ and what type of equipment do you have ? _____

ANNEX VI. PROJECT RESULTS RRAMEWORK (WITH EDITS IN RED FONT)

Table IV-1: Reformulation of Project Results Framework

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
Project Objective: To reduce the GHG emissions intensity in buildings by 20%	~~Demonstration results and mechanisms to propagate savings at this level for 5 to 7 years~~ GHG emission reductions (by country), tCO_{2eq}	Baseline older refrigerators and air-conditioners average 1,281 kwh/yr, newer 513 kwh/yr, with high variability. Good penetration of compact fluorescent lamps (rate unknown) but incandescent lamps still available. Magnetic ballast fluorescents still widely used in commercial buildings Very few (<0.1%) high performance buildings, most buildings use technologies common during periods of low energy prices 1990's. No mechanisms to encourage better performance	~~A reduction in GHG emissions intensity of 20% as a result of more efficient energy consumption and renewable energy use in buildings~~ Antigua & Barbuda – 160,000; Belize – 65,000; Grenada – 100,000; St. Lucia – 30,000; and Trinidad & Tobago – 880,000~~Country by Country targets are detailed in Section 2.6 on Baseline Analysis and Impact Targets.~~	Utility records for particular buildings and general demand vs GDP/capita published figures and project monitoring reports	Customs control of EE products may be difficult. In Trinidad and Tobago energy prices may remain too low and mandatory standards politically difficult
Outcome 1: Improved institutional capacity for management of sector, monitoring and assessment is demonstrated or acted	% of trainees able to predict trends, assess impact of EE policies and programs, and identify opportunities for GHG emission savings of more than 50%	General Statistics, weak knowledge of technical potentials	>80% ~~Capacity to predict trends and assess impact of EE policies and programs,~~	Project reports	Small administrations may restrict ability to carry specialized staff. Regional capacity can be

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
upon in participating countries ~~Institutional capacity for management of sector, monitoring and assessment~~	~~a.Baseline projection and monitoring system to be able to track and feedback on progress~~ b.~~Opportunities and target potentials for energy savings are identified~~		~~Long range planning for deep GhG emission cuts of 50%~~		maintained more easily.
Output 1.1: Audit reports on buildings available to decision makers with statistics on potential savings in domestic, commercial and public sectors ~~Building audit reports, statistics on potential savings in domestic, commercial and public sectors~~	Number of samples of commercial buildings, government buildings and hotels established for statistical analysis ~~Grenada produces and transfers a monitoring protocol and capacity building in appropriate national agencies~~	Studies available for buildings were mostly walk-thought audits with no building envelope characterization.	20 ~~Samples of commercial buildings, government buildings and hotels are established each at about 20 for statistical analysis~~.	National and Regional Project reports	
Output 1.2: Identified measures available to building professionals and equipment installers for improved energy efficiency and renewables ~~Identification of measures at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables~~	Number of reports on potentials and cost effectiveness ~~Report on potentials and cost effectiveness~~	There are a few reports looking at buildings in a rather general way	20 ~~20 upgrade option reports on 1.1 studied buildings~~	National and Regional Project reports	

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
~~**Output 1.3**: Identify equipment and lighting potentials to reduce fossil fuel use~~	~~Report on actual performance and potentials to be achieved~~	Equipment ratings are available for some equipment and others not, Available ratings are for northern country conditions, electricity prices and foreign currencies	~~> 20% energy performance improvement~~	National and Regional Project reports	
Outcome 2: Improved technical capacity and awareness for EE and RE in participating countries ~~Technical capacity and awareness for EE (Grenada – PV, St. Lucia – Lighting, Belize – ESCOs)~~	% of vendors, practitioners and trades-persons trained and aware of RE and EE opportunities ~~Building service community is trained and aware~~ % of consuming public and building and hotel managers aware of RE and EE opportunities and are able to monitor energy indicators ~~Consuming public as informed and understands advantages of EE and RE~~ ~~Building and hotel managers are aware and able to monitor energy indicators (kwh/ m², kwh/ guest-nite, kwh/ m³ refrigeration etc.)~~	Refrigeration and Air-conditioning equipment associations exist, Mechanical engineering, Civil Engineering associations exist but practice in the market is highly variable, low awareness and guidance available to many small builders, public consumers	>50% >50% ~~Majority of vendors, practitioners and trades-persons are aware of EE techniques~~	Market surveys, industry association reports	Bypassing customs
Output 2.1: Training workshops and seminars on energy efficiency for building designers, contractors, architects, renewable energy installers and	Number of trained personnel ~~Trained personnel~~	No particular qualification available for ESCOs	30 trained ESCOs with at least 3 in each country ~~30 trained ESCOs with at least 3 in each country~~	Course records and listed trained personnel	

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
maintenance personnel ~~Development of training workshops, seminars on energy efficiency for building designers, contractors architects, renewable energy installers and maintenance personnel~~					
Output 2.2: Published manual on best practices on energy efficiency for use in building sector disseminated to building designers, contractors, architects, renewable energy installers and maintenance personnel ~~Publication of manual on best practices on energy efficiency for use in building sector~~	Number of manuals produced with feedback from Output 2.1 courses incorporated covering building science in the tropical island context ~~Manual produced, feedback from Output 2.1 courses incorporated~~	Manuals available are for other climates and cultures	1 ~~Manual covering building science in the tropical island context~~	Manual	
Output 2.3: Energy efficiency courses delivered by national tertiary institutions ~~Development of energy efficiency courses for national tertiary institutions~~	Number of courses where material has been augmented and mainstreamed ~~Course material augmented and mainstreamed~~	University of West Indies has some relevant capacity for training but the local poli-techniques need expansion of curricula	5 (1 per country)	School course material	
Outcome 3: Appropriate financial and market-based mechanisms	Number of established funds or a revolving mechanism to attract finance to	Normal finance is available for buildings, building renovation and to support	5 (1 per country) ~~National development banks (NDB) accept grant~~	National Development Bank Board	Economic instability in general is a risk

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
supporting energy efficiency are adopted by relevant stakeholders in participating countries ~~Appropriate financial and market-based mechanisms that support energy efficiency~~	demonstrations and subsequent investments or adoption in a housing finance program of an EE code ~~Establishment of a fund, or a revolving mechanism to attract finance to demonstrations and subsequent investments or adoption in a housing finance program of an EE code~~	business (including buildings materials and equipment suppliers) capitalization but no portfolio is established for energy service companies or renewable energy suppliers in particular	~~capitalization to be used in a blended finance product for the demonstration investments and listed eligible loans subsequently~~. ~~National housing authority agrees to adopt an EE guideline or draft national EE buildings code in their housing finance program.~~	decision, product offering Housing Authority program documents	especially for tourism
Output 3.1 Reduced operating costs and risk hedging against fuel price spikes integrated into lending	Number of banks lending that includes EE and RE features and availability of specialized financing ~~Availability of specialize finance or portfolio of banks lending that includes EE and RE features.~~	There are a few programs such as the Solar Water Heater loan Program by the Grenada Credit Union otherwise finance is generic and EE/RE not recognized	5 (1 per country) ~~5 financing agencies engaged, others made aware of the options~~	Financial partner reporting to steering committees	
Output 3.2: Fiscal incentives program to increase market uptake and penetration of sustainable energy measures	Number of countries with tax and customs duty relief for EE and RE equipment ~~Expansion of Tax and Customs duty relief for EE and RE equipment~~	Tax and customs duty is exempted in several countries for items like Photovoltaic panels	5 (1 per country) ~~Any expansion of tax relief possible will be pursued – likely are specialized components not manufactured in the CariCom region~~	Government customs regulations	
Outcome 4: Understanding of EE/RE benefits are recognised ~~Demonstration program for sustainable energy~~	Number of demonstration projects ~~# and type of demonstration projects~~		15 (3 per country) ~~Awareness and understanding of EE/RE benefits are recognised~~	Media reporting, surveys	Failing demonstrations need to be avoided as they are very

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
					powerful and can set back any progress.
Output 4.1: Demonstrations of measures and benefits of energy efficiency in buildings at the national level ~~Demonstrations of measures and benefits of energy efficiency in buildings at the national level. Voluntary projects~~	Number of buildings with utility records that reflect energy intensity usage Number of new building projects (some by ESCOs) proposed ~~Utility records (households, government and Commercial establishments)~~	Very few low energy buildings and none documented	15 (3 per country) ~~Number of buildings Energy intensity kwh/m^2, number of new buildings kwh/m^2 20% improvement~~	Monitoring bills and occupants survey by national PMU	Take back effect, consumer preferences, risk of low oil price
Output 4.2: Challenge competition for private sector builders and ESCOs for construction and retrofitting of buildings to make a very low purchased energy target of kWh/m^2 ~~Challenge competition for private sector builders for construction and retrofitting of buildings to make a very low purchased energy target of some few kWh/m^2 – Private sector competition for ESCOs.~~	# ESCO or new building projects proposed	Very few low energy buildings and none documented	~20 projects – at least 3 per country	Monitoring bills and occupants survey by national PMU	
Outcome 5: Regulatory instruments are adopted in	Number of countries complying with mandatory labeling, MEPS and EE code	Refrigeration and air-conditioning equipment customs control is effective	5 ~~Building guidelines or mandatory codes are~~	Customs reporting	Political risk

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
participating countries ~~Regulatory instruments Trinidad and Tobago – Code compliance advice, mandatory equipment efficiency levels how-to establish~~	~~Mandatory refrigeration, air-con, and lighting standards and labeling~~ ~~Phased in minimum performance levels~~ ~~Mandatory EE code for new buildings and phased in mandatory building ratings at time of sale (Mj purchased energy/m^2)~~	but no efficiency considered, low efficiency low cost equipment entering the market	~~provided or enforced along with building permitting Equipment standards and/or mandatory minimums are enforced~~		Compact fluorescent lights are not surviving anticipated life times, reducing reliability and payback as well as mercury contamination.
Output 5.1: Guidelines and standards for energy efficient construction practices (including renewable energy and products based on investigation of global and regional standards) ~~Development of guidelines and standards for energy efficient construction practices including renewable energy and products based on investigation of global and regional standards.~~	Number of countries with developed labelling programs, efficiency standards and MEPS levels ~~Status of development and adoption of labeling programs, efficiency standards and mandatory Energy Performance levels.~~	No energy code or equipment requirements or labelling exists	5 ~~All countries adopt voluntary programs, all then adopt mandatory labeling, some use suasion only while Trinidad and Tobago moves to mandatory~~	Project report and draft regulations produced.	
Outcome 6: Knowledge gained from the project are disseminated and shared throughout the Caribbean region, and	Number of countries who have regional public awareness, knowledge management & sharing, replication strategy and regional reporting	Ongoing mandate and activity advocating EE and RE	8 ~~Enhance info and service offerings to member countries~~	Publications, Small Island Developing States net	

Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
replication strategies are adopted in the region ~~Regional public awareness, knowledge management & sharing, replication strategy and regional reporting~~	~~Dissemination to region and SIDS~~			posted information, Presentations at regional for a	
Output 6.1: Task reports produced on subtopics: • Grenada: PV interconnection and monitoring buildings • Antigua & Barbuda awareness and education program materials, schools, general public, • St. Lucia: Lighting • Belize: ESCO training and program • Trinidad & Tobago: Energy Efficiency Regulations	Number of national PMUs/ governments who have agreed to nationally lead task area reports ~~Regional coordination of the nationally lead task areas results in reports that are agreed to by the national PMUs/ governments~~	No regional coordination/ information exchange	10 ~~Nationally lead task area reports produced with regional coordinator assistance~~	Project reporting	

ANNEX VII. EVALUATION FRAMEWORK

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
Key strategic questions from the TOR			
Para 41 Q1	Virtual offices do have their place in the modern communications environment, and especially nowadays with the Covid-19. What lessons can be learned from this project in terms of project management in this regard?	Qualitative. Any evidence of added efficiencies to implementation of the Project post March 2020.	Interviews / surveys with responsible government entities including PMU
Para 41 Q2	The initial project duration was 48 months. The operational closure of the project finally occurred after 92 months. Technologies in renewable energies and energy efficiency are in constant evolution. Did the delays in the project implementation had an impact in the relevance and the potential obsolescence of the technologies used in the demonstration sites of the project?	Qualitative. Any evidence that a change in technologies affected Project progress.	Interview / survey question to all stakeholders.
Para 41 Q3	How were the recommendations of the MTE taken into account and what effects did it have on the project performance and progress?	Progress on all indicators after MTE	PIRs and progress reports, interviews with project team and all stakeholders
Para 41 Q4	Based on the analysis of the Theory of Change at evaluation, what factors still present the highest risks to success in the transition to a more energy sustainable building sector in the Caribbean post-project?	Drivers and assumptions from direct outcomes to intermediate states	PIRs, Project reports, interviews with project team and all stakeholders
Para 41 Q5	Has the evaluation identified any unintended results (positive or negative) deriving from the project's implementation, and if so, what was it and how might it affect the intended project Impact?	Qualitative. Any evidence of unintended consequences of Project	PIRs, Project reports, interviews with project team and all stakeholders
A. Strategic Relevance: The extent to which the activity is suited to the priorities and policies of the target group, recipient and donor?			
Para 44	Alignment to the UNEP Medium Term Strategy (MTS), Programme of Work (POW) and Strategic Priorities. Alignment with the sponsoring parties' priorities? Bali Strategic Plan? South-South Cooperation? GEF? What was the scale and scope of the contributions to any of these?	Confirmation against past and updated priorities and strategies; Evidence of cooperation / networking / information sharing with region and other similar climatic regions – most notably related GEF-UNEP projects.	Desktop review (already confirmed for design phase). Project documentation and all relevant frameworks and reports; interviews with country stakeholders; interviews with relevant UNEP and/or GEF interfaces.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
Para 45	Alignment to Donor/GEF/Partner Strategic Priorities Alignment with the sponsoring parties' priorities? GEF?	Confirmation against past and updated priorities and strategies; Evidence of cooperation / networking / information sharing with region and other similar climatic regions – most notably related GEF-UNEP projects.	Desktop review (already confirmed for design phase). Project documentation and all relevant frameworks and reports; interviews with country stakeholders; interviews with relevant UNEP and/or GEF interfaces.
Para 46	Relevance to Global, Regional, Sub-regional and National Environmental Priorities. Assess alignment with (i) SDGs and Agenda 2030, (ii) stated environmental concerns and needs of the countries, sub-regions or regions where it is being implemented, (iii) Nationally Appropriate Mitigation Action (NAMA) plans or regional agreements; and (iv) current policy priority to leave no one behind.	Confirm alignment with (i) SDGs and Agenda 2030, (ii) stated environmental concerns and needs of the countries, sub-regions or regions where it is being implemented, (iii) Nationally Determined Contributions (NDCs) or regional agreements; and (iv) current policy priority to leave no one behind.	Desktop review (already partly confirmed). Project documentation and all relevant frameworks and reports; interviews with country stakeholders; interviews with relevant UNEP and Project team.
Para 47	Complementary with existing Interventions?	Confirm against past and recently introduced interventions for synergies and alignment. Include in the assessment linkages with any UN Development Assistance Frameworks or One UN programming and/or where the UN's comparative advantage had been particularly well applied	Desktop review (already confirmed for design phase). Interviews with country stakeholders and project team.
B. Quality of Project Design			
Para 40	How satisfactory was the project design against the holding of key assumptions in the PRF? Were any GEFSEC and PRC responses (if any) adequately addressed, or did concerns materialize?	Assessment / rating template completed. Any further insights gained during the evaluation with specific consideration of: - Stakeholder participation and cooperation; - Responsiveness to human rights and gender equity.	Inception Report has a matrix of Project Design Quality from desktop review Project documentation and all relevant frameworks and reports; interviews with project team

