



# CABO VERDE APPLIANCES & BUILDING ENERGY EFFICIENCY PROJECT



## TERMINAL EVALUATION REPORT

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## Acronyms and Abbreviations

CABEEP	Cabo Verde Appliances & Building Energy Efficiency Project
CEEE	Código de Eficiência Energética em Edifícios (Energy Efficiency Building Code)
CEO	Chief Executive Officer
CO	Country Office
DGA	Directorate General for Environment
DGE	Directorate General for Energy
DGI	Directorate General of Infrastructure
DGIC	Directorate General for Industry and Commerce
DGTT	Directorate General of Tourism and Transport
DNA	National Directorate for Environment
DNICE	National Directorate for Industry, Commerce and Energy
DSE	Directorate for the Services of Energy
DSM	Demand Side Management
ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
EMS	Energy Management System
EoP	End of Programme
FAR	Floor-Area Ratio
FSI	Floor Space Index
GEF	Global Environment Facility
GHG	Greenhouse Gas
IPP	Independent Power Producer
kWh	kilowatt hour
MEPS	Minimum Energy Performance Standard
M&E	Monitoring and Evaluation
MICE	Ministry of Industry, Commerce and Energy
MRV	Measurement, Reporting and Verification
MTIE	Ministry of Tourism, Industry, and Energy
MTR	Mid-Term Review
MVE	Monitoring, Verification and Enforcement
MW	Mega Watt
NGO	Non-governmental Organization
NIM	National Implementation Modality
NPM	National Project Manager
NREA	New and Renewable Energy Authority
PANAI	National Action Plan for the Environment
PIR	Project Implementation Review
PMB	Project Management Board
PMU	Project Management Unit

PTC	Project Technical Committee
RTA	Regional Technical Advisor
S&L	Standards and Labelling
SNEREE	Sistema Nacional de Etiquetagem e Requisitos dos Equipamentos Elétricos (National System of Standards and Labelling for Electrical Equipment)
TE	Terminal Evaluation
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

## Glossary of Evaluation-related Terms

Term	Definition
Baseline data	Data that describe the situation to be addressed by an intervention and serve as the starting point for measuring the performance of the intervention
Beneficiaries	The specific individuals or organizations for whose benefit an intervention is undertaken
Capacity development	The process by which individuals, organizations, institutions and societies develop their abilities individually and collectively to perform functions, solve problems and set and achieve objectives
Conclusion	A reasoned judgement based on a synthesis of empirical findings or factual statements corresponding to a specific circumstance
Effect	Intended or unintended change due directly or indirectly to an intervention
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results
Finding	A factual statement about the programme or project based on empirical evidence gathered through monitoring and evaluation activities
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention
Lessons learned	Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations
Logframe (logical framework approach)	Management tool used to facilitate the planning, implementation and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcome, impact) and their causal relationships, indicators, and assumptions that may affect success or failure. Based on RBM (results-based management) principles
Outcome	The likely or achieved (short-term and/or medium-term) effects of an intervention's outputs
Output	The product, capital goods and/or service which results from an intervention; may also include a change resulting from the intervention which is relevant to the achievement of an outcome
Rating	An instrument for forming and validating a judgement on the relevance, performance and success of a programme or project through the use of a scale with numeric, alphabetic and/or descriptive codes
Recommendation	A proposal for action to be taken in a specific circumstance, including the parties responsible for that action
Relevance	The extent to which the objectives of an intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies
Risk	Factor, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Stakeholders	The specific individuals or organizations that have a role and interest in the objectives and implementation of a programme or project
Theory of Change	A set of assumptions, risks and external factors that describes how and why an intervention is intended to work.

## **Acknowledgement**

The authors of the terminal evaluation wish to express their appreciation to all project stakeholders whom they have interviewed during the data collection phase. who generously provided us with their open views on implementation of the project and candid opinions on the results.

Special thanks are extended to the staff of the UNDP Country Office in Cabo Verde who, as the project implementing partner, provided all requested information and assisted with organization of virtual meetings with the project stakeholders and thus contributed to successful completion of the evaluation.

## EXECUTIVE SUMMARY

### Project Information Table

<b>Project Title</b>	Removing Barriers to Energy-Efficiency in the Cape Verdean Built Environment and for Appliances		
<b>ATLAS Business Unit, Award # Proj. ID:</b>		<b>Project Document (ProDoc) Signature Date (date project began):</b>	30 July 2015
<b>Country(ies):</b>	Cabo Verde	<b>Date project manager hired:</b>	December 2015
<b>Region:</b>	Africa	<b>Inception Workshop date:</b>	30 June 2015
<b>Focal Area:</b>	GEF-5 Climate Change	<b>Midterm Review completion date:</b>	February 2019
<b>GEF Focal Area Strategic Objective:</b>		<b>Planned closing date:</b>	30 July 2019
<b>Trust Fund [indicate GEF TF, LDCF, SCCF, NPIF]:</b>	GEF TF	<b>If revised, proposed op. closing date:</b>	31 July 2020
<b>Executing Agency/Implementing Partner:</b>			
<b>Other execution partners:</b>	N.A.		
<b>Project Financing</b>	<i>at CEO endorsement (US\$)</i>	<i>At Terminal Evaluation (US\$)</i>	
<b>GEF financing:</b>	1,918,400	1,501,711.59	
<b>Government</b>	271,604	417,701.97	
<b>Other partners</b>	300,000	238,760.39	
<b>Total co-financing</b>	571,604	656,462.36	
<b>PROJECT TOTAL COSTS</b>	<b>2,411,604</b>	<b>2,158,173.95</b>	

## **Project Description**

The goal of the “Cabo Verde Appliances & Building Energy Efficiency Project (CABEEP)” is removal of barriers to energy efficiency in Cabo Verdean built environment and for appliances. The objectives are to be achieved by transformation of the market for energy efficiency in the country by introducing new laws on building codes and for domestic appliances by introducing a standards and labelling programme, new import regulations, testing procedures, and certification leading to significant improvements in energy efficiency in the country.

The project has 4 components each consisting of a number of complementary activities designed to achieve the project goal.

### **Summary of project results**

This project objective to promote energy efficiency is highly relevant to the Government of Cabo Verde as it directly links to various national development priorities and energy sector development plans and policies. By the same token, it has high relevance to regional priorities fostered by the Economic Community of West African States (ECOWAS).

CABEEP is fully in line with UNDP corporate priority to transform emerging and developing economies with energy-efficient products and services and is also aligned with the GEF-5 Focal Area Climate Change Mitigation that puts emphasis on commercially available technologies that face barriers that hamper their widespread adoption and diffusion.

The project successfully created fundamental policy, institutional and legislative frameworks for construction of energy efficient buildings as it facilitated approval and promulgation of the new code for energy efficiency in buildings. Furthermore, it assisted with development of technical protocols for measuring, reporting and verification (MRV) of energy savings and GHG reductions and with setup of a mechanism to ensure compliance with the building code.

Initial steps were taken towards development of an energy management system (EMS) in buildings, but the development of EMS was not completed. The mere approval of the building code without development of EMS and introduction in practice did not bring about planned direct energy savings and GHG emission reductions from the project. Also, as the building code is applicable only to commercial and public buildings, the extent of post-project energy savings and GHG emission reduction will be lower than planned in the Project Document.

CABEEP was instrumental for development and approval of the national standards & labelling (S&L) programme for household appliances and for preparation of minimum energy performance standards (MEPS) for selected 6 categories of appliances. However, at the time of the Terminal Evaluation the S&L programme was not operational yet as MEPS had not been officially promulgated. The lack of implementation of the S&L programme means that there was no increase in sales of energy efficient appliances and no direct energy savings resulting from the project.

Due to inability to demonstrate the benefits of the code on newly constructed buildings, the project supported 4 demonstration projects on energy efficiency retrofits of existing buildings.

However, this work could not show full range of benefits of the new building code as the applied retrofit measures could not alter the bioclimatic design and the building envelopes.

In addition to the development of basic regulatory and institutional frameworks, the project also trained a number of government/municipality officials and building construction professionals for implementation of the building code and the S&L programme and through application of the standard train-the-trainers approach created conditions for continuation of the capacity building efforts after the project closure.

Through establishment of the new legislation and creation of pool of national trainers and trained experts, the project has created a solid foundation for systematic introduction of energy efficiency measures in building construction and for promotion of 6 categories of energy-efficient domestic appliances. As the approval and promulgation of the regulatory regimes for buildings and appliances were enacted only around the project closure, the capacities built and the institutional mechanisms created for implementation and enforcement of the two regulatory regimes have not been tested in practice during the project period.

Under the Energy and Sustainable Development of Communities programme, the project engaged in provision of photovoltaic systems and LED lamps to 15 families in the communities of Lagoa and Achada Lagoa in Tarrafal on the Santiago island. Assistance to the isolated rural communities in Cabo Verde and to single parent families headed by women proved the social inclusiveness of the project and was in line with the UNDP/GEF corporate priorities on mainstreaming of women and marginalized communities.

### **Sustainability and progress to impact**

The development and promulgation of the two regulatory regimes has created basic legislative frameworks and has outlined the institutional frameworks for operationalization and enforcement. There is a high level of commitment to improving energy efficiency on the side of relevant agencies of the Government responsible for operationalization and management of the building code and the S&L programme.

The new regulations on buildings and appliances supported by the targeted demonstration projects were expected to catalyse new and additional investment in energy efficiency projects. The fact that some of the planned results related to dissemination and replication of experience, reservations about the effectiveness of the revenue-generating potential of CEEE and SNEREE (ability to sustain operation through collected levies from developers and appliance retailers), together with uncertainty about allocation of Government funding, cast doubts on the ability to sustain full implementation of the two regulatory regimes without external financial support.

Public awareness in Cabo Verde has not yet been at the level where energy efficiency can be driven by consumer demand. The project has made effort to improve awareness on energy efficiency but unless the electricity supply is reliable and billing and tariff collection are provided properly, there may not be sufficient incentives for consumers to reduce their demand for electricity and to achieve the expected market transformation on appliances.

The main environmental risk is related to the lack of incentives for effective phase-out and disposal of old inefficient appliances. As a result of the project interventions, the inefficient appliances could be withdrawn from the market but not from service. Customers upon purchase of the more efficient devices often pass on their old units to friends or extended families and thus the old units remain in operation. The continued use of inefficient appliances translates into an increase in energy consumption as the obsolete equipment remains in service in parallel with the new devices that were supposed to displace them. Consequently, the real post-project energy savings and GHG emission reductions could be lower than expected.