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
C. Nature of External Context			
Para 49	Where there any unforeseen developments that impacted the project success?	None anticipated or documented at design phase. Mention made of multiple changeovers in government and natural disasters (i.e. hurricanes) during implementation period – confirm and clarify extent of impact.	Interviews with project team, triangulation through stakeholder interviews and supporting information available in public domain, as relevant.
D. Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
Para 50	Availability of Outputs – How successful was the project in producing the programmed outputs and delivery targets / milestones. Were there any formal modifications / revisions made during the project implementation phase?	Evidence of programmed activities such as draft & adopted building codes, reports, publications, trainings, demonstration projects as per the revised indicators defined for the 12 re-worded outputs. Challenges identified with completing deliverables and measures taken to mitigate. Impact of challenges with recruiting and retaining a PM Occurrence of change in project design/ implementation approach (i.e. restructuring) when needed to improve project efficiency	Interviews with project team (primarily) and partners Review of related documentation and annual, quarterly and final project reports.
Para 51	Achievement of Project Outcomes – How successful was the project interventions and implementation in achieving the intended outcomes not within the control of the team. What evidence supports attribution of success to UNEP's interventions? Also prompt around cross-cutting themes in the discussion i.e. factors and processes affecting project performance: (i) quality of project management and supervision, (ii) stakeholder participation and cooperation,	Adoption of building policies, codes, standards or regulations; Qualitative. Evidence of knowledge base and tools used to inform policy and developmental planning and decision-making (or commitment to do so) Evidence of improved awareness levels (general, ministries, building	Interviews with project team and partners. Interviews with stakeholders regarding green buildings Review of all related documentation and annual and quarterly reports. Survey of building professionals to test reach and influence of the project. Potential survey of regional representatives to test reach outside of the 5 countries.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
	(iii) responsiveness to human rights and gender equity, (iv) communication and public awareness.	sector & professionals; Training feedback; Progress on demonstration projects and range of influence / leverage; Quantified and projected CO_2 emission reductions; Any evidence of growth in EE and RE industry seen i.e. available technologies, interested building professionals; EE and RE building stock	
Para 52 - 55	Likelihood of Impact - How likely are the positive, intended impacts to occur? To what extent did the project catalyse, scale up or replicate positive impacts, such that they would have a long-term effect?	Further improvements to codes, standards or regulations planned / goal for green energy buildings being considered; Additional capacity created to drive EE, RE and a reduction in GHG emissions from demonstration buildings; Have revisions to codes, building standards and regulations been adopted and/or embraced by building professionals? Have training and capacity building been done within relevant institutions? Evidence of financial mechanisms and framework e.g. green loans; Catalytic effect of Demonstration projects; Quantified and projected CO2 emission reductions Examples of new partnerships and/or evidence that particular partnerships/linkages will be sustained.	Interviews with project team and partners; Record of workshops / training events and attendance; Survey of building professionals. Review of all related documentation, PIRs, half-yearly reports, final project report and MTR reports.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
		Types/quality of partnership cooperation methods utilized. Test the causal pathways, assumptions and drivers suggested by the reconstructed TOC. Evidence of reach beyond the borders of the 5 SIDS in terms of awareness, established capacity and/or adoption of EE and RE.	
E. Financial Management: Completeness of information and communication between financial and project management staff			
Para 56	Adherence, Completeness & Communication – Are all records available? How much of the funds (from each source) were spent, and for which outputs? Compared to budget? How was co-funding released? Were the funds administered cost-effectively? How effectively did the Project & Task Managers & Fund Management Officer exchange information and adapt as needed to changes? Did any communication issues affect the quality of the project performance?	Availability and quality of financial and progress reports Timelines and adequacy of reporting provided Level of discrepancy between planned and utilized financial expenditures Planned vs. actual funds leveraged. Agility in responding to delays. Timing of advances and expenditure. Quality and regularity of reporting and communication Efficiency of communication and processing of funding reallocations for activities / outputs if needed.	Audits, Progress Reports, financial reports, Interviews with PM and financial team members / officers at UNEP
F. Efficiency: Extent to which the project delivered maximum results from the given resources			
Para 57-59	How cost effective was the project? Was it executed in a timely manner? How were delays managed to minimize impacts? Were events sequenced efficiently? Could the project extension have been avoided? What was its cost impact? Were any cost-saving measures introduced? Were any efforts made during project implementation to make use of/build upon pre-existing institutions, agreements and	Adequacy of project choices in view of existing context, infrastructure and cost? Cost associated with delivery mechanism and management structure compared to alternatives?	Progress Reports, financial reports, comparative project and carbon costs Interviews with PM and financial team members / officers at UNEP.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
	partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency. Was anything done to minimise the UNEPs environmental footprint? What was the impact of no-cost extensions on partners / implementing parties?	Efforts for coordinated actions with other regional or national relevant initiatives	
G. Monitoring and reporting			
Para 41	What was the performance at the project's completion against Core Indicator Targets? (For projects approved prior to GEF-7, these indicators will be identified retrospectively and comments on performance provided).	GHG reductions by % reduction of the demonstration building and the country	Monitoring reports Interviews with PMU and stakeholders
Para 61	(i) Monitoring design and budgeting – was the M&E plan clear, SMART, adequate. Was there a budget allocation made for M&V	Monitoring plan; Effective tracking tool progress; adequacy of budget allocation; budget spend; challenges with plan and/or budget.	Monitoring reports, Interviews with PM and financial team members / officers at UNEP
Para 62-63	(ii) Monitoring of project implementation - Was the monitoring system operating? Did it facilitate timely tracking? Were allocated funds expended for monitoring?	Submissions of reports timeous and complete with respect to requirements of respective monitoring plans. Expenditures & payments align with approved budgets.	ProDoc, All relevant reporting, GEF tracking tool, Interviews with Project team
Para 64	(iii) Project reporting - How regularly and completely were project reports and tracking tools completed and submitted?	Quality of results-based management reporting (progress reporting, monitoring and evaluation) Quality of project documentation and records Timelines and adequacy of reporting provided Dated reports; signed (or email) acknowledgements of receipt of reports. Completeness of reports, per agreed-upon requirements.	Reports, budgets, financial statements and correspondences. Interviews with PMU and relevant stakeholders.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
H. Sustainability: Probability of direct outcomes being maintained and developed after close of intervention			
Para 66	Socio-Political Sustainability – to what extent do social and political factors support the continuation and further development of the outcomes in terms of (a) level of ownership, interest and commitment to take the project forward, and (b) whether individual capacity development efforts are likely to be sustained.	Energy efficient building policies implemented and likely to be implemented (confirm extent of commitment). Evidence of developments (especially government) adopting clean energy practices into designs and construction Any additional institutional capacity for green buildings established? Quality / evidence of commitment (i.e. level and resource allocation) Quality / evidence of compelling EE and economic benefits or potential demonstrated Evidence of any innovative financial measures or incentives introduced.	Interviews with project team and project partners; Review of all related documentation, PIRs, and half-yearly and final project reports.
Para 58	Financial – Which, if any, outcomes require additional funding to be sustained? Were financial risks analyzed and adequately addressed in proposals and plans?	Identified outcomes requiring additional funding to be sustained	Interviews with project team and stakeholders; Budgets and reports
Para 59	(iii) Institutional – To what extent is sustainability dependent on institutional frameworks and governance	Adequacy of capacity to pursue, implement and enforce new policies across all areas of government and government building projects. Quality / evidence of commitment (i.e. level and resource allocation) to the above. Structures created or in place to support this implementation e.g. workgroup, forum? Evidence of developments (especially government) adopting EE and RE	Interviews with project team and country partners; Review of all related documentation, PIRs and half-yearly and final project reports.

Inception Report Ref	Main Evaluation Criteria / Questions	Evaluation indicators	Sources / means of verification
		building practices into designs and construction Any additional institutional capacity established to drive EE and RE in buildings?	
I. Factors Affecting Project Performance			
Para 41	Stakeholder Participation and Cooperation: What were the progress, challenges and outcomes regarding engagement of stakeholders in the project/program as evolved from the time of the MTR?	Progress reports after the MTR	Interviews with project team and country partners; Progress reports post MTR
Para 41	Responsiveness to Human Rights and Gender Equality: What were the completed gender-responsive measures and, if applicable, actual gender result areas? (This should be based on the documentation at CEO Endorsement/Approval, including gender-sensitive indicators contained in the project results framework or gender action plan or equivalent)	Gender disaggregated data on the participation of women and marginalized groups to the Project activities	PIRs, half-yearly reports, final project reports.
Para 41	Environmental and Social Safeguards: What was the progress made in the implementation of the management measures against the Safeguards Plan submitted at CEO Approval? The risk classifications reported in the latest PIR report should be verified and the findings of the effectiveness of any measures or lessons learned taken to address identified risks assessed. *(Any supporting documents gathered by the Consultant during this review should be shared with the Task Manager for uploading in the GEF Portal)*	No environmental and social safeguard reports available from Project	No means of verification

ANNEX VIII. PROJECT DESIGN QUALITY SCORE

CALCULATING THE OVERALL PROJECT DESIGN QUALITY SCORE					
	SECTION	**RATING** (1-6)	**WEIGHTING**	**TOTAL** (Rating x Weighting/10)	
A	Operating Context	2	**0.4**	**0.08**	
B	Project Preparation	3	**1.2**	**0.36**	
C	Strategic Relevance	5	**0.8**	**0.4**	
D	Intended Results and Causality	1	**1.6**	**0.16**	
E	Logical Framework and Monitoring	3	**0.8**	**0.24**	
F	Governance and Supervision Arrangements	5	**0.4**	**0.2**	
G	Partnerships	3	**0.8**	**0.24**	
H	Learning, Communication and Outreach	5	**0.4**	**0.2**	
I	Financial Planning / Budgeting	5	**0.4**	**0.2**	
J	Efficiency	4	**0.8**	**0.32**	
K	Risk identification and Social Safeguards	4	**0.8**	**0.32**	
L	Sustainability / Replication and Catalytic Effects	5	**1.2**	**0.6**	
M	Identified Project Design Weaknesses/Gaps	1	**0.4**	**0.04**	
			TOTAL SCORE (Sum Totals)	**3.36**	
			10		Moderately Unsatisfactory

ANNEX IX. GEF PORTAL INPUTS

The following table contains text to be uploaded to the GEF Portal. It will be drawn from the Evaluation Report, either as copied or summarised text. In each case, references should be provided for the paragraphs and pages of the report from which the responses have been copied or summarised.

Table 8: GEF portal inputs

Question: What was the performance at the project's completion against Core Indicator Targets? (For projects approved prior to GEF-7[48], these indicators will be identified retrospectively and comments on performance provided[49]).
Response: *There was a gross omission that this Evaluation report did not estimate GHG emission reductions realized from this Project. Despite efforts to obtain this information from the 5 participating countries, no information on energy savings or GHG emission reductions was obtained, in part due to key project personnel in the 5 participating countries not being available or documentation of the energy savings and GHG emission reductions not being available and formalized after the Project ended.* *Throughout the Project, information was missing on participants of the different events as well as details on the origins of the loan inquiries and the outreach of the knowledge products of the KAP survey. The Evaluation could not determine if monitoring of these activities was not performed or if the information was not available. This was again in part due to key project personnel not being available to report on what events were monitored and reporting on.*
Question: What were the progress, challenges and outcomes regarding engagement of stakeholders in the project/program as evolved from the time of the MTE? *(This should be based on the description included in the Stakeholder Engagement Plan or equivalent documentation submitted at CEO Endorsement/Approval)*
Response: *After the 2018 MTE with the new Project management structure, stakeholder engagement with the 5Cs improved considerably. With the NCs engaged, the NCs served as the gateway to relevant ministries, societies of engineers and architects, chambers of commerce, national bureau of standards, customs officials, educational institutions, regional energy organisations, public and private sector agencies, hoteliers, and the National Development Banks in Grenada, St. Lucia and Belize. This is a strong indicator of the high effectiveness of the stakeholder recruitment process for the Project after the MTE. Though the COVID-19 pandemic did limit the participation of stakeholders, the engagement of stakeholders in the post-Project scenario was encouraging.*
Question: What were the completed gender-responsive measures and, if applicable, actual gender result areas? *(This should be based on the documentation at CEO Endorsement/Approval, including gender-sensitive indicators contained in the project results framework or gender action plan or equivalent)*
Response: *No specific attention was given to gender issues relevant to Project implementation of EE and RE interventions. While the MTE recommended that these issues should be taken into account in future activities together with other issues of social equity, there was no time available to deal with these issues post-March 2019 due the PMU having to address issues related to the MTE, revising the implementation structure, and advancing implementation of the Project. It is common knowledge that a significant percentage of households in the Caribbean are headed by women, and more importantly, they are the primary users of EE appliances and technologies in the home. In addition, a large percentage of the population in Belize are categorised as indigenous who may have had specific concerns in how they embrace EE/RE. As such, the rating for this Project's responsiveness to human rights and gender equality based on current UNEP evaluation criteria would be highly unsatisfactory.*

[48] The GEF is currently operating under the seventh replenishment period of the GEF Trust Fund covering the period July 1, 2018 to June 30, 2022. The GEF Portal Reporting Guide for FY20 Reporting Process indicates that GEF-6 projects that have yet to map existing indicators to GEF-7 Core Indicators need to do so at MTR stage or (if already there) at the time of the TE. (i.e. not GEF projects approved before GEF-6)

[49] This is not applicable for Enabling Activities

Question: What was the progress made in the implementation of the management measures against the Safeguards Plan submitted at CEO Approval? The risk classifications reported in the latest PIR report should be verified and the findings of the effectiveness of any measures or lessons learned taken to address identified risks assessed. *(Any supporting documents gathered by the Consultant during this review should be shared with the Task Manager for uploading in the GEF Portal).*

Response: *The Project was approved prior to 2013 where environmental and social safeguards were not considered. This included a lack of consideration for:*

- *air conditioning being heavily influential towards indoor air quality (IAQ). The Project, however, did not monitor IAQ against energy efficiency interventions on air conditioning*
- *the impact of concessionary financing for RE and EE technology deployment which would have reduced the use of fossil fuels to households or companies, and reduced impact on each participating country's balance of payments. There was insufficient time to monitor this parameter;*
- *the uptake of EE and RE in public buildings to reduce GHG emissions and other air pollution, improving the health of the local population. This was not monitored.*

Question: What were the challenges and outcomes regarding the project's completed Knowledge Management Approach, including: Knowledge and Learning Deliverables (e.g. website/platform development); Knowledge Products/Events; Communication Strategy; Lessons Learned and Good Practice; Adaptive Management Actions? *(This should be based on the documentation approved at CEO Endorsement/Approval)*

Response: *There was the KAP survey on energy efficiency and renewable energy for A&B started in 2019 covering 264 residents and 61 businesses to raise awareness and knowledge on EE and RE with a toolkit developed and shared with the other participating countries to become part of the foundation in regional countries to inform public awareness campaigns. Though there was a measurable improvement in the public awareness of Antiguans and Barbudans about EE and RE, there was no transfer of this knowledge product to other participating countries to implement the EE and RE toolkit for raising public awareness.*

There was also no dedicated website for the Project. This significantly hampered public awareness initiatives by the Project.

Question: What are the main findings of the evaluation?

Response: *The Project did:*

- *improve its institutional capacity for management of the RE and EE sectors by implement energy audits and demonstration buildings in 5 countries but not the assessment and monitoring systems for EE and RE measures;*
- *build some technical capacity and awareness for EE and RE in participating countries;*
- *adopt appropriate financial and market-based mechanisms supporting energy efficiency in Belize, Grenada and St. Lucia;*
- *initiate implementation of demonstration buildings where EE/RE benefits were recognized. However, replication of demonstration buildings was not initiated under the Project;*
- *adopt some regulatory instruments but not net metering for solar PV installations;*
- *not calculate direct cumulative GHG emission reductions due to a lack of available information on the scale or breadth of the RE and EE measures undertaken. As a result, it seems highly unlikely that cumulative target reductions were achieved.*

Notwithstanding the direct implementation of the Project, significant investments are being made into RE and EE measures since 2018, coinciding with the rising price of oil, both publicly and privately, in all participating countries and regionally.

ANNEX X. BRIEF CV OF THE EVALUATORS

Name:	ROLAND WONG	
Position:	Chief Executive Officer of Clean Energy Alternatives Inc. International Energy and Environment Expert	
Nationality:	Canadian	
Education:	M.Eng., Civil Engineering (Water Resources and Environment), University of British Columbia, 1981 B.Eng., Civil Engineering, McGill University, Montreal, 1977	
Professional Affiliations:	Registered Professional Engineer in British Columbia	
Areas of Expertise:	Renewable energy development with a focus on waste to energy, hydropower and solar energy Energy efficiency in transport Evaluations of climate change mitigation projects	
Countries of work experience:	Canada, Bangladesh, India, Pakistan, the Maldives, Cambodia, China, Malaysia, Thailand, Viet Nam, the Philippines, Indonesia, Fiji, Solomon Islands, Tuvalu, Tonga, Samoa, Georgia, Belarus, Bosnia and Herzegovina, Serbia, Slovakia, Romania, Russian Federation, Montenegro, Turkey, Kyrgyz Republic, Kazakhstan, Tajikistan, Egypt, Ethiopia, South Africa, Costa Rica, Dominican Republic, Haiti, St. Vincent and the Grenadines, Dominica and Peru.	
Employment:	Clean Energy Alternatives Inc President, Vancouver, Canada Manager, Business Development, Vancouver, Canada *Klohn Crippen Consultants Limited*	2005 to date 2002-2005
	Environmental Management Specialist, Dhaka, Bangladesh and Halifax, Nova Scotia, Canada *KPMG Consulting*	1999-2002
	Manager, Watershed Division, Richmond, B.C., Canada *Klohn Crippen Consultants Limited*	1993-1999
	Water Resources Technical Advisor, Dhaka, Bangladesh *Northwest Hydraulics Consultants*	1988-1993
	Area Engineer/President, Williams Lake, B.C., Canada *Ducks Unlimited/Cariboo Engineering Limited*	1984-1988
	Hydropower Intermediate and Area Engineer, Vancouver, B.C. and Nipawin, Saskatchewan, Canada *Klohn Crippen Consultants Limited*	1981-1984
	Junior Hydraulics Engineer, Montreal, Quebec, Canada *Montreal Engineering Company Limited*	1978-1980

Roland has over 25 years' experience with a recent focus on the development and management of projects in sustainable transport, green city development, renewable energy and energy efficiency. These projects encompass his experience in environmental management, institutional capacity building, policy and economic analysis, planning, management, monitoring and evaluation for projects

in more than 35 countries. His demonstrated abilities and experience include adoption and market transformation of sustainable low carbon technologies; formulation and preparation of low carbon and climate change investment projects; partnership building as a means to achieving adoption of clean technologies and energy efficiency practice; development and mentoring of energy, environmental and water resource professionals; networking, coordinating and negotiating projects in low carbon and climate change in several countries.

Key assignments that he is undertaken in climate change mitigation includes:

- Serving as a Senior Director since 2008 for a private sector company based in Vancouver, Canada developing investments in biomass waste-to-energy and solar power development using patented technologies. This includes the use of a unique gasification / thermo-oxidizer unit to produce heat sufficient for 5.7 MW of power generation. This has involved preparation of "white papers" for the firm, studies on the comparative advantages of the WTE technology to competitors and dissemination of technical and financial information to prospective investors, financers, government policymakers and international donor institutions;
- Lead consultant in the formulation, preparation and evaluation (midterm and terminal) of several GEF projects since 2008 in low carbon/renewable energy development, energy efficiency, sustainable transport and green cities for several countries mainly in Asia, Eastern Europe and the Caribbean. Also involved with providing technical assistance in the management of these projects, sourcing of technical experts, strategic planning and strengthened monitoring and evaluation activities;
- Principal designer and international team leader for UNDP Bangladesh and UNDP-GEF (2002-2010) for a project to reduce GHGs from the brick making industry in Bangladesh. Completed concept formulation and PDF B (project preparation) phase that resulted in GEF commitment for full project funding in August 2006. GHG emission reductions based on market transformation and adoption to cleaner coal-fired kiln technology from China, increased awareness of the economic, environmental and social benefits on the use of a cleaner technology, increasing industry capacity to attract financial support for clean technologies, dissemination of a cleaner burning kiln throughout the industry. Facilitated discussions with stakeholders in the brick industry in Bangladesh, and provided a logical framework analysis in collaboration with a high calibre Bangladeshi team consisting of engineers, economists, financial and ex-government officers, and facilitated South-South cooperation on the project to access less energy intensive Chinese brick making technology. Provided assistance and negotiations to develop carbon finance that served as a means to reduce debt servicing costs for entrepreneurs;
- Served as environmental management specialist (1999-2002) for a CIDA-funded demonstration project in Bangladesh to introduce natural gas as an alternate fuel to mitigate urban air pollution for the Government of Bangladesh's Department of Environment. Activities were geared towards providing better stakeholder outreach in the planning and implementation of environmental management projects, to demonstrate credible efforts required to effect changes in environmental quality, to allow DoE an opportunity to review their policies and standards against project results, and to improve enforcement capacities. The project started with the conversion demonstration of the highly polluting two-stroke auto-rickshaws to CNG, a domestically available fuel. A monitoring program comparing CNG and gasoline-fueled auto-rickshaws revealed operational costs and emissions of CNG converted auto-rickshaws were reduced by over 75%. The project was widely viewed by all to be a major success since it catalyzed the alternate fuel debate and industry development and transformed the alternate fuels market in Bangladesh where over a 24-month period, the number of alternate fuel vehicles rose from 1,000 to over 20,000, and the sale of compressed natural gas (CNG) increased 10-fold.

Melesha Gunning-Banhan Bio

Melesha Gunning-Banhan is an Environmental Consultant who works with Governments, Non-Governmental Organizations, Regional and International Environmental agencies to promote sustainable management of the natural resources within the Caribbean Region. After spending more than fifteen years working with the Government of Antigua and Barbuda and as a regional project manager with a focus on biodiversity management, climate change and environmental policy development, Melesha knows what truly underscores behaviour change, biodiversity protection as well as the development of environmental policies and laws—and in the Caribbean Region, this takes a lot more than just education. It's how well you connect with and understand the culture of the Caribbean, its people and its environmental governance history.

Melesha has had great success in managing, implementing or participating in various environmental projects throughout the Caribbean, including projects spanning multiple countries. She is very familiar with the region and the intricacies of managing a multi-disciplinary team and the uniqueness of the Caribbean environments. Her experience involves previous work on the UN chemicals conventions, the UN convention on biodiversity as well as climate change and various capacity building initiatives. In Antigua and Barbuda, working with the Environment Division, she worked extensively with the DCA through the EIA process and has institutional and technical knowledge that is critical to sustainable development issues. In addition to her broad environmental management experience, Melesha is a trained clinical psychologist and Pastoral Counsellor.

Melesha holds a BS in International Relations from the University of The West Indies, a MSc in Environmental health and safety Management, a MDiv with a Counselling focus and a Doctorate in Psychology.

ANNEX XI. EVALUATION TORS (WITHOUT ANNEXES)

Terminal Evaluation of the UNEP/GEF project GEF ID 4171 "Energy for Sustainable Development in Caribbean Buildings"

Section 1: PROJECT BACKGROUND AND OVERVIEW

1. Project General Information

Table 1. Project summary

GEF Project ID:	4171		
Implementing Agency:	UNEP	**Executing Agency:**	Caribbean Community Climate Change Centre (5Cs)
Relevant SDG(s) and indicator(s):	**SDG 7:** Ensure access to affordable, reliable, sustainable and modern energy for all **Target 7.2**: By 2030, increase substantially the share of renewable energy in the global energy mix **Target 7.3**: By 2030, double the global rate of improvement in energy efficiency		
GEF Core Indicator Targets	N/A		
Sub-programme:	Sub-programme 1. Climate Change	**Expected Accomplishment(s):**	(b) Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies (i) The number of countries supported by UNEP that make progress in adopting and/or implementing low greenhouse gas emission development plans, strategies and/or policies (ii) Increase in climate finance invested by countries or institutions for clean energy, energy efficiency and/or amount of decarbonized assets
UNEP approval date:	November 23, 2012	**Programme of Work Output(s):**	Programme of work 2020-2021, sub-programme 1: climate change
GEF approval date:	August 27, 2012	**Project type:**	Full-Size Project
GEF Operational Programme #:	GEF IV	**Focal Area(s):**	Climate Change
		GEF Strategic Priority:	CC1 – Energy Efficiency: To promote energy-efficient technologies and practices in the appliance and building sectors
***Expected* start date:**	November 2012	**Actual start date:**	November 23, 2012
***Planned* completion date:**	October 2016	**Actual operational completion date:**	June 2020
***Planned* project budget at approval:**	USD 12,484,500	**Actual total expenditures reported as of 19/05/2021:**	USD 33,699,908
GEF grant allocation:	USD 4,859,000	**GEF grant expenditures reported as of**	USD 3,883,286

		[19/05/2021]:	
Project Preparation Grant - GEF financing:	USD 125,000	**Project Preparation Grant - co-financing:**	USD 175,000
***Expected* Full-Size Project co-financing:**	USD 7,625,500 (Cash: 6,116,500 + In-kind: 1,509,000)	**Secured Full-Size Project co-financing:**	USD 29,816,622
Date of first disbursement:	February 21, 2013	**Planned date of financial closure:**	April 30, 2017
No. of formal project revisions:	First PCA had 2 amendments Second PCA had 1 amendment The budget had 2 revisions (March 2019 and February 2020)	**Date of last approved project revision:**	February 2020
No. of Steering Committee meetings:	7	**Date of last/next Steering Committee meeting:**	Last: Presencial: May 13-16, 2019 Virtual: June 26, 2020 Next: N/A
Mid-term Evaluation *(planned date):*	January 2015	**Mid-term Evaluation (actual date):**	June 2017
Terminal Evaluation *(planned date):*	January 2017	**Terminal Evaluation (actual date):**	June 2021
Coverage - Countries:	Antigua & Barbuda, Belize, Grenada, Saint Lucia, Saint Vincent and the Grenadines	**Coverage - Region:**	Caribbean
Dates of previous project phases:	N/A	**Status of future project phases:**	N/A

2. Project Rationale

1. Every year, the Caribbean region spends a significant portion of scarce foreign exchange to import liquid petroleum fuels to provide energy services despite abundant potential for the development of renewable energy resources. Except for Trinidad and Tobago, all Caribbean countries import petroleum products for more than 90% of commercial energy consumption. All transportation fuels and an estimated 85% of all electric power in the Caribbean region are generated with liquid petroleum gas (LPG) fuel. Overall, across the region, approximately 85% of the population has access to electricity.

2. Renewable energy is estimated to contribute only about 3 % of the regional energy supply mix. For Caribbean Community (CariCom) member countries, the potential for development of renewable energy resources (such as biomass, solar, wind, ocean, hydro, geothermal, etc.) is large but unevenly distributed and the development of these resources may be stymied by the small size of the markets at the national level. Renewable energy sources constitute the major natural resource endowment for the majority of CariCom member countries. Another defining characteristic of the regional energy situation is the highly inefficient use of energy resources. It is estimated that the region wastes more than half the available energy generated by imported fuels, which results in very high energy consumption per unit of gross domestic product (GDP).

3. The Caribbean region has the highest number of privately owned electricity utilities among all small island developing states (SIDS). Privatization of regional electric utilities is motivated by budgetary pressure and a desire to attract private capital, and is promoted as a means to reduce government funding of the sector, to improve reliability and service and reduce inefficiencies the cost of electricity for consumers. Privately held power utilities exist in Barbados, St. Lucia, Dominica, Jamaica, and Grenada whereas public-owned power utilities exist in Antigua & Barbuda, Bahamas, Trinidad & Tobago, St. Kitts & Nevis, St. Vincent & the Grenadines, and Guyana. The institutional environment in the majority of countries across the

region is characterized by a limited capacity for efficient and effective management of the energy sector only a few countries in the region give the operation and further development of their energy sector the required priority and attention.

4. Increasing demand for reliable and cost effective electricity supply is a major challenge for the future economic development of the region. So too is the rising cost of fuel imports. Electricity generation prices in the region are among the highest in the world. This is primarily due to the very high cost of transportation in combination with the relatively small quantities of fuel that are required for power generation and delivered to the various countries, the relatively high share of fuel use in the power generation matrix, and the low efficiency of the relatively small power transmission and distribution networks.

5. It is recognized that globally, buildings account for over a third of total energy use and associated greenhouse gas (GHG) emissions; typically 10 to 20% (depending on building type) of the total life cycle energy consumed is used for the manufacturing and assembly of building materials, construction, maintenance, refurbishment and demolition. Some 80-90% is used, over the life of the building, for heating, cooling, lighting and ventilation, house appliances, etc. In Grenada for example, the building sector (commercial, domestic, and institutional) is the largest consumer of electricity and accounts for more than 90 % of total electricity consumption. It is therefore, the largest source of GHG emission after of the transportation sector. The banking sector in the region has no incentives to provide financing at lower interest rates than their regular loans to support energy efficiency and energy conservation. Given interest rates in the majority of the project countries are as high as 15% this acts as a disincentive to investment in sustainable energy.

6. Over the last two decades, changing climatic conditions have had a negative impact on the economic development of the island states and the low lying coastal states that comprise the CariCom. This has resulted in more frequent and damaging hydro-meteorological events as the changing weather conditions have had devastating effects on the infrastructure and on food production, in particular. In the Caribbean, where SIDS import an estimated 90 % of their food supplies, the impacts of climate change are effectively increasing this dependency as global food prices continue to increase. With a similar level of dependence on imports of petroleum products that are required for economic development and meeting the energy needs of the population at also increasing prices, the impacts of climate change are bringing the economic vulnerability of these SIDS to new high levels.

7. The Project represented the first regional project that was piloting energy efficiency improvements in the economy in member states of CariCom while at the same time aiming to increase the use of renewable energy. Since buildings are major consumers of electricity across the region the Project focused on the buildings sector for improving the efficiency of energy use.

8. The Project was implemented in five Caribbean countries (Antigua and Barbuda, Belize, Grenada, Saint Lucia and Saint Vincent and the Grenadines). Initially, the Project was supposed to be implemented in Trinidad and Tobago instead of Saint Vincent and the Grenadines but Trinidad and Tobago opted out of the project indicating that they were pursuing similar objectives through other initiatives. Saint Vincent and the Grenadines replaced Trinidad and Tobago.

9. The Project has an integrated approach comprising:

- (i) technical demonstration of energy efficient equipment, appliances, and best practices with regard to the design of more energy efficient buildings and retrofitting of buildings to make them more energy efficient;
- (ii) development and use of innovative financing mechanisms to address the higher upfront cost associated with the use of energy efficient products and equipment and the development of renewable energy sources;
- (iii) development of sustainable energy policies to support market transformation towards the use of more energy efficient products and equipment and the increased use of renewable energy;
- (iv) capacity building and institutional strengthening to implement sustainable energy policies and measures;
- (v) public education to raise awareness among the general population of the benefits of sustainable development of the energy in comparison with a business-as- usual continuation of current practices of supplying and using energy.