### Summary of evaluation ratings

The summary of evaluation ratings<sup>1</sup> according to the required evaluation criteria is displayed in the Box 1 below.

#### **Box 1: Summary of TE ratings**

<b>Evaluation Criteria</b>	<b>Evaluators' Rating</b>
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Moderately Satisfactory (MS)
<b>Overall quality of monitoring and evaluation</b>	<b>Moderately Satisfactory (MS)</b>
Quality of UNDP Implementation	Moderately Satisfactory (MS)
Quality of Execution - Executing Agency	Moderately Satisfactory (MS)
<b>Overall quality implementation / execution</b>	<b>Moderately Satisfactory (MS)</b>
<b>Relevance</b>	<b>Relevant</b>
<b>Effectiveness</b>	
Outcome 1	Moderately Satisfactory (MS)
Outcome 2	Moderately Satisfactory (MS)
Outcome 3	Moderately Satisfactory (MS)
Outcome 4	Moderately Unsatisfactory (MU)
<b>Efficiency</b>	<b>Moderately Satisfactory (MS)</b>
<b>Overall Project Objective rating</b>	<b>Moderately Unsatisfactory (MU)</b>
<b>Overall likelihood of sustainability</b>	<b>Moderately Likely (L)</b>
Institutional framework and governance	Moderately Likely (L)
Financial	Moderately Likely (L)
Socio-political	Moderately Likely (L)
Environmental	Moderately Likely (L)

<sup>1</sup> Performance rating of GEF projects is explained in Annex 7.

## Summary of recommendations

The Terminal Evaluation makes two types of recommendations. Recommendations on substantive matters are provided for consideration of the project partners in order to ensure the project results are fully consolidated with the key project stakeholders. These recommendations are suggested for implementation as soon as possible using the existing institutional capacities and frameworks that had been created by the current project.

The implementation experience from CABEEP allows that some conclusions could be generalized for all UNDP programming areas. Recommendations of the second type are provided for consideration of UNDP in order to improve programming and project preparation in general.

### Recommendations to follow-up and/or reinforce initial benefits from the project:

No.	Recommendation
1.	The Government of Cabo Verde with assistance of UNDP should ensure human and financial resources necessary for implementation of CEEE and SNEREE.
2.	DNICE/DSE should step up the efforts for establishment of a certification programme for compliance check with CEEE and for training of certified experts.
3.	DNICE/DSE and INGT should provide support to municipalities for exercising their authority for enforcement of the new building code.
4.	Owners of the demonstration buildings should ensure rigorous measuring of energy savings through application of the proposed MRV protocols for annual monitoring as required by CEEE.
5.	DNICE/DSE should commission a study on lessons learned from implementation of the project and disseminate the study to decision makers and key stakeholders in building construction and maintenance.
6.	DNICE/DSE should ensure adoption and implementation of EMS for public and private sector buildings.
7.	The Government should accelerate the work on finalization of MEPS for the selected 6 categories of appliances and get them officially promulgated for implementation.
8.	The Government should establish and implement effective, properly mandated and transparent enforcement procedure for compliance with the promulgated appliances' standards and labels. The enforcement procedure should be largely disclosed to all market actors and thoroughly followed by national market surveillance authorities (MSAs).
9.	DNICE/DSE should consider assistance of consumer associations for complementary monitoring of the energy efficiency markets for effective surveillance and increased compliance of marketed appliances with the standards and labels at the points of sale.
10.	The Government should continue public awareness campaign for energy efficient appliances using the channels of delivery established under the project. In particular, it should upload all relevant documents and knowledge products resulting from the project to the official project/DSE website and ensure maintenance of the website after the project closure.
11.	The Government should consider preparation of MEPS for high consuming appliance categories, such as electro motors, chillers and industrial & commercial freezers

### Recommendations to improve programming and preparation of projects

No.	Recommendation
12.	For all projects, UNDP CO should ensure that project indicators and their target values are correctly formulated to measure delivery at the project output and outcome levels and that progress towards achievement of results is regularly assessed at the level of project outputs.
13.	For GEF-funded projects, UNDP CO should track actual levels of co-financing during implementation of GEF projects and report the actually realized levels of co-financing in annual PIRs

## INTRODUCTION

In line with the GEF Evaluation Policy, a Terminal Evaluation (TE) is undertaken at completion of the GEF-funded projects to assess their performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. It is conducted to provide a comprehensive and systematic account of the performance of a completed project by assessing its design, implementation, and achievement of objectives. TE is also expected to promote accountability and transparency, facilitate synthesis of lessons learned, and provide feedback to allow the GEF to identify issues that are recurrent across the GEF portfolio.

This document presents results of the Terminal Evaluation of the UNDP/GEF project “Removing Barriers to Energy-Efficiency in the Cape Verdean Built Environment and for Appliances”. As a standard requirement for all projects financed by GEF, this terminal evaluation has been initiated by the Lead Implementing Agency, in this case UNDP Country Office (CO) in Cabo Verde. The evaluation was conducted in accordance with the GEF Monitoring and Evaluation Policy<sup>2</sup>, the Guidelines for GEF Agencies in Conducting Terminal Evaluations<sup>3</sup>, and the UNDP Evaluation Guidelines<sup>4</sup>.

### Objective of the evaluation

The objective of the evaluation is to provide the project partners i.e. GEF, UNDP and the Government of Cabo Verde with an independent assessment and comparison of planned *vis-à-vis* actually achieved outputs and outcomes, identify the causes and issues which contributed to the degree of achievement of the project targets, and draw lessons that can improve the sustainability of benefits from the project, as well as contribute to overall enhancement of UNDP programming.

The Terms of Reference for the Terminal Evaluation is provided as Annex 1 to this report.

### Scope and methodology

The evaluation covers all activities undertaken in the framework of the project. The time scope of the evaluation is the implementation period of the project, namely from August 2015 to July 2020. The geographic scope of the evaluation is Cabo Verde.

The Evaluation used a combination of approaches to assess the achievements of the project from several perspectives and a mix of quantitative and qualitative methods of data collection and analysis. Desk reviews, face-to-face meetings, and follow up with key stakeholders were applied as necessary. The evaluation was conducted in three phases as follows:

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<sup>2</sup> The GEF Monitoring and Evaluation Policy, Global Environmental Facility, November 2010

<sup>3</sup> Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, Global Environmental Facility, April 2017

<sup>4</sup> Evaluation Guidelines, UNDP, January 2019

*Preparatory phase:* The first step in the evaluation was a desk review of the most important documents covering project design and implementation progress that provided the basic information regarding the activities carried out to attain the desired outcomes and outputs and the actual achievements. The review was followed by preparation of questions and discussion points aiming at gathering information from chosen respondents about attitudes, preferences and factual information linked to the performance indicators in the evaluation matrix.

*Evaluation Matrix:* An evaluation matrix was constructed based on the evaluation scope presented in the TOR. The matrix is structured along the five GEF evaluation criteria for TEs and included principal evaluation questions. The matrix provided overall direction for the evaluation and was used as a basis for interviewing stakeholders and further review of the project implementation reports.

Apart from the evaluation questions on the relevance, efficiency, effectiveness, sustainability and progress to impacts, the evaluation matrix also included evaluation questions on cross-cutting issues relating to the promotion of values from a human development perspective, namely questions on gender equality and on social inclusion. The Evaluation Matrix is provided as Annex 2 to this report.

The itinerary of the interviews and list of people interviewed are provided as respective Annexes 3 and 4 to this report.

*Data collection:* The main parts of the data collection phase were interviews with the Project Team, representatives of the Executing Agency, UNDP CO, members of Project Steering Committee, GEF Operational Focal Point, UNDP Regional Technical Advisor. In addition to the above, a representative sample of other project stakeholders, participants and beneficiaries were interviewed.

Due to the travel restrictions related to the Covid-19 pandemic, the International Consultant could not travel to Cabo Verde. Based on COVID-19 recommendations provided by the UNDP Evaluation Unit, stakeholder meetings were carried out remotely and with the support of a national consultant. The data collection phase started with visits of the demonstration project sites by the National Consultant who made site observations and collected technical performance data on-site. The Evaluation Team remotely conducted meetings with the two consulting companies that implemented the building code and the appliances components of the project. All interviews were conducted through remote telecommuting modalities (using available phone and internet platforms).

The main purpose of the interviews was to validate the information and data already collected and fill the information gaps identified in the previous phase. In order to follow a collaborative and participatory approach, the interviews were conducted to solicit responses to predetermined questions aiming to obtain in-depth information about the key informants' experiences from the project implementation and their opinions about achievement of the planned results. They were based on a semi-structured format in order to allow the respondents to express their perception and elaborate on main issues related to the project implementation.

The evaluation criteria and the related questions were used to raise eventual additional and/or more specific questions on the issues mentioned in the interviews. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with different stakeholders, were used to corroborate reliability of the collected evidence. This approach ensured verification of the information obtained in the document review phase, addressing the information gaps and correct interpretation of information and opinions of the project stakeholders, participants and beneficiaries. The interviews also served for collecting additional documents to support the evidence base of the evaluation.

*Assessment of Evidence:* After the data collection phase, data analysis was conducted as the third and final phase of the evaluation through review of documents that were made available to the Evaluation Team (ET) by the project implementing partners as well as of other documents that the Evaluators obtained through web searches and contacts with relevant projects stakeholders and beneficiaries. This process involved organizing and classifying the information collected, tabulation, summarization and comparison of the results with other appropriate information to extract useful information that relates to the evaluation questions and fulfils the purposes of the evaluation. This analysis included assessing the level of contribution of the project to the achievement of MDGs and alignment of the project objectives with the CPD and UNDAF. Contextual information was also gathered to assess the significance and relevance of the recorded performance and results.

The list of documents reviewed is provided as Annex 5 to this report.

### **Structure of the evaluation report**

The structure of the TE report follows the “Evaluation Report Outline” presented in Annex F of the ToR of the assignment (contained in Annex 1 to this report).

The ‘Executive Summary’ of the report is provided in the beginning of the report. The body of the report starts with introduction and development context of the project and continues with a short project description. This is followed by the chapter that sets out the evaluation findings presented as factual statements based on analysis of the collected data. The findings are structured around the five essential evaluation criteria and include assessment of the project performance against the performance indicators and their target values set out in the project results framework (as provided in the Project Document). This part further includes assessment of the project management arrangements, financing and co-financing inputs, partnership strategies and the project monitoring and evaluation systems.