3. Project Results Framework

10. The overarching goal of the Project was to develop and implement measures for promoting sustainable energy development within the buildings sector in five Caribbean countries. The Project Document formulated the project objective in slightly different ways: (i) "The project objective is to reduce fossil fuel based electricity use in buildings by 20% and plan for 50% reduction in the longer term." (ii) "The overall objective of the Project is to bring about a 20 % reduction in GHG emissions from the building sector." (iii) "To reduce the GHG emissions intensity in buildings by 20%".

11. The Project comprised six components[1]. Table 2 presents the outcomes and outputs of each component.

Table 2. Results Framework

Components	Outcomes	Outputs
Component 1: Establishment of an assessment and monitoring system for energy efficiency and renewable energy in buildings	Institutional capacity for management of sector, monitoring and assessment	**Output 1.1:** Building audit reports, statistics on potential savings in domestic, commercial and public sectors
		Output 1.2: Identification of measures at the design, construction and maintenance stages of the building life cycle for improved energy efficiency and renewables
		Output 1.3: Identify equipment and lighting potentials to reduce fossil fuel use
		Output 1.4: Specific energy saving measures and policy options for various classes of buildings are identified and developed
Component 2: Strengthening of national capacity for energy efficiency and renewable energy to support long-term development of the five SIDS	Technical capacity and awareness for Energy Efficiency: *Grenada*: training in Photovoltaic (PV) set up and connection *St. Lucia*: Lighting standards *Belize*: ESCOs and financing instruments	**Output 2.1:** Development of training workshops, seminars on energy efficiency for building designers, contractor's architects, renewable energy installers and maintenance personnel
Component 3: Development and use of appropriate financial and market-based mechanisms that support sustainable energy use in buildings	Appropriate financial and market-based mechanisms that support energy efficiency.	**Output 3.1:** Reduced operating costs and risk hedging against fuel price spikes are integrated into lending
		Output 3.2: Fiscal incentives program to increase market uptake and penetration of sustainable energy measures
Component 4: Development and implementation of a demonstration program for sustainable energy use in buildings	Demonstration programme for sustainable energy	**Output 4.1:** Demonstrations of measures and benefits of energy efficiency in buildings at the national level. Voluntary projects
		Output 4.2: Challenge competition for private sector builders for construction and retrofitting of buildings to make a very low purchased energy target of some few kWh/m2 – Private sector competition for ESCOs
Component 5: Development and adoption of a regulatory framework energy efficient buildings (building codes) and minimum energy performance standards (MEPS) for appliances and equipment	Regulatory instruments	**Output 5.1:** Development of guidelines and standards for energy efficient construction practices including renewable energy and products based on an investigation of global and regional standards
Component 6: Increasing regional awareness and improving knowledge management, and sharing with regard to the	Regional dissemination	**Output 6.1:** Task reports produced on subtopics: *Grenada:* PV interconnection and monitoring buildings

[1] The project also has a Project Management Component (referred as Component 7 in the Project Document).

benefits of energy efficiency and renewable energy and the development of a replication strategy		*Antigua & Barbuda:* awareness and education program materials, schools, general public, *St. Lucia:* Lighting *Belize:* ESCO training and program Trinidad & Tobago: Energy Efficiency Regulations

4. Executing Arrangements

12. UNEP was the GEF Implementing Agency, through the Climate Change Mitigation Unit, Energy & Climate Branch, Economy Division. The Unit was tasked with overseeing the successful achievement of the project objectives. The project was carried out over a period of approximately 7 years (2013-2020) during which time UNEP/Economy Division provided the project with management and technical advice and guidance.

13. The Executing Agency (EA) was the Caribbean Community Climate Change Centre (CCCCC or 5Cs). 5Cs was responsible for overall implementation, including the central coordination of project activities, contracting project staff and selecting members of the national steering committees.

14. UNDESA through its Regular Program for Technical Cooperation as well as the SIDS Unit of its Division for Sustainable Development was supposed act as an Executing Partner Agency and provide technical assistance to 5Cs. Nevertheless, it was suddenly terminated in June 2014.

15. National Executing Partners are ministries in the target countries:

- Ministry of Health and the Environment, Government of Antigua & Barbuda
- Ministry of Energy, Science and Technology and Public Utilities (MESTPU), Government of Belize
- Ministry of Finance, Office of the Prime Minister, Energy Division, Government of Grenada
- Ministry of Sustainable Development, Energy, Science and Technology, Government of Saint Lucia
- Ministry of National Security, Air & Sea Port Development, Office of the Prime Minister, Energy Unit, Government of Saint Vincent and the Grenadines

16. Whereas demonstration sites were selected and piloted in all the 5 countries participating in the project, every country had a leading role in one specific topic. The leading country was then delivering support needed by all countries to implement related activities. The leading roles were assigned as follows:

- Antigua & Barbuda: public awareness and mass communication strategy;
- Belize: Energy Service Company (ESCO) model for financing energy efficiency and renewable energy projects;
- Grenada: monitoring and reporting mechanism for tracking technology uptake, technology effectiveness, human health impacts and social perceptions of the project;
- Saint Lucia: Energy efficiency lighting;
- Saint Vincent and the Grenadines: as mentioned above, Saint Vincent and the Grenadines replaced Trinidad and Tobago in the project, but the responsibility for developing building codes and appliance standards, which was originally assigned to Trinidad and Tobago, remained disaggregated among all five countries without a single country recognized as 'lead'.

17. Project Management at the regional level was provided by the CARICOM Climate Change Centre (5Cs) via a Project Technical Coordinator, assisted by the Regional Coordinating Committee (RCC), that included representatives from all executing partner agencies, financiers, other stakeholders, and UN Environment Energy Branch and National Coordinators. The RCC was to meet annually to review and discuss the overall status and progress of the project. The first meeting of that group took place on April, 2014 in Saint Lucia.

18. In addition to the RCC, the 5Cs was to put in place a regional oversight team comprising the 5Cs Executive Director and Finance Manager, and representatives from UNDESA, UNEP, and the GEF national focal points, and the national Project Management Units (PMUs) under the Project. The Oversight Group was to meet quarterly over the first year

19. In addition to the above, the 5Cs also established in-house a Programme Development and Management Unit (PDMU) to provide regional oversight. The PDMU team is comprised of the 5Cs Executive

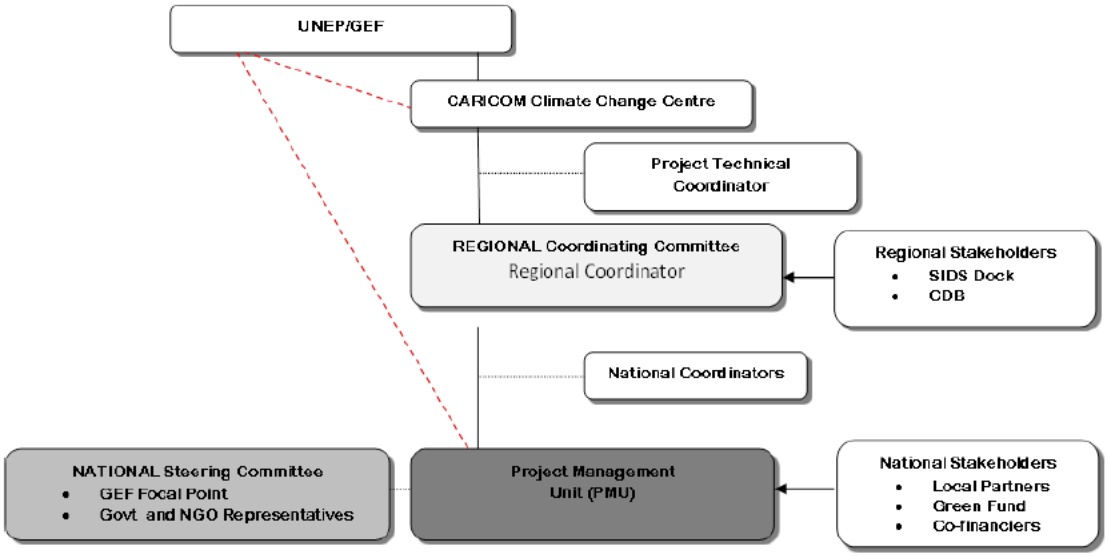
Director (5Cs), Project Technical Coordinator, Project Coordinator, Finance Manager, and the RE/EE expert based at the 5Cs.

20. National Steering Committees (NSC), housed in the ministries listed above of the 5 countries, were responsible for overseeing local project implementation. The NSC had direct oversight over the national Project Management Unit (PMU), the executing organ of the project. The NSC were to approve all reports prepared by the PMU prior to submission to the UNEP-GEF. The NSC comprised the GEF Focal Points as well as technical advisors/representatives from the ministries responsible for energy; housing, environment; utilities; and public works, as well as relevant bureaus of standards; green building councils; and business associations as appropriate.

21. The national Project Management Units (PMU) were managed by a National Coordinator who was directly responsible to the chairperson of the National Steering Committee and 5Cs.

22. Figure 1 below presents the organizational chart of the Project at design.

Figure 1. Organizational chart at design



5. Project Cost and Financing

23. The overall funding of the proposed project was estimated at USD 12,484,500 of which USS 4,859,000 were requested from the GEF. The remainder of the project budget was co-financing (cash and in-kind) mostly coming from the Executing Agency (5Cs), the National Executing Partners and the National Development Banks.

24. Table 3 presents the total project cost at design and the sources of co-financing.

Table 3. Total cost of the project

Agencies	USD	%
Cost to the GEF Trust Fund	**4,859,000**	38.9
Co-financing		
Cash		
Executing Agency: 5Cs	550,000	4.4
National Executing Partners	2,266,500	18.2
National Development Banks	2,800,000	22.4
Bilateral (Government of Japan for Belize)	500,000	4.0
Sub-total	6,116,500	
In-kind		
National Executing Partners	1,174,000	9.4
Executing Partner: UNDESA	150,000	1.2
National Executing Partner/NGO: WINDREF	185,000	1.5
Sub-total	1,509,000	
Total Co-financing	**7,625,500**	
Total Project Cost	**12,484,500**	100.0

25. Table 4 presents the total project GEF budget per component with the most recent available data (Project Budget revised in February 2020).

Table 4. Project GEF budget per component

	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Comp 7	Total
Total	641,479	832,830	699,455	1,643,103	263,302	388,109	390,722	4,859,000

26. Table 5 presents the project GEF budget per component and per country with the most recent available data (Project Budget revised in February 2020).

Table 5. Project GEF budget per component and per country[2]

	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5	Comp 6	Comp 7	Total
Antigua & Barbuda	104,096	277,811	139,429	365,827	30,000	-	57,577	974,740
Belize*	108,587	225,019	41,401	505,582	33,429	1,960	58,762	974,740
Grenada**	300,740	56,500	403,450	144,750	69,300	-	-	974,740
St Lucia***	49,696	59,000	110,000	109,738	15,000	-	15,106	358,540
St Vincent & Grenadines	37,610	48,665	-	517,207	62,873	4,814	36,262	707,431
Total	600,729	669,995	694,280	1,643,104	210,602	6,774	167,707	3,990,191

* Including sub-contract with the Belize Development Finance Corporation.

** Including sub-contract with Grenada Development Bank.

*** Including sub-contract with Saint Lucia Development Bank.

27. The actual expenditures from the GEF grant to date are USD 3,883,286.

28. The total realized co-finance to date are USD 29,816,622. USD 25,100,000 (i.e. 84%) are public investment dedicated to Component 4 of the project ("Development and implementation of a demonstration program for sustainable energy use in buildings") from the Government of Saint Lucia (USD 20,000,000), the Government of Antigua and Barbuda (USD 4,500,000) and the Government of Grenada (USD 600,000).

6. Implementation Issues

29. The ESD in Caribbean Buildings Project became effective in March 2013, and an estimated completion date was set for 30 April 2017. However, due to several logistical issues including changes in government in some of the participating countries and the resulting difficulties in appointing National Coordinators (NC) and convening National Steering Committee (NSC) a new start date of April 2014 was acknowledged. The initial project duration was 48 months, eventually, a couple of project extensions were required, leading to an actual project duration of 92 months.

30. The project started with a Project Cooperation Agreement (PCA) between UNEP and Caribbean Community Climate Change Centre (5Cs). This first PCA initially covered the period November 2012 – April 2017. This PCA had two amendments to extend the project duration (first Amendment in April 2017 to extend it until April 2018; second Amendment in April 2018 to extend it until October 2018). A second PC was signed between UNEP and 5Cs in March 2019 to cover the period March 2019 – January 2021. This second PCA had one amendment in February 2020 to extend it until June 2021.

31. Several events affected the project's scope and parameters starting from its beginning. Notable events are as follows:

- **March 2013:** Official project launch but encountered delays in becoming effective. Among the many issues contributing to this delay were challenges in convening NSC meetings, protracted

[2] The rest of the budget was mainly allocated to the Executing Agency (5Cs), the Project Technical Coordinator, the Project Coordinator and for administrative support.

discussions with Antigua and Barbuda in terms of the channels for distribution of project funds and issues relating to the appointment of the Project Coordinator.

- **March 2014:** Trinidad and Tobago formally withdraw from the project. Saint Vincent and the Grenadines replaced Trinidad and Tobago and was assigned responsibility for developing building codes and appliance standards.
- **June 2014:** Technical support which was supposed to have been provided by UN DESA was abruptly terminated, leaving a void in a key aspect of the support which was to be provided by them.
- **April 2014:** Project re-launched. The effective project time reduced by one (1) year due to delays.
- **June 2014:** Cash contributions to 5Cs previously promised by UNIDO no longer available due to several reasons including delays in the start of the project.
- **June 2014 – July 2015:** Loss of National Coordinators (NCs) in Antigua and Barbuda slows project delivery. Delays in disbursal of project funds.
- **June 2015 – July 2016:** Delays in the procurement of equipment.
- **April 2016:** New NC established in Antigua and Barbuda and project documents finalized.
- **June 2016 – July 2017:** No-cost extension granted to the project by one year. Project end date moved from April 2017 to April 2018.
- **July – December 2017:** Two major events greatly impacted the project causing a complete halt of activities, except in Belize.
    - Hurricanes Irma and Maria in September 2017, destroyed (Irma) the island of Barbuda, making it inhabitable – the entire population was evacuated to the main island of Antigua. The Hurricanes also caused major damage and flooding in Grenada, St. Lucia and St. Vincent and the Grenadines. As can be imagined, resources in these countries were diverted to building back after the hurricanes.
    - In mid-June 2017, a Mid-Term Evaluation (MTE) commenced, undertaken by a Consultant engaged by the UN Evaluation Office. What should have been a 4-month evaluation process from May-August 2017, went up to December 2017. The MTE highlighted major weaknesses in the project, ranging from inadequate procurement procedures, reporting failures, coordination failures, minimal co-financing, low disbursement rate – the Project received an unsatisfactory rating (see more details below).