The final part of the report contains conclusions and recommendations substantiated by the collected evidence and linked to the evaluation findings. While the conclusions provide insights into identification of solutions to important issues pertinent to the project beneficiaries, UNDP and GEF, the recommendations are directed to the intended users in terms of actions to be taken and/or decisions to be made. This part of the report concludes with lessons that can be taken from the evaluation, including best (and worst) practices that can provide knowledge gained

from the particular project circumstances (such as programmatic methods used, partnerships, financial leveraging, etc.) that are applicable to similar UNDP interventions.

### **Limitations of the evaluation**

The main limitation of the evaluation was the inability of the Evaluation Team to conduct face-to-face meetings with the main project stakeholders. The interviews were conducted remotely through available digital platforms and limit the ability of the evaluators to use direct observation on the stakeholder and beneficiary institutions for gathering additional information, triangulating previously obtained information, validating available statistics and theoretical data as well as getting a broader picture of the project under evaluation.

The second limitation relates to the fact that due to the difficulties to arrange virtual meetings and limited time available for the data collection, it was not possible to visit peripheral stakeholders such as industry and consumer associations to obtain their assessment of the project achievements.

## **PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT**

### **Project Context**

At the inception of the project, Cabo Verde's energy sector was characterized by large consumption of imported fuel oil, biomass (wood) and limited use of renewable energy, particularly wind and solar power. The country's high dependence on petroleum products was directly proportional to increase in the demand for electricity and represented a heavy burden on the national economy. The country's power generation capacity mix comprised of 76% by diesel, 19% by wind, 5% by solar. Residential sector accounted for about 29% of the total electricity consumption in the country. Other major sectors for usage of electricity were desalination (8%), institutions (8%), tourism (9%), commercial – industrial – agricultural facilities (16%). The losses amounted to almost 30% (17% non-technical losses and 13% internal losses). As an archipelago, each island of Cabo Verde had its own local power station largely running on petroleum products and its own electrical grid. The electricity power system reported high growth in the past and achieved coverage of 90% of the country in 2010.

Energy efficiency was identified by the Government as a key area in which important cost savings can be made, GHG emissions can be reduced, and high cost of electricity can be brought down. The government acknowledged the importance of reducing the dependence on imported fossil fuels. Accordingly, the 2008 Cabo Verde National Energy Policy set out objectives to decrease the dependence on fossil fuel-based energy sector. The policy aimed for energy conservation, energy efficiency and strengthening of legal framework within the energy sector.

### **Brief Description of the Project**

The goal of the project is removal of barriers to energy efficiency in Cabo Verdean built environment and for appliances. The objectives are to be achieved by transformation of the market for energy efficiency in the country by introducing new laws on building codes and for domestic appliances by introducing a standards and labelling programme, new import regulations, testing procedures, and certification leading to significant improvements in energy efficiency in the country. The project has 4 components each consisting of a number of complementary activities designed to achieve the project goal. Listed below are the major components of the project.

Component 1: Enabling policy, institutional, and legislative framework for energy efficiency in buildings

Component 2: Enabling energy efficiency improvements through S&L for appliances

Component 3: Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects

Component 4: Replication and dissemination of lessons learnt and best practices

The project was approved for implementation on 5 January 2015. The signature of the Project Document by the Government on 30 July 2015 has officially marked start of the project implementation.

The GEF project grant approved for the project amounts to 1,910,400 US\$ complemented with 10,036,000 US\$ expected total co-financing composed of contributions from the Government and private sector. The total resources committed to the project at inception was thus 11,955,000 US\$.

The project was designed for implementation according to the National Implementation Modality (NIM) by the Directorate General for Energy (DGE)<sup>5</sup> responsible for liaison and co-ordination with other ministries, public administration bodies, agencies and authorities with a stake in the project, as well as for the achievement of the project results.

### Project Baseline Data

Cabo Verde's energy sector was strongly characterized by consumption of fossil fuels (derived oil—primarily imported oil), biomass (wood) and use of renewable energy, particularly wind and solar power. The country's high dependence on petroleum products was increasing with the demand for electricity, growing by 8.1% per year<sup>6</sup>. This represented a heavy burden on the national economy. The installed capacity increased from 82.3 MW in 2010 to 155.8 MW in 2013. The country's total energy matrix as of 2013 included the installed capacity by technology as 76% by diesel (imported), 19 % by wind, 5% by solar<sup>7</sup>.

In the last decade, Cabo Verde's energy demand was growing at a faster rate (114%) than its production capacity (94%). The residential sector contributed to 29% of the total energy demand. The principal source of electricity production was imported diesel oil complemented by renewable energy (wind farms) connected to the grid. Increased import dependency and increased demand prices made the country highly vulnerable to future fuel price shocks and demand risk.

The Government of Cabo Verde recognized the importance of energy efficiency through adoption of the National Plan for Energy Efficiency (PNEE) in 2015 that introduced several complementary measures for reducing the energy consumption in buildings and offices, in home appliances and in production processes.

At the project inception, five groups of appliances were selected for the initial standards and labelling program, namely air- conditioners, refrigerators and freezers, electric water heaters, televisions and bulbs. The selection was based on the annual energy saving potential of the equipment, based on their hours of usage per year, annual energy consumption, and projected

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<sup>5</sup> It was renamed as the Directorate of the Energy Services (DSE).

<sup>6</sup> Cape Verde: Country Strategy Paper (2014-19)

<sup>7</sup> IRENA Project Navigator Workshop- The current situation of RE- status and challenges – ELECTRA – Cabo Verde

growth in future demand as the basis. The baseline situation for each of the selected product is summarized below<sup>8</sup>.

### **Air-conditioners**

Data collected for air conditioners shows a gradual growth trend in the import volume over the last decade. The volume of import almost doubled from 3,734 units to 6,081 units between 2004 and 2013, with an average air conditioner unitary energy consumption of 3,228 kWh/year. Baseline projections assumed same unitary energy consumption without this project implementation for next decade with same annual growth of 6.3% per annum.

### **Refrigerators and freezers**

In 2010, nearly 59% of households owned refrigerators and 10.4% owned freezers. Import volume of refrigerators was increasing with an annual growth rate of nearly 4%. The baseline projection assumed no improvement in efficiency of the product in the absence of this project.

### **Electric water heaters**

Import volume of electric water heaters increased at the rate of 5.5% per annum, from 6,216 to 9,640 units from 2004 to 2013. The unitary energy consumption of water heaters was 547.5 kWh/year.

### **Televisions**

Nearly 74% of the country's households owned televisions. There was a gradual decline in the import volume in the last two years immediately before the project inception. The average annual energy consumption of a typical TV set was about 262 kWh/year.

### **Light bulbs**

Light bulbs were imported in huge quantity in the country with an annual growth rate of 1.1% per annum. Total units imported into the country increased from 164,500 units to 384,613 units between 2004 and 2013. Average energy consumption for each light bulb was approximately 87 kWh/year.

The selected groups of appliances had significantly contributed to the energy consumption of the country in the past decade, with the contribution of refrigerators/freezers and bulbs higher compared to the other appliances. The combination of growing population, stable economy, and improving affordability were the factors of increasing demand for these appliances.

The selected appliances have significant energy efficiency potential that can be harnessed without compromising the quality and performance of the service they provide. However, there were no laboratories for testing the appliances and no mechanism was in place for regulating, monitoring, labelling, and certification of appliances imported or sold in the country.

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<sup>8</sup> Information taken from the UNDP/GEF Project Document.

## Building sector

High-energy consumption of buildings, based on a model for design and construction imported to Cabo Verde, has led to decades of regular building practices contributing more to GHG emissions. Under a business-as-usual scenario, new buildings would have similar energy consumption to the current building energy performance. Due to absence of strict policy measures in the country, there would be fewer energy efficient buildings and the percentage of such buildings in the country's building stock in the next 10-15 years would remain constant.

As the major end user of electricity, household appliances and buildings were identified as priority areas for energy efficiency and conservation related initiatives. The Project Document identified several barriers to promotion of energy efficiency in buildings and appliances in the country, including;

- Lack of awareness among users on potential savings with application of measures towards energy conservation and efficiency;
- Limited knowledge of architects and builders on bioclimatic building practices and materials in the country;
- Limited experience and capacity of various ministries and public institutions responsible for buildings to implement appropriate policy and legal frameworks;
- Insufficient institutional and regulatory mechanisms to promote energy efficiency in buildings and appliances;
- Lack of financial incentives for construction companies, individual households and public institutions to invest in energy efficiency;

## Awareness barriers

There was a general lack of awareness among decision makers about the importance and economic benefits of implementing energy efficiency in buildings. There was no easily accessible information on energy efficiency like real life case studies; technology demonstrations and information, index of professional services and suppliers, financing information, information on professional experts to guide and support e.g. building owners or developers.

Few cultural and social barriers existed to awareness, e.g. the prevalent practice of self-construction (with no technical study or architectural project) that could be also illegal (not submitted to formal approval process, whether developed on legally owned land or not, this is the case especially in rural areas or slum areas). Potential of energy efficiency measures on housing and commercial projects was not communicated to the general public and property owners. Additionally, property management companies and public facilities managers had not been aware on the behaviour and management practices that increase energy waste.

Vocational training and university degrees taught in country did not support the introduction of energy efficiency measures since bioclimatic architecture, energy management and sustainable construction practices were generally not included in the taught curricula.

## Information barriers

There was limited information on the advantages and benefits of implementing energy savings measures in a cost-effective manner as well as absence of formal structured system like an energy management system (EMS) to collect and analyse baseline data. Reference was made to acquired best practices on EMS, such as the Croatian EMS model developed by UNDP. Additionally, public institutions rarely monitored regular energy consumption on their buildings and did not use any specific guidelines for procurement of efficient appliances for their facilities.

Despite previous efforts on training the technicians in energy auditing techniques and awareness raising methods, the technical capacity and experience of local professional with required skills and expertise to carry out energy efficient architectural projects was limited.

## Legal and regulatory barriers

At the project inception, the legal framework for energy efficiency buildings and appliances was limited; the project implementation envisaged support to the development of an effective legislation, regulatory framework and strengthening the market for energy efficiency. Thus, the Government needed to develop the enabling legal and regulatory framework for energy efficiency projects in the built environment.

□ *Existing building code and building legislation:* For buildings, there were a building code as a legal regime for buildings (2011), and a technical code of buildings (2012), which contained few provisions on energy efficiency. Respective municipalities control the local building regulations including construction permits, energy and efficiency of buildings etc.