32. The MTE was carried out from April to December 2017 and concluded to an "Unsatisfactory" Overall Project Rating. The MTE highlighted the following issues: inadequacy of the planned budget, the lack of permanent presence of the project staff inside the Executing Agency, delays in disbursement to the countries, procurement processes of monitoring equipment; which caused several delays and affected the implementation of the project

33. In its recommendations, the MTE suggested two scenarios: a) close the project or b) continue, but with substantial changes to the management structure. The release of the Final Draft of the Mid-Term Evaluation in January 2018, led to the convening of a meeting among UNEP, 5Cs, and the Pilot Countries, on 8 February 2018, in Belize where the following decisions were taken:

- The project would be housed under the CCCCC Programme Development Management Unit (PDMU), under the leadership of the Assistant Executive Director (AED) and Head of the PDMU;
- That the Project Technical Coordinator (PTC) and Project Coordinator (PC) would continue in their roles with the PTC providing technical advice to the AED.
- That countries would be allowed to manage their own procurement processes providing documentation for auditing purposes.
- That UNEP would undertake a review of outstanding activities to determine extension of the current agreement which expired in April 2018.

34. In follow up to the February 2018 meeting, the Executive Director of the 5Cs convened an internal meeting on 7 May 2018, to announce the new management structure and establish the transition to the Head of the PDMU.

35. In the end, progress towards the project objective was reported in the PRI FY2020 as moderately satisfactory. Although COVID 19 imposed some barriers to execution and actual retrofitting works on the

ground, the relatively low infection rates and tightly imposed restrictions has enabled some restoration of normalcy that would allow works to continue.

Section 2. OBJECTIVE AND SCOPE OF THE EVALUATION

7. Objective of the Evaluation

36. In line with the UNEP Evaluation Policy[3] and the UNEP Programme Manual[4], the Terminal Evaluation is undertaken at completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP, the GEF, the 5Cs, the Ministry of Health and the Environment of Antigua & Barbuda, the Ministry of Energy, Science and Technology and Public Utilities of Belize, Ministry of Finance, Office of the Prime Minister, Energy Division of Grenada, the Ministry of Sustainable Development, Energy, Science and Technology of Saint Lucia and the Ministry of National Security, Air & Sea Port Development, Office of the Prime Minister, Energy Unit of Saint Vincent and the Grenadines. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation, especially where a second phase of the project is being considered.

8. Key Evaluation Principles

37. Evaluation findings and judgements will be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) as far as possible, and when verification is not possible, the single source will be mentioned (whilst anonymity is still protected). Analysis leading to evaluative judgements should always be clearly spelled out.

38. **The "Why?" Question.** As this is a terminal evaluation and a follow-up project is likely [or similar interventions are envisaged for the future], particular attention will be given to learning from the experience. Therefore, the "*Why?*" question should be at the front of the consultants' minds all through the evaluation exercise and is supported by the use of a theory of change approach. This means that the consultants need to go beyond the assessment of "*what*" the project performance was and make a serious effort to provide a deeper understanding of "*why*" the performance was as it was. This should provide the basis for the lessons that can be drawn from the project.

39. **Attribution, Contribution and Credible Association:** In order to *attribute* any outcomes and impacts to a project intervention, one needs to consider the difference between what has happened with, and what would have happened without, the project (i.e. take account of changes over time and between contexts in order to isolate the effects of an intervention). This requires appropriate baseline data and the identification of a relevant counterfactual, both of which are frequently not available for evaluations. Establishing the *contribution* made by a project in a complex change process relies heavily on prior intentionality (e.g. approved project design documentation, logical framework) and the articulation of causality (e.g. narrative and/or illustration of the Theory of Change). Robust evidence that a project was delivered as designed and that the expected causal pathways developed supports claims of contribution and this is strengthened where an alternative theory of change can be excluded. A *credible association* between the implementation of a project and observed positive effects can be made where a strong causal narrative, although not explicitly articulated, can be inferred by the chronological sequence of events, active involvement of key actors and engagement in critical processes.

40. **Communicating evaluation results.** A key aim of the evaluation is to encourage reflection and learning by UNEP staff and key project stakeholders. The consultants should consider how reflection and learning can be promoted, both through the evaluation process and in the communication of evaluation findings and key lessons. Clear and concise writing is required on all evaluation deliverables. Draft and final versions of the main evaluation report will be shared with key stakeholders by the Evaluation Manager. There may, however, be several intended audiences, each with different interests and needs regarding the report. The consultants will plan with the Evaluation Manager which audiences to target and the easiest and clearest way to communicate the key evaluation findings and lessons to them. This may include some, or

[3] *https://www.unenvironment.org/about-un-environment/evaluation-office/policies-and-strategies*
[4] *https://wecollaborate.unep.org*

all, of the following; a webinar, conference calls with relevant stakeholders, the preparation of an evaluation brief or interactive presentation.

9. Key Strategic Questions

41. In addition to the evaluation criteria outlined in Section 10 below, the evaluation will address the **strategic questions** listed below. These are questions of interest to UNEP and to which the project is believed to be able to make a substantive contribution. Also included are five questions that are required when reporting in the GEF Portal and these must be addressed in the TE

Q1: Virtual offices do have their place in the modern communications environment, and especially nowadays with the Covid-19. What lessons can be learned from this project in terms of project management in this regard?

Q2: The initial project duration was 48 months. The operational closure of the project finally occurred after 92 months. Technologies in renewable energies and energy efficiency are in constant evolution. Did the delays in the project implementation had an impact in the relevance and the potential obsolescence of the technologies used in the demonstration sites of the project?

Q3: How were the recommendations of the MTE taken into account and what effects did it have on the project performance and progress?

Q4: Based on the analysis of the Theory of Change at evaluation, what factors still present the highest risks to success in the transition to a more energy sustainable building sector in the Caribbean post-project?

Q5: Has the evaluation identified any unintended results (positive or negative) deriving from the project's implementation, and if so, what was it and how might it affect the intended project Impact?

Address the questions required for the GEF Portal in the appropriate parts of the report and provide a **summary of the findings in the Conclusions section of the report**:

(a) Under Monitoring and Reporting/Monitoring of Project Implementation:

What was the performance at the project's completion against Core Indicator Targets? (For projects approved prior to GEF-7, these indicators will be identified retrospectively and comments on performance provided[5]).

(b) Under Factors Affecting Performance/Stakeholder Participation and Cooperation:

What were the progress, challenges and outcomes regarding engagement of stakeholders in the project/program as evolved from the time of the MTR? *(This should be based on the description included in the Stakeholder Engagement Plan or equivalent documentation submitted at CEO Endorsement/Approval)*

(c) Under Factors Affecting Performance/Responsiveness to Human Rights and Gender Equality:

What were the completed gender-responsive measures and, if applicable, actual gender result areas? *(This should be based on the documentation at CEO Endorsement/Approval, including gender-sensitive indicators contained in the project results framework or gender action plan or equivalent)*

(d) Under Factors Affecting Performance/Environmental and Social Safeguards:

What was the progress made in the implementation of the management measures against the Safeguards Plan submitted at CEO Approval? The risk classifications reported in the latest PIR report should be verified and the findings of the effectiveness of any measures or lessons learned taken to address identified risks assessed. *(Any supporting documents gathered by the Consultants during this review should be shared with the Task Manager for uploading in the GEF Portal)*

(e) Under Factors Affecting Performance/Communication and Public Awareness:

What were the challenges and outcomes regarding the project's completed Knowledge Management Approach, including: Knowledge and Learning Deliverables (e.g. website/platform development); Knowledge Products/Events; Communication Strategy; Lessons Learned and Good Practice; Adaptive Management Actions? *(This should be based on the documentation approved at CEO Endorsement/Approval)*

10. Evaluation Criteria

42. All evaluation criteria will be rated on a six-point scale. Sections A-I below, outline the scope of the criteria and a link to a table for recording the ratings is provided in Annex 1). A weightings table will be provided in excel format (link provided in Annex 1) to support the determination of an overall project rating.

[5] This is not applicable for Enabling Activities

The set of evaluation criteria are grouped in nine categories: (A) Strategic Relevance; (B) Quality of Project Design; (C) Nature of External Context; (D) Effectiveness, which comprises assessments of the availability of outputs, achievement of outcomes and likelihood of impact; (E) Financial Management; (F) Efficiency; (G) Monitoring and Reporting; (H) Sustainability; and (I) Factors Affecting Project Performance. The evaluation consultants can propose other evaluation criteria as deemed appropriate.

A. Strategic Relevance

43. The evaluation will assess the extent to which the activity is suited to the priorities and policies of the donors, implementing regions/countries and the target beneficiaries. The evaluation will include an assessment of the project's relevance in relation to UNEP's mandate and its alignment with UNEP's policies and strategies at the time of project approval. Under strategic relevance an assessment of the complementarity of the project with other interventions addressing the needs of the same target groups will be made. This criterion comprises four elements:

i. Alignment to the UNEP Medium Term Strategy[6] (MTS), Programme of Work (POW) and Strategic Priorities

44. The evaluation should assess the project's alignment with the MTS and POW under which the project was approved and include, in its narrative, reflections on the scale and scope of any contributions made to the planned results reflected in the relevant MTS and POW. UNEP strategic priorities include the Bali Strategic Plan for Technology Support and Capacity Building[7] (BSP) and South-South Cooperation (S-SC). The BSP relates to the capacity of governments to: comply with international agreements and obligations at the national level; promote, facilitate and finance environmentally sound technologies and to strengthen frameworks for developing coherent international environmental policies. S-SC is regarded as the exchange of resources, technology and knowledge between developing countries.

ii. Alignment to Donor/GEF/Partner Strategic Priorities

45. Donor, including GEF, strategic priorities will vary across interventions. GEF priorities are specified in published programming priorities and focal area strategies. The Evaluation will assess the extent to which the project is suited to, or responding to, donor priorities. In some cases, alignment with donor priorities may be a fundamental part of project design and grant approval processes while in others, for example, instances of 'softly-earmarked' funding, such alignment may be more of an assumption that should be assessed.

iii. Relevance to Global, Regional, Sub-regional and National Environmental Priorities

46. The evaluation will assess the alignment of the project with global priorities such as the SDGs and Agenda 2030. The extent to which the intervention is suited, or responding to, the stated environmental concerns and needs of the countries, sub-regions or regions where it is being implemented will be considered. Examples may include: national or sub-national development plans, poverty reduction strategies or Nationally Appropriate Mitigation Action (NAMA) plans or regional agreements etc. Within this section consideration will be given to whether the needs of all beneficiary groups are being met and reflects the current policy priority to leave no one behind.

iv. Complementarity with Existing Interventions/Coherence[8]

47. An assessment will be made of how well the project, either at design stage or during the project inception or mobilization[9], took account of ongoing and planned initiatives (under the same sub-programme, other UNEP sub-programmes, or being implemented by other agencies within the same country, sector or institution) that address similar needs of the same target groups. The evaluation will consider if the project team, in collaboration with Regional Offices and Sub-Programme Coordinators, made efforts to ensure their own intervention was complementary to other interventions, optimized any synergies and avoided duplication of effort. Examples may include UN Development Assistance Frameworks or One UN programming. Linkages with other interventions should be described and instances where UNEP's comparative advantage has been particularly well applied should be highlighted.

---

[6] *UNEP's Medium Term Strategy (MTS) is a document that guides UNEP's programme planning over a four-year period. It identifies UNEP's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes, known as Expected Accomplishments (EAs), of the Sub-programmes. https://www.unenvironment.org/about-un-environment/evaluation-office/our-evaluation-approach/un-environment-documents*

[7] *http://www.unep.fr/ozonaction/about/bsp.htm*

[8] *This sub-category is consistent with the new criterion of 'Coherence' introduced by the OECD-DAC in 2019.*

[9] *A project's inception or mobilization period is understood as the time between project approval and first disbursement. Complementarity during project implementation is considered under Efficiency, see below.*

Factors affecting this criterion may include:

- Stakeholders' participation and cooperation
- Responsiveness to human rights and gender equity
- Country ownership and driven-ness

B. Quality of Project Design

48. The quality of project design is assessed using an agreed template during the evaluation inception phase, ratings are attributed to identified criteria and an overall Project Design Quality rating is established (www.unenvironemnt.org/about-un-environment/our-evaluation-approach/templates-and-tools). This overall Project Design Quality rating is entered in the final evaluation ratings table as item B. In the Main Evaluation Report a summary of the project's strengths and weaknesses at design stage is included, while the complete Project Design Quality template is annexed in the Inception Report.

Factors affecting this criterion may include (at the design stage):

- Stakeholders participation and cooperation
- Responsiveness to human rights and gender equity

C. Nature of External Context

49. At evaluation inception stage a rating is established for the project's external operating context (considering the prevalence of conflict, natural disasters and political upheaval[10]). This rating is entered in the final evaluation ratings table as item C. Where a project has been rated as facing either an Unfavourable or Highly Unfavourable external operating context, and/or a negative external event has occurred during project implementation, the ratings for Effectiveness, Efficiency and/or Sustainability may be increased at the discretion of the evaluation consultants and Evaluation Manager together. A justification for such an increase must be given.

D. Effectiveness

i. Availability of Outputs[11]

50. The evaluation will assess the project's success in producing the programmed outputs and achieving milestones as per the project design document (ProDoc). Any *formal* modifications/revisions made during project implementation will be considered part of the project design. Where the project outputs are inappropriately or inaccurately stated in the ProDoc, reformulations may be necessary in the reconstruction of the TOC. In such cases a table should be provided showing the original and the reformulation of the outputs for transparency. The availability of outputs will be assessed in terms of both quantity and quality, and the assessment will consider their ownership by, and usefulness to, intended beneficiaries and the timeliness of their provision. It is noted that emphasis is placed on the performance of those outputs that are most important to achieve outcomes. The evaluation will briefly explain the reasons behind the success or shortcomings of the project in delivering its programmed outputs and meeting expected quality standards.

Factors affecting this criterion may include:

- Preparation and readiness
- Quality of project management and supervision[12]

ii. Achievement of Project Outcomes[13]

51. The achievement of project outcomes is assessed as performance against the project outcomes as defined in the reconstructed[14] Theory of Change. These are outcomes that are intended to be achieved by

---

[10] *Note that 'political upheaval' does not include regular national election cycles, but unanticipated unrest or prolonged disruption. The potential delays or changes in political support that are often associated with the regular national election cycle should be part of the project's design and addressed through adaptive management by the project team. From March 2020 this should include the effects of COVID-19.*

[11] *Outputs are the availability (for intended beneficiaries/users) of new products and services and/or gains in knowledge, abilities and awareness of individuals or within institutions (UNEP, 2019)*

[12] *In some cases 'project management and supervision' will refer to the supervision and guidance provided by UNEP to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UNEP.*

[13] *Outcomes are the use (i.e. uptake, adoption, application) of an output by intended beneficiaries, observed as changes in institutions or behavior, attitude or condition (UNEP, 2019)*

[14] *All submitted UNEP project documents are required to present a Theory of Change with all submitted project designs. The level of 'reconstruction' needed during an evaluation will depend on the quality of this initial TOC, the time that has lapsed between project design and implementation (which may be related to securing and disbursing funds) and the level of any formal changes made to the project design.*

the end of the project timeframe and within the project's resource envelope. Emphasis is placed on the achievement of project outcomes that are most important for attaining intermediate states. As with outputs, a table can be used where substantive amendments to the formulation of project outcomes is necessary. The evaluation should report evidence of attribution between UNEP's intervention and the project outcomes. In cases of normative work or where several actors are collaborating to achieve common outcomes, evidence of the nature and magnitude of UNEP's 'substantive contribution' should be included and/or 'credible association' established between project efforts and the project outcomes realised.