□ *Minimum Energy Performance Standard (MEPS):* There were no MEPS for buildings and electrical appliances and no legally binding targets to assess their energy efficiency. The project proposed to develop a new building code focused on energy savings and support the development of new regulations for construction permits including robust enforcement mechanism.

□ *ECOWAS Centre for renewable energy and energy efficiency (ECREEE Program), in Praia, Cabo Verde:* Under the ECOWAS program, an initiative had been taken for energy efficiency in buildings which aimed at promoting reliable and affordable energy services, both in urban and in rural areas. The program built upon various national activities and added value to the challenges related to energy efficiency in buildings. The Governments of the ECOWAS region proposed to address the challenges and barriers for market penetration of technologies through five thematic programmes: tailored policy frameworks and quality standards, facilitate capacity building, advocacy, awareness raising, knowledge management and networking, implementation of renewable energy programs, and implementation of energy efficiency programmes.

□ *Standards and labelling of appliances:* For efficient household appliances, there was no national legislation or regulatory framework. World Trade Organizations (WTO) regulations

with requirements for inspection and testing of import items existed but had limited implementation due to lack of availability of framework and procedures.

### **Financial barriers**

Prior to the project, the Government of Cabo Verde gave little attention towards developing funding opportunities and financial mechanism for energy efficiency in buildings. There was a lack of financial incentive for construction companies, individual households or public institutions to invest in energy efficiency. Developers and builders had little incentive to construct efficient buildings as the benefits largely accrue to the occupants, thus split incentives led to low uptake by the developer community.

Increased capital cost for adopting energy efficiency measures was a major deterrent with lack of financial incentives for building construction. For appliances high upfront cost of efficient appliances, lack of information on life cycle cost analysis and other financial barriers resulted in no demand for energy efficient appliances.

### **Project theory of change**

A project's theory of change provides a basis for evaluation of the project resources, activities and results. The terminal evaluation will assess description of the project's theory of change including description of the project's outputs, outcomes, intended long-term environmental impacts of the project, causal pathways for the long-term impacts as well as implicit and explicit assumptions.

CABEEP was developed to support alternative scenarios from the baseline situation to reduce GHG emissions in the Cabo Verdean building sector by implementing mitigation measures in building and pave the way for improved energy efficiency in buildings. In order to strengthen wide-spread utilization of energy-efficient appliances, the intervention logic was to enable the Government to support the market transformation by introducing mandatory energy efficiency standards and a related labelling programme.

It was envisaged that development of the new building code under the project would include standards for water efficiency with water conservation as a key priority. This was planned to be achieved through new regulations and revised by-laws taking into account the need to promote responsible water usage and conservation by means of water efficient flow fixtures, rainwater harvesting systems, use of drip irrigation and other methods to reuse and recycle water.

### **Project components**

The project results framework in the approved Project Document consists of 4 substantive Outcomes and total of 19 substantive Outputs.

Outcome 1 focuses on development of the policy, institutional, and legislative frameworks needed to support energy efficiency in Cabo Verde and introduction of a new modern energy efficient building code for the country.

The purpose of Outcome 2 is to introduce a national framework for S&L of appliances through elaboration of regulations for standards of specific appliances (air-conditioners, domestic refrigerators, lighting products and electric storage water heaters) as well as develop and adopt national certification procedures for imported appliances.

Outcome 3 was developed for implementation of at least 4 demonstration projects in public buildings and 2 social housing programmes showcasing best practices related to energy efficiency with selected co-financing partners.

The aim of Outcome 4 is mobilization of additional investment in energy efficiency based on replication and dissemination of the results of the project with focus not only on energy efficiency indicators but also on water performance and climate resiliency building codes.

Table 1 below provides a list of the project outcomes and their specific outputs.

**Table 1:** Components and outcomes of the project

<b>Outcome No. and Title</b>	<b>Specific Outputs</b>
<p><b>OUTCOME 1:</b> Policy, institutional, and legislative frameworks energy efficient buildings enabled</p>	<ul style="list-style-type: none"> <li>• New building code focused on energy savings in Cabo Verde (includes minimum energy performance standards and energy passports) and which promotes climate resiliency and adaptation’ and includes water usage (efficiency, recycling and reuse);</li> <li>• Inventory and information system for national energy balance, detailed consumption statistics and related GHG emissions in the buildings, by building category and major end-use;</li> <li>• Measurement, Reporting and Verification (MRV) protocol to measure energy savings, water usage, and emission reduction in public buildings;</li> <li>• Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism;</li> </ul>
<p><b>OUTCOME 2:</b> Energy efficiency improvements through standards &amp; labelling for appliances</p>	<ul style="list-style-type: none"> <li>• Labelling programme for imported appliances imported in Cabo Verde in line with the ECOWAS labelling programme;</li> <li>• Regulations including import regulations for energy efficiency standards for a first selection of appliances;</li> <li>• Testing mechanism for selected appliances;</li> <li>• National certification procedures to promote energy efficiency;</li> <li>• Public awareness programme and diffusion strategy;</li> <li>• Demand side management programme built around a “turn in or exchange” mechanism/modality;</li> </ul>
<p><b>OUTCOME 3:</b> Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects</p>	<ul style="list-style-type: none"> <li>• Selection of at least 4 public buildings and 2 social housing programmes for pilot demonstration projects in energy efficiency investment;</li> <li>• Building stakeholders trained to monitor energy performance, water usage at selected buildings in accordance with information systems;</li> <li>• Monitoring and reporting system of energy performance/water usage for the demonstration;</li> </ul>
<p><b>OUTCOME 4:</b> Additional investment in energy efficiency mobilized as a result of the dissemination and replication of activities</p>	<ul style="list-style-type: none"> <li>• Elaboration of case study guides and disseminated among relevant audience;</li> <li>• Public awareness raising campaign on standards and labels;</li> <li>• Training of key stakeholders on energy efficiency in buildings;</li> <li>• Monitoring of the impacts of the new energy efficiency requirement;</li> <li>• Regular update of the legislation in order to tighten energy efficiency;</li> <li>• Lessons learned study prepared and disseminated;</li> </ul>

## Expected results

Table 2 below provides a summary of the project baseline and expected results.

**Table 2:** CABEEP expected results

<b>Result</b>	<b>Indicators</b>	<b>End-of-project Targets</b>
Project Objective	Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of-project (EOP)	297.8 ktCO <sub>2</sub> e
	Annual Reduction of energy consumption in the buildings and appliances	115,818 MWh
Outcome 1	Direct energy savings in the buildings sector projects by EOP, (energy and water efficiency)	4,634 MWh/year
Outcome 2	Direct energy savings in the appliances stock by EOP	111,184 MWh/year
	Increase in sales of energy efficient appliances as a result of energy efficiency finance	30 % increase
Outcome 3	No. of demo projects implemented each year	2 demo projects
Outcome 4	Increase in sales of energy efficient appliances during the project implementation	30 % increase
	Increase in number of energy- efficient buildings during and after project implementation	30 % increase

## Main project stakeholders

Stakeholder engagement is an inclusive and continuous process between a project and those potentially impacted that encompasses a range of activities and approaches. It is arguably one of the most important ingredients for a successful project delivery and therefore an essential element of this project.

The work on project preparation identified a number of stakeholders including government agencies, regional organizations, professional associations, academia, private sector entities and NGOs. The Project Document contains a comprehensive analysis of the stakeholders and their respective roles and responsibilities. Key government agencies important for the project and their respective areas of responsibility are listed in Table 3 below. A full list of stakeholders from the Project Document including their expected roles in the project implementation is provided as Annex 5.

**Table 3: Key government stakeholders and their responsibilities**

<b>Name</b>	<b>Area of responsibility</b>
Directorate General for Energy (DGE) of Ministry of Economy and Employment <sup>9</sup>	Elaborate and implement policies in the field of industry, energy, mines, and geology
Ministry of Tourism, Industry, and Energy (MTIE) <sup>10</sup>	Development of policies related to tourism, industry, and energy
Directorate General for Industry and Commerce (DGIC)	Promotes the establishment of joint production enterprises within the ECOWAS member states, fosters local industry and promotes sector policies and regulations
Directorate General of Tourism (DGT)	Responsible for recognizing the tourism sector and development of strategies for the economic development of Cape Verde
Directorate General of Environment (DGA)	Coordination with other agencies with respect to all matters pertaining to environment, particularly managing EIA, the national environmental education program and the environmental information system
Directorate General of Infrastructure (DGI)	Execution of the civil construction and public works policy, including industrial infrastructure, hydraulic works and public buildings
DG Customs- Ministry of Finance and Planning	Controls the import and inspection of all goods coming into the country

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<sup>9</sup> Renamed to the Directorate for the Services of Energy (DSE)

<sup>10</sup> Renamed to the Ministry of Industry Commerce and Energy (MICE)

## PROJECT DESIGN/FORMULATION

This section provides a descriptive assessment of the achieved results. In addition, several evaluation criteria are marked in line with the requirements for GEF Terminal Evaluations.

### Analysis of the project results framework

This section makes an assessment of the project results framework in terms of clarity, feasibility and logical sequence of the project outcomes/outputs and their links to the project objective. It also examines the specific indicators and their target values in terms of the SMART<sup>11</sup> criteria.

The project results framework is composed of 4 substantive outcomes and total of 19 substantive outputs. Specifically, Outcome 1 is related to development of policy, institutional and legislative frameworks for energy efficiency in buildings and Outcome 2 is to preparation of the national S&L programme for selected domestic appliances. Outcome 3 is devoted to demonstration of the energy efficiency measures in public buildings and Outcome 4 to mobilization of additional investment in energy efficiency through dissemination of case studies and replication of activities.

Section III of the approved Project Document contains a detailed results framework down to the output level with indicators and their EOP target values as well as risks and assumptions related to each of the four outcomes. The 4 interrelated components are linked to the Project Objective. However, a more detailed analysis of the project components revealed several internal inconsistencies within the results framework, such as incorrect definition of targets at the level of Outputs, mixing activities with performance targets, and misplacing or listing completely irrelevant performance targets. The inconsistencies are summarized in Table 4 below.

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<sup>11</sup> SMART stands for Specific, Measurable, Attainable, Relevant, Time-bound.