Factors affecting this criterion may include:

- Quality of project management and supervision
- Stakeholders' participation and cooperation
- Responsiveness to human rights and gender equity
- Communication and public awareness

iii. Likelihood of Impact

52. Based on the articulation of long-lasting effects in the reconstructed TOC *(i.e. from project outcomes, via intermediate states, to impact),* the evaluation will assess the likelihood of the intended, positive impacts becoming a reality. Project objectives or goals should be incorporated in the TOC, possibly as intermediate states or long-lasting impacts. The Evaluation Office's approach to the use of TOC in project evaluations is outlined in a guidance note available on the Evaluation Office website, https://www.unenvironment.org/about-un-environment/evaluation and is supported by an excel-based flow chart, 'Likelihood of Impact Assessment Decision Tree'. Essentially the approach follows a 'likelihood tree' from project outcomes to impacts, taking account of whether the assumptions and drivers identified in the reconstructed TOC held. Any unintended positive effects should also be identified and their causal linkages to the intended impact described.

53. The evaluation will also consider the likelihood that the intervention may lead, or contribute to, unintended negative effects (e.g. will vulnerable groups such as those living with disabilities and/or women and children, be disproportionally affected by the project?). Some of these potential negative effects may have been identified in the project design as risks or as part of the analysis of Environmental and Social Safeguards.

54. The evaluation will consider the extent to which the project has played a catalytic[15] role or has promoted scaling up and/or replication as part of its Theory of Change and as factors that are likely to contribute to longer term impact.

55. Ultimately UNEP and all its partners aim to bring about benefits to the environment and human well-being. Few projects are likely to have impact statements that reflect such long-term or broad-based changes. However, the evaluation will assess the likelihood of the project to make a substantive contribution to the long-lasting changes represented by the Sustainable Development Goals and/or the intermediate-level results reflected in UNEP's Expected Accomplishments and the strategic priorities of funding partners.

Factors affecting this criterion may include:

- Quality of Project Management and Supervision (including adaptive management)
- Stakeholders participation and cooperation
- Responsiveness to human rights and gender equity
- Country ownership and driven-ness
- Communication and public awareness

E. Financial Management

56. Financial management will be assessed under three themes: *adherence* to UNEP's financial policies and procedures, *completeness* of financial information and *communication* between financial and project management staff. The evaluation will establish the actual spend across the life of the project of funds secured from all donors. This expenditure will be reported, where possible, at output level and will be compared with the approved budget. The evaluation will verify the application of proper financial management standards and adherence to UNEP's financial management policies. Any financial

[15] A catalytic effect is one in which desired changes take place beyond the initial scope of a project (i.e. the take up of change is faster than initially expected or change is taken up in areas/sectors or by groups, outside the project's initial design). Scaling up refers to an initiative, or one of its components, being adopted on a much larger scale, but in a very similar context (e.g a small scale, localized, pilot being adopted at a larger, perhaps national, scale). Replication refers more to approaches being repeated or lessons being explicitly applied in new/different contexts e.g. other geographic areas, different target groups etc. Effective replication typically requires some form of revision or adaptation to the new context. It is possible to replicate at either the same or a different scale.

management issues that have affected the timely delivery of the project or the quality of its performance will be highlighted. The evaluation will record where standard financial documentation is missing, inaccurate, incomplete or unavailable in a timely manner. The evaluation will assess the level of communication between the Project/Task Manager and the Fund Management Officer as it relates to the effective delivery of the planned project and the needs of a responsive, adaptive management approach.

Factors affecting this criterion may include:

- Preparation and readiness
- Quality of project management and supervision

F. Efficiency

57. The evaluation will assess the extent to which the project delivered maximum results from the given resources. This will include an assessment of the cost-effectiveness and timeliness of project execution. Focusing on the translation of inputs into outputs, cost-effectiveness is the extent to which an intervention has achieved, or is expected to achieve, its results at the lowest possible cost. Timeliness refers to whether planned activities were delivered according to expected timeframes as well as whether events were sequenced efficiently. The evaluation will also assess to what extent any project extension could have been avoided through stronger project management and identify any negative impacts caused by project delays or extensions. The evaluation will describe any cost or time-saving measures put in place to maximise results within the secured budget and agreed project timeframe and consider whether the project was implemented in the most efficient way compared to alternative interventions or approaches.

58. The evaluation will give special attention to efforts made by the project teams during project implementation to make use of/build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities[16] with other initiatives, programmes and projects etc. to increase project efficiency.

59. The factors underpinning the need for any project extensions will also be explored and discussed. As management or project support costs cannot be increased in cases of 'no cost extensions', such extensions represent an increase in unstated costs to implementing parties.

Factors affecting this criterion may include:

- Preparation and readiness (e.g. timeliness)
- Quality of project management and supervision
- Stakeholders participation and cooperation

G. Monitoring and Reporting

60. The evaluation will assess monitoring and reporting across three sub-categories: monitoring design and budgeting, monitoring implementation and project reporting.

i. Monitoring Design and Budgeting

61. Each project should be supported by a sound monitoring plan that is designed to track progress against SMART[17] results towards the provision of the project's outputs and achievement of project outcomes, including at a level disaggregated by gender, marginalisation or vulnerability, including those living with disabilities.. In particular, the evaluation will assess the relevance and appropriateness of the project indicators as well as the methods used for tracking progress against them as part of conscious results-based management. The evaluation will assess the quality of the design of the monitoring plan as well as the funds allocated for its implementation. The adequacy of resources for mid-term and terminal evaluation/review should be discussed if applicable.

ii. Monitoring of Project Implementation

62. The evaluation will assess whether the monitoring system was operational and facilitated the timely tracking of results and progress towards projects objectives throughout the project implementation period. This assessment will include consideration of whether the project gathered relevant and good quality baseline data that is accurately and appropriately documented. This should include monitoring the representation and participation of disaggregated groups (including gendered, marginalised or vulnerable groups, such as those living with disabilities) in project activities. It will also consider the quality of the

[16] *Complementarity with other interventions during project design, inception or mobilization is considered under Strategic Relevance above.*
[17] *SMART refers to results that are specific, measurable, achievable, relevant and time-oriented. Indicators help to make results measurable.*

information generated by the monitoring system during project implementation and how it was used to adapt and improve project execution, achievement of outcomes and ensure sustainability. The evaluation should confirm that funds allocated for monitoring were used to support this activity.

63. The performance at project completion against Core Indicator Targets should be reviewed. For projects approved prior to GEF-7, these indicators will be identified retrospectively and comments on performance provided.

iii. Project Reporting

64. The different project progress reports will be provided to the Evaluation Consultants by the Evaluation Manager. Some projects have additional requirements to report regularly to funding partners, which will be supplied by the project team (e.g. the Project Implementation Reviews and Tracking Tool for GEF-funded projects). The evaluation will assess the extent to which both UNEP and donor reporting commitments have been fulfilled. Consideration will be given as to whether reporting has been carried out with respect to the effects of the initiative on disaggregated groups.

Factors affecting this criterion may include:

- Quality of project management and supervision
- Responsiveness to human rights and gender equity (e.g disaggregated indicators and data)

H. Sustainability

65. Sustainability[18] is understood as the probability of project outcomes being maintained and developed after the close of the intervention. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the endurance of achieved project outcomes (ie. 'assumptions' and 'drivers'). Some factors of sustainability may be embedded in the project design and implementation approaches while others may be contextual circumstances or conditions that evolve over the life of the intervention. Where applicable an assessment of bio-physical factors that may affect the sustainability of project outcomes may also be included.

i. Socio-political Sustainability

66. The evaluation will assess the extent to which social or political factors support the continuation and further development of project outcomes. It will consider the level of ownership, interest and commitment among government and other stakeholders to take the project achievements forwards. In particular the evaluation will consider whether individual capacity development efforts are likely to be sustained.

ii. Financial Sustainability

67. Some project outcomes, once achieved, do not require further financial inputs, e.g. the adoption of a revised policy. However, in order to derive a benefit from this outcome further management action may still be needed e.g. to undertake actions to enforce the policy. Other project outcomes may be dependent on a continuous flow of action that needs to be resourced for them to be maintained, e.g. continuation of a new resource management approach. The evaluation will assess the extent to which project outcomes are dependent on future funding for the benefits they bring to be sustained. Secured future funding is only relevant to financial sustainability where the project's outcomes have been extended into a future project phase. Even where future funding has been secured, the question still remains as to whether the project outcomes are financially sustainable.

iii. Institutional Sustainability

68. The evaluation will assess the extent to which the sustainability of project outcomes (especially those relating to policies and laws) is dependent on issues relating to institutional frameworks and governance. It will consider whether institutional achievements such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. are robust enough to continue delivering the benefits associated with the project outcomes after project closure. In particular, the evaluation will consider whether institutional capacity development efforts are likely to be sustained.

Factors affecting this criterion may include:

- Stakeholders participation and cooperation

---

[18] *As used here, 'sustainability' means the long-term maintenance of outcomes and consequent impacts, whether environmental or not. This is distinct from the concept of sustainability in the terms 'environmental sustainability' or 'sustainable development', which imply 'not living beyond our means' or 'not diminishing global environmental benefits' (GEF STAP Paper, 2019, Achieving More Enduring Outcomes from GEF Investment)*

- Responsiveness to human rights and gender equity (e.g. where interventions are not inclusive, their sustainability may be undermined)
- Communication and public awareness
- Country ownership and driven-ness

I. Factors Affecting Project Performance and Cross-Cutting Issues

(These factors are rated in the ratings table but are discussed within the Main Evaluation Report as cross-cutting themes as appropriate under the other evaluation criteria, above. Where the issues have not been addressed under other evaluation criteria, the consultants will provide summary sections under the following headings.)

i. Preparation and Readiness

69. This criterion focuses on the inception or mobilisation stage of the project (i.e. the time between project approval and first disbursement). The evaluation will assess whether appropriate measures were taken to either address weaknesses in the project design or respond to changes that took place between project approval, the securing of funds and project mobilisation. In particular the evaluation will consider the nature and quality of engagement with stakeholder groups by the project team, the confirmation of partner capacity and development of partnership agreements as well as initial staffing and financing arrangements. *(Project preparation is included in the template for the assessment of Project Design Quality).*

ii. Quality of Project Management and Supervision

70. In some cases 'project management and supervision' will refer to the supervision and guidance provided by UNEP to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping and supervision provided by UNEP.

71. The evaluation will assess the effectiveness of project management with regard to: providing leadership towards achieving the planned outcomes; managing team structures; maintaining productive partner relationships (including Steering Groups etc.); maintaining project relevance within changing external and strategic contexts; communication and collaboration with UNEP colleagues; risk management; use of problem-solving; project adaptation and overall project execution. Evidence of adaptive management should be highlighted.

iii. Stakeholder Participation and Cooperation

72. Here the term 'stakeholder' should be considered in a broad sense, encompassing all project partners, duty bearers with a role in delivering project outputs and target users of project outputs and any other collaborating agents external to UNEP and the Executing Agency. The assessment will consider the quality and effectiveness of all forms of communication and consultation with stakeholders throughout the project life and the support given to maximise collaboration and coherence between various stakeholders, including sharing plans, pooling resources and exchanging learning and expertise. The inclusion and participation of all differentiated groups, including gender groups should be considered.

73. The progress, challenges and outcomes regarding engagement of stakeholders in the project/program occurring since the MTR should be reviewed. *(This should be based on the description included in the Stakeholder Engagement Plan or equivalent documentation submitted at CEO Endorsement/Approval).*

iv. Responsiveness to Human Rights and Gender Equity

74. The evaluation will ascertain to what extent the project has applied the UN Common Understanding on the human rights-based approach (HRBA) and the UN Declaration on the Rights of Indigenous People. Within this human rights context the evaluation will assess to what extent the intervention adheres to UNEP's Policy and Strategy for Gender Equality and the Environment[19].

75. In particular the evaluation will consider to what extent project-implementation and monitoring have taken into consideration: (i) possible inequalities (especially those related to gender) in access to, and the control over, natural resources; (ii) specific vulnerabilities of disadvantaged groups (especially women, youth

[19] *The Evaluation Office notes that Gender Equality was first introduced in the UNEP Project Review Committee Checklist in 2010 and, therefore, provides a criterion rating on gender for projects approved from 2010 onwards. Equally, it is noted that policy documents, operational guidelines and other capacity building efforts have only been developed since then and have evolved over time. https://wedocs.unep.org/bitstream/handle/20.500.11822/7655/-Gender_equality_and_the_environment_Policy_and_strategy-2015Gender_equality_and_the_environment_policy_and_strategy.pdf.pdf?sequence=3&isAllowed=y*

and children and those living with disabilities) to environmental degradation or disasters; and (iii) the role of disadvantaged groups (especially those related to gender) in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation.

76. The completed gender-responsive measures and, if applicable, actual gender result areas should be reviewed. (This should be based on the documentation at CEO Endorsement/Approval, including gender-sensitive indicators contained in the project results framework or gender action plan or equivalent).

v. Environmental and Social Safeguards

77. UNEP projects address environmental and social safeguards primarily through the process of environmental and social screening at the project approval stage, risk assessment and management (avoidance, minimization, mitigation or, in exceptional cases, offsetting) of potential environmental and social risks and impacts associated with project and programme activities. The evaluation will confirm whether UNEP requirements[20] were met to: *review* risk ratings on a regular basis; *monitor* project implementation for possible safeguard issues; *respond* (where relevant) to safeguard issues through risk avoidance, minimization, mitigation or offsetting and r*eport* on the implementation of safeguard management measures taken. UNEP requirements for proposed projects to be screened for any safeguarding issues; for sound environmental and social risk assessments to be conducted and initial risk ratings to be assigned are evaluated above under Quality of Project Design).

78. The evaluation will also consider the extent to which the management of the project minimised UNEP's environmental footprint.

79. Implementation of the management measures against the Safeguards Plan submitted at CEO Approval should be reviewed, the risk classifications verified and the findings of the effectiveness of any measures or lessons learned taken to address identified risks assessed. Any supporting documents gathered by the Consultants should be shared with the Task Manager.

vi. Country Ownership and Driven-ness

80. The evaluation will assess the quality and degree of engagement of government / public sector agencies in the project. While there is some overlap between Country Ownership and Institutional Sustainability, this criterion focuses primarily on the forward momentum of the intended projects results, ie. either a) moving forwards from outputs to project outcomes or b) moving forward from project outcomes towards intermediate states. The evaluation will consider the involvement not only of those directly involved in project execution and those participating in technical or leadership groups, but also those official representatives whose cooperation is needed for change to be embedded in their respective institutions and offices (e.g. representatives from multiple sectors or relevant ministries beyond Ministry of Environment). This factor is concerned with the level of ownership generated by the project over outputs and outcomes and that is necessary for long term impact to be realised. Ownership should extend to all gendered and marginalised groups.

vii. Communication and Public Awareness

81. The evaluation will assess the effectiveness of: a) communication of learning and experience sharing between project partners and interested groups arising from the project during its life and b) public awareness activities that were undertaken during the implementation of the project to influence attitudes or shape behaviour among wider communities and civil society at large. The evaluation should consider whether existing communication channels and networks were used effectively, including meeting the differentiated needs of gendered or marginalised groups, and whether any feedback channels were established. Where knowledge sharing platforms have been established under a project the evaluation will comment on the sustainability of the communication channel under either socio-political, institutional or financial sustainability, as appropriate.

82. The project's completed Knowledge Management Approach, including: Knowledge and Learning Deliverables (e.g. website/platform development); Knowledge Products/Events; Communication Strategy; Lessons Learned and Good Practice; Adaptive Management Actions should be reviewed. This should be based on the documentation approved at CEO Endorsement/Approval.

Section 3. EVALUATION APPROACH, METHODS AND DELIVERABLES

[20] *For the review of project concepts and proposals, the Safeguard Risk Identification Form (SRIF) was introduced in 2019 and replaced the Environmental, Social and Economic Review note (ESERN), which had been in place since 2016. In GEF projects safeguards have been considered in project designs since 2011.*

83. The Terminal Evaluation will be an in-depth evaluation using a participatory approach whereby key stakeholders are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methods will be used as appropriate to determine project achievements against the expected outputs, outcomes and impacts. It is highly recommended that the consultants maintain close communication with the project team and promotes information exchange throughout the evaluation implementation phase in order to increase their (and other stakeholder) ownership of the evaluation findings. Where applicable, the consultants will provide a geo-referenced map that demarcates the area covered by the project and, where possible, provide geo-reference photographs of key intervention sites (e.g. sites of habitat rehabilitation and protection, pollution treatment infrastructure, etc.)

84. The findings of the evaluation will be based on the following:

(a) A **desk review** of:

- Relevant background documentation;
- Project design documents (including minutes of the project design review meeting at approval); Annual Work Plans and Budgets or equivalent, revisions to the project (Project Document Supplement), the logical framework and its budget;
- Project reports such as six-monthly progress and financial reports, progress reports from collaborating partners, meeting minutes, relevant correspondence and including the Project Implementation Reviews and Tracking Tool etc.;
- Project outputs: (e.g. Energy audits, energy assessments, training/workshop materials, guideline documents, draft policies, etc.);
- Mid-Term Evaluation of the project;
- Evaluations/reviews of similar projects.

(b) **Interviews** (individual or in group) with:

- UNEP Task Manager (TM);
- Project management team, including the Project Technical Coordinator and the Project Coordinator within the Executing Agency;
- UNEP Fund Management Officer (FMO);
- Portfolio Manager and Sub-Programme Coordinator, where appropriate;
- Project partners, including Ministry of Health and the Environment, Government of Antigua & Barbuda; Ministry of Energy, Science and Technology and Public Utilities (MESTPU), Government of Belize; Ministry of Finance, Office of the Prime Minister, Energy Division, Government of Grenada; Ministry of Sustainable Development, Energy, Science and Technology, Government of Saint Lucia; Ministry of National Security, Air & Sea Port Development, Office of the Prime Minister, Energy Unit, Government of Saint Vincent and the Grenadines;
- Relevant resource persons;
- Representatives from civil society and specialist groups (such as private sector association (architects, engineers, Energy Service Companies etc).

(c) **Surveys:** online surveys among the beneficiaries of the project

(d) **Field visits** (visits of the Demonstration Projects in Belize and in Saint Vincent and the Grenadines and any other relevant sites)

(e) Other data collection tools

11. Evaluation Deliverables and Review Procedures

85. The evaluation consultants will prepare:

- **Inception Report:** (see Annex 1 for links to all templates, tables and guidance notes) containing an assessment of project design quality, a draft reconstructed Theory of Change of the project, project stakeholder analysis, evaluation framework and a tentative evaluation schedule.
- **Preliminary Findings Note:** typically in the form of a PowerPoint presentation, the sharing of preliminary findings is intended to support the participation of the project team, act as a means to ensure all information sources have been accessed and provide an opportunity to verify emerging findings. In the case of highly strategic project/portfolio evaluations or evaluations with an Evaluation Reference Group, the preliminary findings may be presented as a word document for review and comment.
- **Draft and Final Evaluation Report:** (see links in Annex 1) containing an executive summary that can act as a stand-alone document; detailed analysis of the evaluation findings organised

by evaluation criteria and supported with evidence; lessons learned and recommendations and an annotated ratings table.

86. An **Evaluation Brief,** (a 2-page overview of the evaluand and key evaluation findings) for wider dissemination through the UNEP website may be required. This will be discussed with the Evaluation Manager no later than during the finalization of the Inception Report.

87. **Review of the draft evaluation report**. The evaluation team will submit a draft report to the Evaluation Manager and revise the draft in response to their comments and suggestions. Once a draft of adequate quality has been peer-reviewed and accepted, the Evaluation Manager will share the cleared draft report with the Task Manager and Project Manager, who will alert the Evaluation Manager in case the report contains any blatant factual errors. The Evaluation Manager will then forward revised draft report (corrected by the evaluation consultants where necessary) to other project stakeholders, for their review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions as well as providing feedback on the proposed recommendations and lessons. Any comments or responses to draft reports will be sent to the Evaluation Manager for consolidation. The Evaluation Manager will provide all comments to the evaluation consultants for consideration in preparing the final report, along with guidance on areas of contradiction or issues requiring an institutional response.

88. Based on a careful review of the evidence collated by the evaluation consultants and the internal consistency of the report, the Evaluation Manager will provide an assessment of the ratings in the final evaluation report. Where there are differences of opinion between the evaluator and the Evaluation Manager on project ratings, both viewpoints will be clearly presented in the final report. The Evaluation Office ratings will be considered the final ratings for the project.

89. The Evaluation Manager will prepare a **quality assessment** of the first draft of the main evaluation report, which acts as a tool for providing structured feedback to the evaluation consultants. The quality of the final report will be assessed and rated against the criteria specified in template listed in Annex 1 and this assessment will be appended to the Final Evaluation Report.

90. At the end of the evaluation process, the Evaluation Office will prepare a **Recommendations Implementation Plan** in the format of a table, to be completed and updated at regular intervals by the Task Manager. The Evaluation Office will track compliance against this plan on a six-monthly basis for a maximum of 18 months.

12. The Evaluation Team

91. For this evaluation, the evaluation team will consist of a Principal Evaluator and two In-country Support Consultants (one in Belize and one in Saint Vincent and the Grenadines or Antigua and Barbuda[21]). They will work under the overall responsibility of the Evaluation Office represented by an Evaluation Manager, in consultation with the UNEP Task Manager (Asher Lessels), Fund Management Officer (Leena Darlington and Renato Machado), Head of GEF Climate Mitigation Unit (Geordie Colville), Head of Energy & Climate Branch (Mark Rada), Coordinator of UNEP Sub-programme on Climate Change (Niklas Hagelberg). The consultants will liaise with the Evaluation Manager on any procedural and methodological matters related to the evaluation. It is, however, each consultant's individual responsibility (where applicable) to arrange for their visas and immunizations as well as to plan meetings with stakeholders, organize online surveys, obtain documentary evidence and any other logistical matters related to the assignment. The UNEP Task Manager and project team will, where possible, provide logistical support (introductions, meetings etc.) allowing the consultants to conduct the evaluation as efficiently and independently as possible.

92. The Principal Evaluator will be hired over a period of 8 months (September 2021 to April 2022) and should have the following: a university degree in environmental sciences, international development or other relevant political or social sciences area is required and an advanced degree in the same areas is desirable; a minimum of 5 years of technical / evaluation experience is required, preferably including evaluating large, regional or global programmes and using a Theory of Change approach; and a good/broad understanding of the Energy Efficiency and the Renewable Energy sectors is desired. Experiences in the Caribbean region are an asset. English and French are the working languages of the United Nations Secretariat. For this consultancy, knowledge of English language along with excellent writing skills in English is required.

[21] The final selection of two countries to receive site visits will be confirmed during the evaluation inception phase and In-country Support Consultants will be selected as appropriate.

Working knowledge of the UN system and specifically the work of UNEP is an added advantage. The work will be home-based.

93. The In-country Support Consultant (Belize) will be hired over a period of 4 months (October 2021 to January 2022) and should have the following: a university degree in environmental sciences, international development or other relevant political or social sciences area is required. A good/broad understanding of the Energy Efficiency and the Renewable Energy sectors as well as a good understanding of participatory data collection tools and methods for research or evaluations are desirable. English and French are the working languages of the United Nations Secretariat. For this consultancy, knowledge of English language along with excellent writing skills in English is required. The work will be home-based with possible field visits.

94. The In-country Support Consultant (Saint Vincent and the Grenadines or Antigua and Barbuda) will be hired over a period of 4 months (October 2021 to January 2022) and should have the following: a university degree in environmental sciences, international development or other relevant political or social sciences area is required. A good/broad understanding of the Energy Efficiency and the Renewable Energy sectors as well as a good understanding of participatory data collection tools and methods for research or evaluations are desirable. English and French are the working languages of the United Nations Secretariat. For this consultancy, knowledge of English language along with excellent writing skills in English is required. The work will be home-based with possible field visits.

95. The Principal Evaluator will be responsible, in close consultation with the Evaluation Office of UNEP for overall management of the evaluation and timely provision of its outputs, described above in Section 11 Evaluation Deliverables, above. The In-country Support Consultants will make substantive and high-quality contributions to the evaluation process and outputs. The consultants will ensure that all evaluation criteria and questions are adequately covered.

96. Specifically, Evaluation Team members will undertake the following:

Specific Responsibilities for Principal Evaluator:

97. The Principal Evaluator will be responsible, in close consultation with the Evaluation Manager, for overall management of the evaluation and timely provision of its outputs, described above in Section 11 Evaluation Deliverables. More specifically:

Inception phase of the evaluation, including:

- preliminary desk review and introductory interviews with project staff;
- draft the reconstructed Theory of Change of the project;
- prepare the evaluation framework;
- develop the desk review and interview protocols;
- draft the survey protocols (if relevant);
- draft the interview guide for the In-country Support Consultants;
- draft the template of the In-country Support Consultants evaluation mission reports;
- plan the evaluation schedule;
- prepare the Inception Report, incorporating comments until approved by the Evaluation Manager

Data collection and analysis phase of the evaluation, including:

- conduct further desk review and in-depth interviews with project implementing and executing agencies, project partners and project stakeholders. Ensure independence of the evaluation and confidentiality of evaluation interviews;
- regularly report back to the Evaluation Manager on progress and inform of any possible problems or issues encountered; and
- keep the Task Manager informed of the evaluation progress.

Reporting phase, including:

- draft the Main Evaluation Report, ensuring that the evaluation report is complete, coherent and consistent with the Evaluation Manager guidelines both in substance and style;
- liaise with the Evaluation Manager on comments received and finalize the Main Evaluation Report, ensuring that comments are taken into account until approved by the Evaluation Manager;
- prepare a Response to Comments annex for the main report, listing those comments not accepted by the evaluation consultants and indicating the reason for the rejection; and

- (where agreed with the Evaluation Manager) prepare an Evaluation Brief (2-page summary of the evaluand and the key evaluation findings and lessons).

Managing relations, including:

- maintain a positive relationship with evaluation stakeholders, ensuring that the evaluation process is as participatory as possible but at the same time maintains its independence;
- communicate in a timely manner with the Evaluation Manager on any issues requiring its attention and intervention.

Specific Responsibilities for the In-country Support Consultants:

98. The In-country Support Consultants will make substantive and high-quality contributions to the evaluation process and outputs. Together with the Principal Evaluator, the In-country Support Consultants will ensure that all evaluation criteria and questions are adequately covered. More specifically:

Data collection and analysis phase of the evaluation, including:

- in consultation with the Principal Evaluator and National project manager, prepare detailed travel itinerary or data collection plan (with stakeholders to meet, contact details, etc.);
- based on the interview guides provided by the Principal Evaluator, organize/ conduct field visits to interview key stakeholders and validate/ confirm the preliminary findings already identified by the Principal Evaluator;
- ensure independence of the evaluation and confidentiality of data collected as part of the evaluation; and
- regularly report back to the Evaluation Manager and Principal Evaluator on progress and inform of any possible problems, issues or information gaps encountered.

Reporting phase, including:

- participate in online meetings with the Evaluation Manager and Principal Evaluator to reflect on the available evidence and preliminary findings;
- Draft National Evaluation Report (with direct inputs to the draft evaluation report, in the agreed template with the Principal Evaluator);
- liaise with the Evaluation Manager and Principal Evaluator on comments received and address any follow up questions to the submitted inputs.

Managing relations, including:

- maintain a positive relationship with evaluation stakeholders, ensuring that the evaluation process is as participatory as possible but at the same time maintains its independence;
- communicate in a timely manner with the Evaluation Manager on any issues requiring its attention and intervention.

99. The In-country Support Consultants will submit:

Before field visit/interviews:

- Detailed in-country data collection plan, with names of stakeholders to interview and sites to visit.

After field visits/ interviews:

- Draft National Evaluation Report (with inputs to the draft evaluation report, in agreed template with the Principal Evaluator).

13. Schedule of the evaluation

100. The table below presents the tentative schedule for the evaluation.

Table 3. Tentative schedule for the evaluation

Milestone	Tentative Dates
Evaluation Initiation Meeting	September 2021
Inception Report	October 2021
In-depth data collection and analysis, interviews and surveys	November - December 2021
Field missions	November - December 2021

Milestone	Tentative Dates
Powerpoint/presentation on preliminary findings and recommendations	December 2021
Draft report to Evaluation Manager (and Peer Reviewer)	January 2022
Draft Report shared with UNEP Project Manager and team	February 2022
Draft Report shared with wider group of stakeholders	March 2022
Final Report	April 2022
Final Report shared with all respondents	April 2022

14. Contractual Arrangements

101. The evaluation consultants will be selected and recruited by the Evaluation Office of UNEP under an individual Special Service Agreement (SSA) on a "fees only" basis (see below). By signing the service contract with UNEP /UNON, the consultants certify that he has not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests (within six months after completion of the contract) with the project's executing or implementing units. All consultants are required to sign the Code of Conduct Agreement Form.

102. Fees will be paid on an installment basis, paid on acceptance by the Evaluation Manager of expected key deliverables. The schedule of payment is as follows:

Schedule of Payment for the Principal Evaluator

Deliverable	Percentage Payment
Approved Inception Report (Document 9 in Annex 1)	30%
Approved Draft Main Evaluation Report (Document 16 in Annex 1)	30%
Approved Final Main Evaluation Report	40%

Schedule of Payment for the In-country Support Consultants

Deliverable	Percentage Payment
Approved In-country Data Collection Plan	25%
Draft National Evaluation Report (with approved inputs to the main draft evaluation report, in a template agreed with the Principal Evaluator)	75%

103. Fees only contracts: Where applicable, air tickets will be purchased by UNEP and 75% of the Daily Subsistence Allowance for each authorised travel mission will be paid up front. Local in-country travel will only be reimbursed where agreed in advance with the Evaluation Manager and on the production of acceptable receipts. Terminal expenses and residual DSA entitlements (25%) will be paid after mission completion.

104. The consultants may be provided with access to UNEP's information management system and if such access is granted, the consultants agree not to disclose information from that system to third parties beyond information required for, and included in, the evaluation report.

105. In case the consultants are not able to provide the deliverables in accordance with these guidelines, and in line with the expected quality standards by the UNEP Evaluation Office, payment may be withheld at the discretion of the Director of the Evaluation Office until the consultants have improved the deliverables to meet UNEP's quality standards.

106. If the consultants fail to submit a satisfactory final product to UNEP in a timely manner, i.e. before the end date of their contract, the Evaluation Office reserves the right to employ additional human resources to finalize the report, and to reduce the consultants' fees by an amount equal to the additional costs borne by the Evaluation Office to bring the report up to standard.

ANNEX XII. QUALITY ASSESSMENT OF THE EVALUATION REPORT

All UNEP evaluations are subject to a quality assessment by the Evaluation Office. This is an assessment of the quality of the evaluation product (i.e. evaluation report) and is dependent on more than just the consultant's efforts and skills.