**Table 4: Internal inconsistencies in the S&L project results framework**

Project result	Indicator	Comments
<b>Outcome 1:</b> Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	Direct energy savings in the buildings sector projects by EOP, MWh/yr. (energy and water efficiency)	This is not relevant indicator to measure enacting the new policy and legislative frameworks
<b>Output 1.1:</b> New building code focused on energy savings in Cabo Verde (includes minimum energy performance standards and energy passports) and which promotes climate resiliency and adaptation' and includes water usage considerations	New building space compliant with new energy efficiency code by EOP, million m2	These are not relevant indicators to measure achievement of the output. The indicators would better fit to measure progress under the demonstration projects (Outcome 3)
	Direct energy savings in the projects by EOP, MWh/yr (energy and water efficiency)	
	No of trained professionals and government officials by EOP to conduct code compliance	This is not relevant indicator to measure achievement of the output and it is a repetition of the indicator under Output 4.3
<b>Output 1.2:</b> Inventory and database management system for national energy balance, detailed consumption statistics and related GHG's emissions in the building by major end-use (air conditioning, lighting, water heating, appliances)	No. of professionals trained to conduct energy audits	This is not relevant indicator to measure achievement of the output – identification and classification of buildings
<b>Output 1. 3:</b> MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	No. of professionals trained in the building sector for MRV	This is not relevant indicator to measure achievement of this output
	No. of buildings adopted MRV protocol	This is not relevant indicator to measure achievement of the output. It would better fit to measure progress under the demonstration projects (Outcome 3)
<b>Output 1.4:</b> Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism	No of professionals and govt. staff trained to conduct energy efficiency code compliance	This is not relevant indicator to measure incorporation of the building code into the construction approval process
<b>Output 2.1:</b> Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	No of manufacturers, retailers and consumers attend educational workshop on energy efficiency labels on appliances	This is not relevant indicator to measure achievement of this output and it is a duplication of the 1 <sup>st</sup> indicator under Output 2.5
<b>Output 2.2:</b> Regulations including import regulations for energy-efficiency standards for a first selection of appliances	No of trained energy efficiency standard compliance and enforcement officials	This is not relevant indicator to measure achievement of this output
<b>Output 2.3:</b> Testing mechanism for selected appliances to be developed and established	No. of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	This is not relevant indicator to measure development and use of the testing mechanism
<b>Output 2.6:</b> Demand Side Management program, run by the national utility, built around a “turn-in or exchange” mechanism/modality	No. of professionals and state officials trained on DSM programs by EOP	These are not relevant indicators to measure success of a DSM programme
	No. of energy audits carried out annually	
<b>Output 2.7:</b> The most relevant financial incentive is identified &introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heaters	% Increase in sales of energy-efficient appliances as a result of energy efficiency finance	This is not relevant indicator for measurement of financial incentives and it is not measurable due to lack of baseline sales data
<b>Outcome 4:</b> Additional investment mobilized in energy-efficiency as a result of the dissemination and replication activities	% Increase in sales of energy-efficient appliances during the project implementation	This indicator is not measurable due to lack of baseline data on sales of energy-efficient appliances
<b>Output 4.2:</b> Public awareness raising campaign on standards and labels	% Increase in sales of energy-efficient appliances during the project implementation	This is not relevant indicator for public awareness raising and it is not measurable due to lack of

In order to measure achievement of the project results, the logframe contains total 48 indicators. It follows from Table 4 that 16 indicators (about one third) are either not relevant for the results or not measurable and therefore are not fully SMART. This conclusion is in line with the critical review of the project logframe made by the MTR consultant.

In summary, the project results matrix contains several internal inconsistencies that hindered the use of the logframe as a tool for monitoring the progress in implementation.

### Risks and assumptions

Identification of risks enables the implementing partners to recognize and address challenges that may limit the ability of the project to achieve the planned performance outcomes. At the project design phase, a risk analysis was conducted and an overview of risks to achievement of the project's goals was contained in the Project Document, including risk categorization and assessment, as well as corresponding risk mitigation measures, as shown in Table 5 below.

**Table 5:** Risks of the S&L project identified at the project inception

Risk description	Category	Risk level	Mitigating actions
Lack of political support for energy efficiency	External	Medium	Involve and commitment of Government of Cabo Verde and key decision makers in the project implementation from the beginning
Lack of confirmed co-financing from key partners	External	Medium	Involve key stakeholders in the project implementation from the project inception stage and find alternative partners
No confirmed co-financing for demonstration projects	External	Medium	Involve key partners for demonstration selection and implementation. Select alternative demonstration projects if 6 months after the completion of th feasibility studies, co-financing is not forthcoming
Legislation does not pass into a law on energy efficiency buildings and appliances	External	Medium	Government ministries should be involved from the project inception stage and should be regularly updated about the project progress
Lack of positive response from building industry	External	Low	Targeted capacity building efforts to initiate a positive response from the industry Involve all the stakeholders in all stages of the project
Poor energy performance of demonstrated technologies, non-achievement of projects energy savings selected demonstration projects	Internal	Low	Targeted training programs for key professionals involved in the demonstration projects (other activities leading to removal of barrier to effective implementation of demonstration projects)
Lack of coordination within project components and activities - Internal	Internal	Medium	Project director should be well informed about the project development and ensure coordination mechanisms effectiveness. Project Manager should manage the activities and coordination between components
Increased cost of energy efficiency measures	Internal	Medium	Financial and fiscal incentives should be introduced as early as possible to motive investment in energy efficiency measures Awareness raising and training should be done from the beginning of the project, to make informed cost benefit decisions
Improved energy efficiency financing for buildings does not happen	Internal	High	Banking sector should be involved as one of the stakeholders from the project beginning

According to the standard practice of GEF-funded projects, the level of risks should be rated in terms of impact and probability. Instead, the approved Project Document assessed the identified risks on a one-dimensional scale Low-Medium-High. It also categorized the risks in 5 external

4 internal (project inherent) risks and suggested risk mitigation measures for all 9 identified risks.

As a standard practice of UNDP-implemented projects, the risk log based on the initial risk analysis should be regularly updated in UNDP enhanced results based management platform (ATLAS) and new operational risks (if identified) added to the risk matrix. Risks rated as critical (i.e. when both impact and probability are high) and corresponding mitigation measures should be reported in the annual Project Implementation Reviews (PIRs).

No PIRs were prepared for the years 2015 and 2016. The 2017 PIR in the section “Critical Risk Management” identified additional operational risk in terms of political volatility following three elections in 2016 that had reportedly delayed establishment of the Project Steering Committee. No critical risks were mentioned in the 2018 and 2019 PIRs.

It appears that none of the 9 initially identified risks was considered critical and further monitored during the project implementation. Delays in implementation of the legal and institutional component (Outcome 1) and lack of co-financing for demonstration projects had a negative effect on implementation progress and on achievement of the project results under all 4 project components. This implies that the corresponding risks were overlooked at the project preparatory stage. These risks should have been marked as critical and closely monitored during the project implementation.

It is the opinion of the evaluators that the risk identification and management was performed formally and critical risks were not sufficiently monitored and addressed throughout the project implementation.

### Lessons from other relevant projects incorporated into project design

This is a GEF-5 project that was designed in 2013-2015. At that time, relevant GEF-4 projects had not yet been completed hence there were only limited lessons learned from a couple of GEF-3 projects on energy efficiency in buildings that had been implemented in the region. There were no completed GEF projects on standards and labelling for electrical appliances prior 2015.

Specifically, the CABEEP Project Document makes reference to the Energy Management System (EMS) model developed by UNDP in Croatia under a GEF financed project<sup>12</sup> and experience from the latter project was used for development of the building energy efficiency part of this project.

While the technical part of CABEEP was certainly inspired by the Croatia project, it appears that experience from formulation and implementation of the latter project was not considered by CABEEP. TE of the Croatia project, completed in 2011, provided several relevant recommendations and summarized important lessons learned that would have been beneficial for formulation and implementation of CABEEP. For example, the Croatia TE called for using a detailed logframe for project daily management and monitoring. However, CABEEP did

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<sup>12</sup> Removing Barriers to Improving Energy Efficiency of the Residential and Service Sectors in Croatia, GEF ID 882

exactly the opposite when a simplified results framework only at outcome level was used for monitoring and reporting in PIRs.

Also, the Croatia TE highlighted selection of a qualified Project Manager as a critical success factor that requires combination of technical expertise, knowledge of best international practices and deep understanding of local market and conditions. However, due to lack of technical knowledge in the Project Management Unit (PMU), the latter hired two consulting companies to implement the building and appliances respective components of the project. MTR conducted at the beginning of the 4th year of implementation found that neither PMU nor the implementing partners had the required technical capacity to guide and evaluate the work carried out by the consulting companies and recommended to address this deficiency by appointment of an international technical advisor to support implementation of the project.

### Planned stakeholder participation

The Project Document called for involvement of a number of Government agencies with respective mandates relevant for development and implementation of energy efficiency in building construction and adoption of a national standards & labelling programme for household appliances. In addition, professional associations of architects and engineers, electrical and water utility companies, educational institutions and civic associations were also expected to participate in the project. The entry point for involvement of key project stakeholders were supposed to be meetings of the Project Steering Committee (PSC).

The Project Document provides a quite comprehensive list of organizations that had been consulted during the preparatory phase. Participation of Government agencies mandated in the regulation of the building construction and energy production sectors was well justified in the project design. Number of other stakeholders participated mainly in the capacity building sub-components.

The General Inspection of Economic Activities (IGAE) is the designated national entity for the implementation of the National Standards & Labelling programme. IGAE actively participated in training courses and has made itself available to support all processes, including in regions where, in line with the agreed upon implementation modality, they will delegate inspection powers to municipalities.

Several municipalities of Cabo Verde, Architects Order (OAC) and Engineers Order (OEC), participated in project training activities and provided of their facilities for training activities under the project.

Two private industries, namely Caboplast and Tecnicil, provided co-financing for energy audits.

The Lagoa and Achada Lagoa Community Association in the municipality of Tarrafal on Santiago island collaborated with the project on electrification of these communities through solar PV systems.

### Gender responsiveness of the project design

The Project Document does not contain any information about consideration of gender issues during the project development phase.

### Replication approach

The replication approach of the project is based on incorporation of minimum energy performance standards (MEPS) in the process for approvals for new buildings and building retrofits as well as MEPS for 6 selected categories of household equipment. Replication of the project results is addressed under two sub-components of Outcome 4, namely Output 4.2 and Output 4.5.

The former was designed target diverse professions within the building construction and electrical appliances sectors to ensure uniform awareness among all the associated sectors and rested on training of key government stakeholders and decision makers as well as practitioners (architects and engineers) of energy efficient buildings. Apart from focusing on building construction, the project proposed to enlarge the scope on building life cycle elements, in particular occupant's behaviour and building management practices by facility management companies and commercial or public institutions.

The second sub-component of the replication approach rests on a lessons-learned study on multiple aspects of energy efficiency of buildings and appliances, in particular analysis of the process of developing and implementing the new building code and continuation of ongoing monitoring requirements required therein beyond the lifetime of the project.

The main products of the replication approach included sustained institutional and legal frameworks to support energy efficiency in the built environment in Cabo Verde, enlarged group of beneficiaries using the outputs of this project in order to ensure greater interest in energy-efficiency in the country, as well as identification and mobilization of additional investment sources for continued implementation of the two regulatory programmes after the GEF project closure.

### UNDP comparative advantage

UNDP is well equipped to assist developing countries in addressing their needs and priorities due to its focus on poverty reduction, pro-poor economic policies and environmental sustainability. With its permanent presence in nearly 170 countries and long-term relationships between UNDP and the vast majority of nations, the Organization serves as a key bridge between the world-wide vision of development as a core UN pillar and its sustainable achievement in individual states and lives – offering the global partnership, support, collaboration, expertise, and often funding, required. Hence, the organization has tools to support countries in pursuing a balanced inclusive and sustainable growth patterns.

The essence of UNDP's comparative advantage for the GEF-funded projects is embedded in its global network of country offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community

participation. In addition to UNDP proven track record on promoting, designing and implementing activities consistent with the GEF mandate and national sustainable development plans of the developing countries, UNDP also has extensive inter-country programming and implementation experience.

A key part of UNDP's comparative advantage is the role of knowledge management broker, i.e. in accumulation of first-hand experience from implementation of projects in specific technical areas. As one of the implementing agencies for GEF, UNDP has been expanding its work on energy efficiency for achievement of the Sustainable Development Goals (SDGs).

In the field of energy-efficient buildings, UNDP, has been implementing a large portfolio of GEF funded projects aimed at promoting policies, technologies, institutional structures and financial models to spearhead the transition towards low-carbon buildings in over 50 developing and transition economies around the globe. Starting from GEF-3, UNDP has also implemented much smaller portfolio of projects on standards and labelling for energy efficient appliances. In this regard, CABEEP appears to be one of the very few UNDP projects focusing on both buildings and appliances.

Besides the specific technical areas of climate change and energy efficiency, UNDP has a long-standing experience in developing and implementing coherent packages of "hard" and "soft" interventions that make technology transfer successful when complemented by targeted strengthening of relevant human and institutional capacities.

#### [Linkages between project and other interventions within the sector](#)

In parallel with the CABEEP project, UNIDO implemented two GEF-funded projects, namely "Promoting market-based development of small to medium scale renewable energy systems in Cabo Verde" (2012-2019) and "Sustainable energy access to manage water resources: Addressing the energy-water nexus (2018-2021)". Although they were mentioned by some interviewed stakeholders, not concrete links were found between CABEEP and the UNIDO projects.

CABEEP established links to the Support Program for the Energy Sector (PASER) programme funded by LuxDev, the operational arm of the Luxembourg development cooperation. The project has collaborated with PASER in the development of the legal framework for the establishment and emergence of Energy Service Companies (ESCOs) and the related legal framework that regulates energy intensive consumers, such as industrial and hotel buildings. The project supported training and certification of energy efficiency experts.

#### [Management arrangements](#)

##### [GEF Implementing Agency](#)

The UNDP CO in Cabo Verde acted as the Implementing Agency for the project. Within this role, UNDP CO provided project implementation support to DGE by managing the project budget and monitoring expenditures, contracting project personnel and executing actions for procurement.

The Project Document envisaged to establish to implement the project, to be housed under DGE. Both UNDP and DGE were expected to form a project management board that would meet once a year to oversee the project implementation and approve the annual budget.

The project was backstopped by the UNDP Regional Technical Advisor based in Istanbul Regional Hub (IRH). UNDP CO and RTA provided overall management and technical guidance including responsibility for reporting and evaluation of the project as per GEF and UNDP standard requirements.

### Executing Agency/Implementing Partners

Directorate General for Energy (DGE) of the Ministry of Economy and Employment was designated as the Executing Agency for the project. In May 2016, following a change in administration, DGE that had been in charge of the strategic guidance and energy sector oversight, was restructured and downgraded to the Directorate of the Service of Energy (DSE). This change created a temporary vacuum in the sector oversight during about 12 months until a new Director of DSE was appointed in July 2017. These administrative changes happened soon after the official start of the project and certainly had a negative effect on the implementation progress in the initial phase of the project.

Following the change in administration in May 2016, the General Directorate of Energy of the Ministry of Economy and Employment was restructured and downgraded to a Service Directorate of Energy,

A project management unit (PMU) was established, led by a full-time National Project Manager (NPM), designated by UNDP CO, responsible for coordination of all PMU activities and timely implementation of the project, including administrative, financial and operational aspects of the implementation, with support of a full-time Project Assistant. NPM reported to a senior government official as the National Project Director (NPD), designated by DGE, responsible for overall strategic guidance to the project management and ensure coordination with various ministries and agencies including UNDP CO.

In line with the Project Document, two international consulting companies, one for buildings and the other one for appliances, were recruited for provision of technical assistance to activities under the respective project components.

### Inception Workshop

As a standard practice in GEF-funded projects, a project Inception Workshop (IW) is held within 2-3 months after the official project start date and after appointment of the Project Manager. This approach was apparently not followed under this project. According to the GEF PIRs, IW was organized in June 2015, i.e. one month before the official project start date (marked by the signature of the Project Document on 30 July 2015).

No agenda or minutes from IW were initially provided to the evaluators. Late in the evaluation process, at the stage of revision of the draft TE Report, UNDP RTA provided documentation related to the workshop organized on 12 June 2015 under the title “Workshop on Energy

Efficiency” as a half-day event with two sessions, one on presentation of the UNDP project and the other on the national plan on energy efficiency. The workshop was moderated by the technician from DGE who was officially appointed as Project Manager for CABEEP in December 2015, i.e. six months after the workshop and the official start of the project.

Although the above referenced event is suggested to be the Inception Workshop for the project, it is not a fully-fledged IW in line with the UNDP/GEF definitions. It was organized as a half-day awareness-raising event with two sessions on CABEEP and PNEE, respectively. Normally, IW workshop would have assigned the roles and the governance structures for the project implementation (such as the Project Steering Committee) and would have approved a workplan for the 1<sup>st</sup> year of the project implementation. This was not the case here as only one of the two sessions focussed on the project in the form of a mere presentation of the project. Together with organization of the workshop without the officially appointed Project Manager, it was a deviation from the common practice for UNDP/GEF projects. The premature organization of IW had a negative effect on building ownership of the project by its stakeholders.

### Project Steering Committee

Normally, IW is considered the first meeting of the Project Steering Committee (PSC). The premature organization of IW had further negative effects as the project was not able to convene PSC until November 2017 when PSC reportedly held its first meeting. This was apparently not fully-fledged PSC meeting. The inability to establish PSC was one of the topics for UNDP RTA who visited the country in April 2018 and held discussions with top officials of the Government. Finally, PSC was officially established in July 2018 by an official decree signed by the Minister of Energy.

Overview of the PSC meetings is in Table 6 below.

**Table 6:** List of meetings of the Project Steering Committee

No.	Date
1	5 November 2017
2	14 December 2018
3	4 September 2019
4	4 June 2020

The first PSC meeting took place 8 months before the official PSC establishment. Once created, PSC fulfilled its advisory and support function to PMU including monitoring of project progress and ensured that project resources were committed in line with annual work plans.

Apart from PSC, the Project Document envisaged establishment of two Technical Committees (TCs), namely for energy efficiency building code and for energy efficient appliances, in order to support management decisions for their respective project components and provide technical guidance as required by the Project Manager. TCs had been established as planned and in the absence of PSC helped to achieve a modest progress.

The evaluators found the actual managerial arrangements in line with the Project Document and consider them adequate for the size and complexity of the project. Review of available PSC meeting minutes gave information about the functionality of PSC and various technical and organizational issues that had been discussed. However, the irregularities in organization of IW and creation of PSC contributed to initial weak ownership of the project by the key stakeholders and contributed to the slow progress towards planned results in the first half of the project period.

## **PROJECT IMPLEMENTATION**

### **Adaptive management**

GEF evaluations assess adaptive management in terms of ability to direct the project implementation through adapting to changing political, regulatory, environmental and other conditions outside of control of the project implementing teams. The adaptive approach involves exploring alternative ways to navigate the projects towards meeting the planned objectives using one or more of these alternatives.

An example of adaptive management was implementation of the entire Component 3 of the project. Although 4 new public buildings had initially been identified for demonstration of energy efficiency practices, the project team was unable to obtain all data necessary for development and implementation of the demonstration projects. A decision was taken and approved by PSC to use existing buildings for demonstration of energy efficiency improvements. However, retrofitting of the existing buildings could not alter the building design and construction. Although the retrofitting was complemented by analysis of energy savings that could have been achieved if measures were applied in the design and construction phases of the buildings, it could not practically demonstrate full range of benefits from the new energy-efficient building code.

### **Partnership arrangements**

On 10-12 April 2018, PM and Project Assistant from PMU participated in the study tour to Zagreb, Croatia, and visited key institutions in the development and implementation of the Energy Management System (EMS) in Croatia.

On 27-31 May 2019, a study tour to Portugal was organized for two members of PMU and one expert each from DNICE and LEC. The purpose of the tour was to learn about experience of Portugal from implementation of energy efficiency measures and development of EE market in the building and appliances sectors as well as identify possible synergies with Portuguese institutions and companies.

On 22-24 October 2019, the National Coordinator of CABEEP participated in the ECOWAS Sustainable Energy Forum in Accra, Ghana. The Forum objective was to provide a platform to discuss the political and regulatory frameworks for private sector investments. The Forum also facilitated networking and partnerships between ECOWAS policy makers, private sector and financial institutions at regional level.

The project established a partnership with the Consumer Associations (ADECO) that became a part of the Technical Committee on buildings and offered their infrastructure for awareness raising activities of the general population.

### **Project finance**

The GEF grant for this project was approved at 1,918,400 US\$ and together with expected co-financing of 571,604 US\$ the total cost of the project at inception was 2,411,604 US\$. Table 7

below displays the breakdown of expenditures from the GEF grant by the years of the project implementation period.