	UNEP Evaluation Office Comments	Final Report Rating
Substantive Report Quality Criteria		
Quality of the Executive Summary: The Summary should be able to stand alone as an accurate summary of the main evaluation product. It should include a concise overview of the evaluation object; clear summary of the evaluation objectives and scope; overall evaluation rating of the project and key features of performance (strengths and weaknesses) against exceptional criteria (plus reference to where the evaluation ratings table can be found within the report); summary of the main findings of the exercise, including a synthesis of main conclusions (which include a summary response to key strategic evaluation questions), lessons learned and recommendations.	Final report: The Executive Summary is clear and well structured. Nevertheless, the project could have been more described. Besides, a clear summary of the key strategic questions is missing.	**4**
I. Introduction A brief introduction should be given identifying, where possible and relevant, the following: institutional context of the project (sub-programme, Division, regions/countries where implemented) and coverage of the evaluation; date of PRC approval and project document signature); results frameworks to which it contributes (e.g. Expected Accomplishment in POW); project duration and start/end dates; number of project phases (where appropriate); implementing partners; total secured budget and whether the project has been evaluated in the past (e.g. mid-term, part of a synthesis evaluation, evaluated by another agency etc.) Consider the extent to which the introduction includes a concise statement of the purpose of the evaluation and the key intended audience for the findings?	Final report: All the requested elements are presented in the Introduction.	**5**
II. Evaluation Methods A data collection section should include: a description of evaluation methods and information sources used, including the number and type of respondents; justification for methods used (e.g. qualitative/ quantitative; electronic/face-to-face); any selection criteria used to identify respondents, case studies or sites/countries visited; strategies used to increase stakeholder engagement and consultation; details of how data were verified (e.g. triangulation, review by stakeholders etc.). Methods to ensure that potentially excluded groups (excluded by gender, vulnerability or marginalisation) are reached and their experiences captured effectively, should be made explicit in this section. The methods used to analyse data (e.g. scoring; coding; thematic analysis etc.) should be described. It should also address evaluation limitations such as: low or imbalanced response rates across different groups; gaps in documentation; extent to which findings can be either generalised to wider evaluation questions or constraints on aggregation/disaggregation; any potential or apparent biases; language barriers and ways they were overcome.	Final report: The data collection process is well detailed and its limitations are clearly presented.	**5**

Ethics and human rights issues should be highlighted including: how anonymity and confidentiality were protected and strategies used to include the views of marginalised or potentially disadvantaged groups and/or divergent views. Is there an ethics statement?		
III. The Project This section should include: • *Context:* Overview of the main issue that the project is trying to address, its root causes and consequences on the environment and human well-being (i.e. synopsis of the problem and situational analyses). • *Results framework*: Summary of the project's results hierarchy as stated in the ProDoc (or as officially revised) • *Stakeholders:* Description of groups of targeted stakeholders organised according to relevant common characteristics • *Project implementation structure and partners:* A description of the implementation structure with diagram and a list of key project partners • *Changes in design during implementation:* Any key events that affected the project's scope or parameters should be described in brief in chronological order • *Project financing:* Completed tables of: (a) budget at design and expenditure by components (b) planned and actual sources of funding/co-financing	Final report: The Project and its changes post MTE are clearly presented.	**5**
IV. Theory of Change The *TOC at Evaluation* should be presented clearly in both diagrammatic and narrative forms. Clear articulation of each major causal pathway is expected, (starting from outputs to long term impact), including explanations of all drivers and assumptions as well as the expected roles of key actors. This section should include a description of how the *TOC at Evaluation*[50] was designed (who was involved etc.) and applied to the context of the project? Where the project results as stated in the project design documents (or formal revisions of the project design) are not an accurate reflection of the project's intentions or do not follow UNEP's definitions of different results levels, project results may need to be re-phrased or reformulated. In such cases, a summary of the project's results hierarchy should be presented for: a) the results as stated in the approved/revised Prodoc logframe/TOC and b) as formulated in the *TOC at Evaluation*. *The two results hierarchies should be presented as a two-column table to show clearly that, although wording and placement may have changed, the results 'goal posts' have not been 'moved'.* Check that the project's effect on equality (i.e. promoting human rights, gender equality and inclusion of those living with disabilities and/or belonging to marginalised/vulnerable groups) has been included within the TOC as a general driver or assumption where there was no dedicated result within the results framework. If an explicit commitment on this topic was made within the project document then the driver/assumption should also be specific to the described intentions.	Final report: The reformulation of the results is well detailed. The narrative and the diagram of the TOC are consistent. Nevertheless the causal pathways cold have been more detailed.	**4**

[50] During the Inception Phase of the evaluation process a *TOC at Evaluation Inception* is created based on the information contained in the approved project documents (these may include either logical framework or a TOC or narrative descriptions), formal revisions and annual reports etc. During the evaluation process this TOC is revised based on changes made during project intervention and becomes the *TOC at Evaluation*.

V. Key Findings **A. Strategic relevance:** This section should include an assessment of the project's relevance in relation to UNEP's mandate and its alignment with UNEP's policies and strategies at the time of project approval. An assessment of the complementarity of the project at design (or during inception/mobilisation[51]), with other interventions addressing the needs of the same target groups should be included. Consider the extent to which all four elements have been addressed: i. Alignment to the UNEP Medium Term Strategy (MTS) and Programme of Work (POW) ii. Alignment to Donor/GEF Strategic Priorities iii. Relevance to Regional, Sub-regional and National Environmental Priorities iv. Complementarity with Existing Interventions	Final report: The assessment of this criterion is thorough.	**5**
B. Quality of Project Design To what extent are the strength and weaknesses of the project design effectively summarized?	Final report: The strengths and weaknesses of the project are well summarized.	**5**
C. Nature of the External Context For projects where this is appropriate, key external features of the project's implementing context that limited the project's performance (e.g. conflict, natural disaster, political upheaval[52]), and how they affected performance, should be described.	Final report: This criterion is well covered.	5
D. Effectiveness **(i) Outputs and Project Outcomes:** How well does the report present a well-reasoned, complete and evidence-based assessment of the a) availability of outputs, and b) achievement of project outcomes? How convincing is the discussion of attribution and contribution, as well as the constraints to attributing effects to the intervention. The effects of the intervention on differentiated groups, including those with specific needs due to gender, vulnerability or marginalisation, should be discussed explicitly.	Final report: The availability of outputs and the achievement of outcomes are thoroughly documented	**5**
(ii) Likelihood of Impact: How well does the report present an integrated analysis, guided by the causal pathways represented by the TOC, of all evidence relating to likelihood of impact? How well are change processes explained and the roles of key actors, as well as drivers and assumptions, explicitly discussed? Any unintended negative effects of the project should be discussed under Effectiveness, especially negative effects on disadvantaged groups.	Final report: Evidence of the assessment of the drivers and assumptions should have been more developed.	4
E. Financial Management This section should contain an integrated analysis of all dimensions evaluated under financial management and include a completed 'financial management' table.	Final report: The consultant chose to present all the financial tables in Annexes.	**4**

[51] A project's inception or mobilization period is understood as the time between project approval and first disbursement. Complementarity during project implementation is considered under Efficiency, see below.

[52] Note that 'political upheaval' does not include regular national election cycles, but unanticipated unrest or prolonged disruption. The potential delays or changes in political support that are often associated with the regular national election cycle should be part of the project's design and addressed through adaptive management of the project team.

Consider how well the report addresses the following: • *Adherence* to UNEP's financial policies and procedures • *completeness* of financial information, including the actual project costs (total and per activity) and actual co-financing used • *communication* between financial and project management staff	There is no dedicated paragraphs/narrative analysing these data.	
F. Efficiency To what extent, and how well, does the report present a well-reasoned, complete and evidence-based assessment of efficiency under the primary categories of cost-effectiveness and timeliness including: • Implications of delays and no cost extensions • Time-saving measures put in place to maximise results within the secured budget and agreed project timeframe • Discussion of making use during project implementation of/building on pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. • The extent to which the management of the project minimised UNEP's environmental footprint.	Final report: Most of the elements are covered.	**5**
G. Monitoring and Reporting How well does the report assess: • Monitoring design and budgeting *(including SMART results with measurable indicators, resources for MTE/R etc.)* • Monitoring of project implementation *(including use of monitoring data for adaptive management)* • Project reporting *(e.g. PIMS and donor reports)*	Final report: The required elements are presented.	**5**
H. Sustainability How well does the evaluation identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of achieved project outcomes including: • Socio-political Sustainability • Financial Sustainability • Institutional Sustainability	Final report: The 3 sustainability sub-criteria are well understood.	**5**
I. Factors Affecting Performance These factors are <u>not</u> discussed in stand-alone sections but are **integrated in criteria A-H as appropriate**. Note that these are described in the Evaluation Criteria Ratings Matrix. To what extent, and how well, does the evaluation report cover the following cross-cutting themes: • Preparation and readiness • Quality of project management and supervision[53] • Stakeholder participation and co-operation • Responsiveness to human rights and gender equity • Environmental and social safeguards	Final report: The preparation and readiness criterion has not been understood properly.	4

[53] In some cases 'project management and supervision' will refer to the supervision and guidance provided by UNEP to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UNEP.

• Country ownership and driven-ness • Communication and public awareness		
VI. Conclusions and Recommendations **i. Quality of the conclusions:** The key strategic questions should be clearly and succinctly addressed within the conclusions section. It is expected that the conclusions will highlight the main strengths and weaknesses of the project and connect them in a compelling story line. Human rights and gender dimensions of the intervention (e.g. how these dimensions were considered, addressed or impacted on) should be discussed explicitly. Conclusions, as well as lessons and recommendations, should be consistent with the evidence presented in the main body of the report.	Final report: The strategic questions are not answered in the conclusion.	**4**
ii) Quality and utility of the lessons: Both positive and negative lessons are expected and duplication with recommendations should be avoided. Based on explicit evaluation findings, lessons should be rooted in real project experiences or derived from problems encountered and mistakes made that should be avoided in the future. Lessons are intended to be adopted any time they are deemed to be relevant in the future and must have the potential for wider application (replication and generalization) and use and should briefly describe the context from which they are derived and those contexts in which they may be useful.	Final report: The lessons learned are not duplicating the recommendations. They are rooted in the project experience.	**5**
iii) Quality and utility of the recommendations: To what extent are the recommendations proposals for specific action to be taken by identified people/position-holders to resolve concrete problems affecting the project or the sustainability of its results? They should be feasible to implement within the timeframe and resources available (including local capacities) and specific in terms of who would do what and when. At least one recommendation relating to strengthening the human rights and gender dimensions of UNEP interventions, should be given. Recommendations should represent a measurable performance target in order that the Evaluation Office can monitor and assess compliance with the recommendations. In cases where the recommendation is addressed to a third party, compliance can only be monitored and assessed where a contractual/legal agreement remains in place. Without such an agreement, the recommendation should be formulated to say that UNEP project staff should pass on the recommendation to the relevant third party in an effective or substantive manner. The effective transmission by UNEP of the recommendation will then be monitored for compliance. Where a new project phase is already under discussion or in preparation with the same third party, a recommendation can be made to address the issue in the next phase.	Final report: The recommendations are actionable but some of them may be ambitious to be implemented within the 12-month compliance period. The recommendations do not represent a measurable target.	**4**
VII. Report Structure and Presentation Quality		
i) Structure and completeness of the report: To what extent does the report follow the Evaluation Office guidelines? Are all requested Annexes included and complete?	Final report: The report follows UNEP Evaluation Office guidelines, all the Annexes are presented	**5**

ii) **Quality of writing and formatting:** Consider whether the report is well written (clear English language and grammar) with language that is adequate in quality and tone for an official document? Do visual aids, such as maps and graphs convey key information? Does the report follow Evaluation Office formatting guidelines?	Final report: The report is clear, well written with an adequate tone and language.	5
OVERALL REPORT QUALITY RATING		**4.65**

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1. The overall quality of the evaluation report is calculated by taking the mean score of all rated quality criteria.

At the end of the evaluation, compliance of the evaluation process against the agreed standard procedures is assessed, based on the table below. *All questions with negative compliance must be explained further in the table below.*

Evaluation Process Quality Criteria	Compliance	
	Yes	No
Independence:		
1. Were the Terms of Reference drafted and finalised by the Evaluation Office?	X	
2. Were possible conflicts of interest of proposed Evaluation Consultant(s) appraised and addressed in the final selection?	X	
3. Was the final selection of the Evaluation Consultant(s) made by the Evaluation Office?	X	
4. Was the evaluator contracted directly by the Evaluation Office?	X	
5. Was the Evaluation Consultant given direct access to identified external stakeholders in order to adequately present and discuss the findings, as appropriate?	X	
6. Did the Evaluation Consultant raise any concerns about being unable to work freely and without interference or undue pressure from project staff or the Evaluation Office?		X
7. If Yes to Q6: Were these concerns resolved to the mutual satisfaction of both the Evaluation Consultant and the Evaluation Manager?		
Financial Management:		
8. Was the evaluation budget approved at project design available for the evaluation?	X	
9. Was the final evaluation budget agreed and approved by the Evaluation Office?	X	
10. Were the agreed evaluation funds readily available to support the payment of the evaluation contract throughout the payment process?	X	
Timeliness:		
11. If a Terminal Evaluation: Was the evaluation initiated within the period of six months before or after project operational completion? Or, if a Mid Term Evaluation: Was the evaluation initiated within a six-month period prior to the project's mid-point?		X
12. Were all deadlines set in the Terms of Reference respected, as far as unforeseen circumstances allowed?		X
13. Was the inception report delivered and reviewed/approved prior to commencing any travel?	X	
Project's engagement and support:		
14. Did the project team, Sub-Programme Coordinator and identified project stakeholders provide comments on the evaluation Terms of Reference?	X	
15. Did the project make available all required/requested documents?	X	
16. Did the project make all financial information (and audit reports if applicable) available in a timely manner and to an acceptable level of completeness?	X	
17. Was adequate support provided by the project to the evaluator(s) in planning and conducting evaluation missions?	X	
18. Was close communication between the Evaluation Consultant, Evaluation Office and project team maintained throughout the evaluation?	X	
19. Were evaluation findings, lessons and recommendations adequately discussed with the project team for ownership to be established?	X	
20. Did the project team, Sub-Programme Coordinator and any identified project stakeholders provide comments on the draft evaluation report?	X	
Quality assurance:		
21. Were the evaluation Terms of Reference, including the key evaluation questions, peer-reviewed?	X	

22. Was the TOC in the inception report peer-reviewed?	**X**	
23. Was the quality of the draft/cleared report checked by the Evaluation Manager and Peer Reviewer prior to dissemination to stakeholders for comments?	**X**	
24. Did the Evaluation Office complete an assessment of the quality of both the draft and final reports?	**X**	
Transparency:		
25. Was the draft evaluation report sent directly by the Evaluation Consultant to the Evaluation Office?	**X**	
26. Did the Evaluation Manager disseminate (or authorize dissemination) of the cleared draft report to the project team, Sub-Programme Coordinator and other key internal personnel (including the Reference Group where appropriate) to solicit formal comments?	**X**	
27. Did the Evaluation Manager disseminate (or authorize dissemination) appropriate drafts of the report to identified external stakeholders, including key partners and funders, to solicit formal comments?	**X**	
28. Were all stakeholder comments to the draft evaluation report sent directly to the Evaluation Office	**X**	
29. Did the Evaluation Consultant(s) respond adequately to all factual corrections and comments?	**X**	
30. Did the Evaluation Office share substantive comments and Evaluation Consultant responses with those who commented, as appropriate?	**X**	

Provide comments / explanations / mitigating circumstances below for any non-compliant process issues.

Process Criterion Number	**Evaluation Office Comments**
11	The terminal evaluation started 14 months after the completion of the project
12	The terminal evaluation should have been completed in April 2022. Due to delays in the data collection caused by low response rates of some project stakeholders and because the Principal Evaluator was also involved in other consultancies, some deadlines were not met.