**Table 7:** Expenditures from GEF funds by years of implementation in US\$

	2015	2016	2017	2018	2019	2015-2019
GEF	57,737.94	139,813.16	245,084.82	551,855.57	507,220.10	1,501,711.59
%	3.14	7.60	13.32	29.99	27.57	78.28

It follows from Table 6 that the total expenditure from the GEF funds at project closure was 1,501,711.59 US\$, that is 78.28% of the total GEF grant. Furthermore, the data in Table 6 demonstrate slow implementation of the project when only less than a quarter of the total GEF grant was disbursed in the initial 2.5 years of the project.

Table 8 below provides comparison of the planned and actual expenditures by the project components.

**Table 8:** Planned and actual disbursement of the GEF funds by components (US\$)

Project Component	Planned (US\$)	Expenditures (US\$)	%
Outcome 1	500,000	111,883.60	22.38
Outcome 2	400,000	471,780.00	117.95
Outcome 3	600,000	674,829.63	112.47
Outcome 4	340,000	136,416.09	40.12
Project Management	78,400	106,802.56	136.23
<b>Total</b>	<b>1,918,400.00</b>	<b>1,501,711.88</b>	<b>78.28</b>

The figures in Table 8 show that the disbursements for Outcomes 2 and 3 as well as for management of the project slightly exceeded the planned budget but in all cases the cost overrun was within acceptable budget revision margins for GEF projects.

CABEEP was designed to attract co-financing from the project implementing partners and eventually from other project stakeholders. There is some confusion related to the reporting on co-financing at the project inception. The co-financing amounts reported on the title page of the Project Document are much higher than the co-financing figures Section IV (Total Budget and Workplan) of the same and exceed several times the required co-financing ratio for GEF-funded projects. It appears that the figures on the title page were mistakenly displayed as parallel co-financing for the project. In fact, they represent an expression of financial spin-off or catalytic effects expected as a result of implementation of this project as documented in Agreements with several project stakeholders such as APP, ECREE, MICE and University of Cabo Verde (Annex E of the Project Document).

Therefore, the figures from Section IV of the Project Document are taken further for analysis of the co-financing. Table 9 below compares the planned co-funding at the project inception with the actually realized co-financing at the completion of the project.

**Table 9:** Comparison of planned and actual co-financing by source in 2015-2020 (US\$)

Co-financing Source	Planned (US\$)	Actual (US\$)	%
UNDP	300,000.00	238,760.39	79.59
National Partners	271,604.00	417,701.97	153.79
<b>Total</b>	<b>571,604.00</b>	<b>656,462.36</b>	<b>114.85</b>

The figures in Table 9 show that the total realized co-financing exceeded the amount pledged at the project inception by almost 15% and reached 656,462.36 US\$.

Table 10 below shows the co-financing totals broken down by years of project implementation, including costs incurred after the project closure in 2020.

**Table 10:** Breakdown of actual co-financing by years (in US\$)

Source	2015	2016	2017	2018	2019	2020	2015-2020
UNDP	64,560.94	48,883.58	47,971.93	39,322.05	38,021.89	0.00	238,760.39
Partners	65,000.00	68,000.00	70,000.00	68,976.36	54,201.67	91,523.94	417,701.97
<b>Total</b>	<b>129,560.94</b>	<b>116,883.58</b>	<b>117,971.93</b>	<b>108,298.41</b>	<b>92,223.56</b>	<b>91,523.94</b>	<b>656,462.36</b>

The data in Table 10 show even distribution of the co-financing from both UNDP and national partners over the project implementation period. Majority of the co-financing was provided by the Government (DNICE/DSE) with smaller contributions from CERMI. In 2020, the co-financing included also a participation through the Program to Support the Renewable Energy Sector (PASER) financed by the LuxDev Agency.

The co-financing from UNDP and national partners was used for trainings under Outcomes 1, 2 and 3 and for project management. There was relatively even distribution of the co-financing expenditures over the project period.

Although the co-financing on top of the GEF grant is a mandatory condition for approval of GEF projects, the implementing partners did not systematically monitor the actual levels of co-financing from external sources. Consequently, the information on the actually realized co-financing amounts was readily available only for UNDP co-financing recorded in the UNDP combined delivery reports (CDRs). The co-financing from the national partners was provided only upon request of the evaluators at the end of the data collection period.

### Monitoring and evaluation: design at entry and implementation

#### M&E design at project entry

The Monitoring & Evaluation (M&E) Framework was in details described in the Project Document. The Framework consisted of the Project Inception Workshop, meetings of the Project Steering Committee, quarterly and annual Project Implementation Reports as well as the Mid-Term Review and the Terminal Evaluation. The total indicative cost for the project M&E plan (excluding project team staff time and UNDP staff and travel expenses) was 105,000 US\$, i.e. 5.4 % of the total GEF grant.

Overall, the evaluators found the M&E design suitable for monitoring the project results and tracking the progress toward achieving the objectives, with the exception of the deficiencies in the project results framework discussed in the section “Analysis of the project results framework” above. Also, the financial allocation for the M&E activities is considered adequate.

The design of M&E framework followed the standard M&E template for projects of this size and complexity and therefore is rated **Satisfactory (S)**.

#### M&E at implementation

The main subject of the discussion here is the implementation of the originally planned components of the M&E plan. For the assessment of the M&E framework, the evaluator reviewed some of the project documentation related to monitoring and reporting, including the annual CDRs and annual Project Implementation Reviews (PIRs).

Inception Workshop (IW): In line with the Project Document, the project IW was expected to be organized within the first two months after the official start of the project involving relevant Government counterparts, co-financing partners, the UNDP CO and representation from the UNDP/GEF Regional Coordinating Unit. The IW was considered crucial to building ownership of the project results by participating stakeholders, review and confirm the results indicators chosen and to plan the 1<sup>st</sup> year annual work plan on the basis of the project logframe.

As a standard practice, IW is organized after the official inauguration of a project through signature by the beneficiary government and establishment of PMU. Reportedly, IW was held on 30 June 2015, one month before the official signature of the Project Document hence no project personnel could have been on board at that time. The early date was apparently chosen by the Government to use this occasion for launching the National Action Plan for Energy Efficiency. Although the report from this event covered some important aspects such as an agreed work plan, it was more a public relation exercise than a real IW. Due to consecutive elections in 2016, there were delays in establishing PMU and hiring the two technical consulting firms.

Annual Project Reports/Project Implementation Reviews (APRs/PIRs): The most important instrument in the monitoring process were Project Progress Reports (PPRs) prepared *ad-hoc* for the PSC meetings and Project Implementation Reviews (PIRs) prepared regularly with annual periodicity at the end of each GEF fiscal year (July to June). No PPRs were available for review. While PPRs were narratives summarizing progress achieved and highlighting issues for discussion by PSC, PIRs provided a detailed account of progress made under the four project components. PIRs were prepared for the GEF fiscal years 2016, 2017, 2018, 2019 and 2020 have a uniform structure and contain detailed reporting on progress towards performance targets at outcomes as well as the project objective levels. In line with the requirements, PIRs contain ratings and comments on project progress provided by PM, UNDP CO as well as the Executing Agency.

GEF Tracking Tools: GEF Tracking Tool was prepared at inception, at MTR and at project closure.

The evaluators found the five PIRs compliant with the standard UNDP/GEF project cycle reporting tools and particularly detailed. Apart from a large section on development progress provided by the Project Manager, the reviews also contained and concise summaries on implementation progress, management of critical risks, adjustments to project implementation plans and description of cross-cutting issues. The reviews also contained comments and ratings of the progress by PM, UNDP CO and UNDP RTA. The ratings by the key project stakeholders in the PIRs were in general consistent with the ratings given by the evaluators in the MTR

An independent Mid-Term Review (MTR) was suggested to be undertaken at mid-point of the project, i.e. approximately two years after the project start. Due to the slow start of the project implementation, the financial delivery in the first 2 years of the project was only about 10%. Although CABEEP is a Medium Size Project for which MTR is not mandatory, the UNDP RTA had strongly recommended to initiate MTR in 2017 for the combined reasons of the very low delivery at that time and the inability to create PSC. The RTA recommendation was not followed by UNDP CO and MTR was initiated in 2018.

The data collection phase of MTR commenced by the field mission of the MTR consultant to Cabo Verde on 26 to 30 November 2018 and the MTR report was finalized in February 2019.

Terminal Evaluation: The Project Document stipulated TE to be conducted three months prior to the project completion date. In reality, TE preparation process was negatively influenced by the Covid-19 pandemic in February/March 2020. TE was finally commissioned by the UNDP CO in July 2020. Due to delays related to Covid-19, TE was conducted in September – October 2020.

### Feedback from M&E activities used for adaptive management

The discussion under this section is based on observations and assessment whether the logical framework was used during implementation as a management and M&E tool and the extent to which follow-up actions, and/or adaptive management were taken in response to monitoring reports (APR/PIRs) and MTR.

The MTR Report of CABEEP contains overall conclusions on project implementation progress, highlights issues requiring decisions and actions by the project stakeholders and total 10 recommendations for enhanced implementation during the remaining part of the project's time period.

A summary of the MTR recommendations is in Table 11 below.

**Table 11: List of MTR recommendations**

No.	Recommendation	Recipients
1.	<p>In case of targets for direct GHG emission reduction due to implementation of EEBC, the level of ambition is on the higher side. The project design has considered that the EEBC will get developed and implemented within one year of the start of the project implementation. Further, it has been considered that it will be possible to construct the six demonstration (pilot) buildings within the implementation timelines of the project and these buildings would lead to direct GHG emission reductions. The expectations of reductions in the energy consumption (and the consequent GHG emission reductions) due to the establishment of the new energy efficiency buildings within the implementation timelines of the project is not realistic. This is considering the fact that establishment of new buildings requires a number of sequential time consuming activities. Some of the activities required for establishing new buildings are, identification of the buildings to be constructed, basic design of the buildings, detailed design of the building, approval of the building plans and design by the owner of the building and the relevant authorities, arrangement and mobilisation of the funds required, procurement of the material, actual construction of the building. Many of these activities can not be carried out in parallel. After all the designs and approvals are in place the actual construction of the building would take anywhere from two to three year. Establishment of 6 building (4 public buildings and 2 social housing programmes) for pilot demonstration projects (as envisaged in the project design), within the project implementation timelines is too ambitious to be achieved. It is recommended that the target for direct reduction in the emission of GHG due to implementation of EEBC be set at zero.</p>	
2.	<p>The project has envisaged construction of 6 new buildings (4 public buildings and 2 social housing programmes) which are in complain to the EEBC, for pilot demonstration projects. In line with the arguments presented in case of recommendation 1 above, it is recommended that the scope for pilot projects (Outcome 3 of the project) be restricted to the basic design of the buildings as per the newly approved EEBC.</p>	
3.	<p>For the estimates in the energy savings in the buildings, historical consumption of energy in the buildings has been used as the baseline and the historical growth in the consumption of energy in the buildings has been used to determine the consumption of energy in the BSU. It is important to note that the intervention under the GEF project pertains to development and implementation of 'Energy Efficiency Building Code (EEBC)'. As per the project design, the EEBC will be applicable to all the new buildings to be constructed in future. Theoretically, there are three contributing factors towards the growth in the historical consumption of energy in the buildings; increase in the ownership of appliances in the buildings; increase in the usage of existing stock of appliances in the buildings; increase in the building stock due to construction of new buildings.</p> <p>The EEBC code will only influence the variation in the energy consumption due to construction of new buildings. In the absence of historical (and baseline) data regarding the construction of new buildings and the specific energy consumption (in terms of MWh per year per building or per unit of floor area), it is not possible to determine the contribution of the construction of new buildings in the past growth in the consumption of energy, in the buildings. The project document has considered a growth of 3.6 percent per annum in the demand for energy in the buildings on the baseline figure of 124911 MWh per annum (for the base year 2012). It is considered that the contribution of the three factors mentioned above is equal, accordingly in the BSU scenario the incremental consumption of energy in the newly constructed buildings in Cabo Verde would be about 1500 MWh per annum.</p> <p>Thus, implementation of EEBC in Cabo Verde has the potential to lead to reduction in the consequential (indirect) GHG emission of 7200 tons of CO2 equivalent, over a period of 10 years, post implementation of the project. It is recommended that the project, correct the end of the project target for reduction of the consequential (indirect) GHG emissions to either 7200 tons of GHG emission or to a more accurate figure after carrying out a through assessment in this regard.</p>	
4.	<p>The assumption in the project design, that the minimum performance standards and labelling program for the appliances will be achieved and become effective within one year of the project implementation timelines and this will lead to significant energy savings within the implementation timelines of the project is ambitious. This is considering the fact that development of regulations and its approval is a time consuming process. Further, the peak results (in terms of reduction in energy consumption in the appliances) of the energy performance standards can only be realised over the lifetime of the appliance (typically 4 to 5 years, except for the bulbs and lamps). Also the results of the awareness creation program regarding the benefits of use of energy efficient appliances can be realised only once such awareness creation activities has been carried out. It is recommended that the target for direct reduction in the emission of GHG due to implementation of minimum energy performance standards and labelling programs be set at zero.</p>	
5.	<p>There are issues with the computation algorithms and assumptions made while computing the baseline energy consumption and the projected energy savings due to implementation of the energy performance standards and labelling program for the appliances. Some of such issues are as follows:</p> <ul style="list-style-type: none"> <li>• The life of the appliances has been considered as 5 years (replacement of 20% of the appliances every year as mentioned in Annex C of Project Document). Although, the life of 5 years may be acceptable for refrigerators, freezers, water heaters and televisions, the life of incandescent bulbs can't be accepted as five years. In case of incandescent bulbs, the life is only about 6 to 9 months (about 1000 hrs. of operations).</li> <li>• In case of air-conditioners, average power consumption, in the baseline case has been considered as 3000 watts for every unit, which is very much on the higher side. Further, while computing the energy consumption, 3000 watts has been multiplied by the number of hours of operations. The air-conditioners are on the full load only when the compressor is working (approximately about 50% of the time).</li> <li>• In case of refrigerators as well, while computing the energy consumption, the estimated power consumption of 200 watts has been multiplied by the number of hours of operations (24 hours). Like air-conditioners, refrigerators are on the full load only when the compressor is working (approximately about 20% of the time).</li> </ul> <p>In view of the above it is recommended that the targets for consecutive GHG emission (indirect GHG emission) reductions due to minimum energy performance standards and labelling program for appliances may be put at 110 thousand tons of CO2 over a period of 10 years (post implementation of the project) or the estimates of consecutive GHG emissions may be re-worked for more accurate assessment.</p>	
6.	<p>Apart from the values of direct and consequent GHG emission reduction targets, there are issues with some of the indicators provided to monitor the progress and achievement of the project objectives, Outcomes and the results. It is recommended that the log-frame of the project be modified to take care of the issues. Suggested changes in the log-frame are marked in Table 2 of the MTR Report.</p>	
7.	<p>Many of the activities for all the Outcomes of the project are yet to be carried out. This is largely due to delayed start of the project. One of the reason for this is the procedural delays in the appointment of the consulting firm, to carry out different activities. The felt out activities, to facilitate the achievement of results can only be completed, if an extension is provided for the implementation timelines for the project. It is recommended that an extension of one year be provided for implementation of the project.</p>	
8.	<p>As is evident there is not much achievement of results for Outcome 3 (in spite of the progress towards achievement of results in term of the indicators). In order the take care of this situation it is recommended to provide for an additional Output and the indicator (please see Table 2). It would be possible to achieve these only in case an extension of one year is granted for implementation of the project.</p>	
9.	<p>Given the climatic conditions in most of the islands of Cabo Verde, there is hardly any requirement for heating the space in the buildings. Also, the air-conditioning requirements are moderate. Thus, the highest gain in the EE in the buildings at an aggregate level could be achieved by the EE building design (orientation, natural lighting, material specifications etc.). Further, the EE gains due to use of appliances (lamps and air conditioners) with higher efficiency in the buildings, is already covered under the component of the project pertaining to S&amp;L program, thereby leading to double counting of the benefits of EE measures under the project. However, the present version of the EEBC is applicable to new commercial buildings only. It is recommended that, in order to enhance the benefits of EEBC, the option of making it applicable for the residential buildings may be explored.</p>	
10	<p>In the present working and management arrangements, most of the work is being carried out by the two consulting firms. Neither PMU nor DEG has the required technical capacity, to guide and evaluate the work carried out by the consulting firms. Further, UNDP CO also lacks the technical skills required to supervise and evaluate the work carried out by the consulting firms. It is recommended to have an international technical advisor to support implementation of the project. The technical advisor will also support the M&amp;V activities to the required level.</p>	

Some of the recommendations are in fact a mixture of findings, conclusions and recommendations and therefore quite long. A majority of them are not formulated in an actionable manner, in particular they are not directed on specific users, i.e. it is not clear who should take the action that is recommended.

The MTR Report does not contain initial lessons learned about the project design, implementation and management.

Majority of the recommendations are directed on substantive matters of the project and call for revision of direct and indirect energy consumption and GHG emission reductions (Nos. 1 and 3-5) and for adjustments of the project components devoted to the energy-efficient building code (the No. 2, 8 and 9).

A substantive part (about 10 pages) of the MTR report<sup>13</sup> is devoted to a detailed critical analysis of the project logframe. Recommendation No. 6 suggested to conduct an overhaul of the project logframe through revision of the indicators and/or their target values. The last two recommendations are related to project management and called for actions to strengthen the project implementation team and for extension of the project time period.

In order to ensure effective use of MTR findings and recommendations, the Commissioning Unit and Project Team should together draft a management response to MTR to stipulate how the Project Team and other stakeholders, as appropriate, will respond to the MTR recommendations. Management responses should include detailed key actions that highlight which agency or unit is responsible for recommended actions and the deadlines for their completion.

Although the MTR report was issued in February 2019, a draft management response on MTR recommendations was prepared only in December 2019. As a standard practice, changes and adjustments proposed by MTR should be presented to PSC and decided whether the changes should be added to the project's logframe for the remaining part of the project life<sup>14</sup>. As the request for a project extension into 2020 was significantly delayed and the TE process had already been initiated, the management response was never formalized for implementation and the proposals for revision of project indicators and their end-of-project targets were not implemented.

Although the M&E individual stages were implemented more or less correctly, the deficiencies in the use of M&E as a monitoring tool and insufficient feedback from MTR for adaptive management are basis for the rating of the quality of M&E implementation as **Moderately Satisfactory (MS)**.

#### [UNDP and implementing partner implementation / execution](#)

The project followed the management arrangements presented in the Project Document that were based on a common scheme for project management arrangements under the UNDP

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<sup>13</sup> NTR Report, Section 4.2, p. 39-49.

<sup>14</sup> Project Level Monitoring: Guidance for Conducting Midterm Reviews of UNDP-supported, GEF-financed Projects, UNDP-GEF, 2014

National Implementation Modality (NIM) established and implemented in the way that ensured transparency and accountability for the results and use of GEF resources, while at the same time they fostered national ownership of the project through continued alignment of the project to the national needs and priorities.

The MTR found the implementing partners (DGE and UNDP CO) did not have sufficient technical capacities to guide and evaluate the work carried out by the two companies and recommended to recruit an international technical advisor (TA) as a support in the one-year extension of the project that had also been recommended by MTR. Unfortunately, due to delays in approval of the project extension by UNDP it was not possible to recruit the advisor hence the recruitment of TA was not completed.

The level of involvement of the Implementing Agency in the project was affected by the fact that UNDP CO in Cabo Verde has been working under the Joint Office modality in which four funds and programmes, namely UNDP, UNFPA, UNICEF and WFP, agreed to operate as one. While this arrangement reduces administrative and procedural burdens of the participating agencies and their national partners, it also limits the level of involvement of CO in concrete projects such as CABEEP.

Apart from its CO in Praia, UNDP also makes available a Regional Technical Advisor (RTA) for advisory and technical backstopping of the project. RTA for the entire period of CABEEP implementation was based in UNDP Istanbul Regional Hub. Due to the geographical distance, the RTA support was provided remotely with exception of one mission to Cabo Verde in April 2018 (details under the Project Steering Committee below). As of January 2020, the technical backstopping of the project was transferred to a new RTA based in the UNDP Regional Service Centre in Addis, but as the extension of the project had not been approved, this change came too late to provide any tangible effect on the project.

**Based on the above findings, the overall quality of UNDP and implementing partners implementation/execution is rated Moderately Satisfactory (MS).**

## OVERALL RESULTS (ATTAINMENT OF OBJECTIVES)

The information presented in this section was sourced from the various project implementation reports and verified with information collected through interviews with key informants. Additional sources of information were various studies and technical reports produced by the project. The list of documents consulted is provided as Annex 4 to this report.

### Relevance

The questions discussed under this section are to what extent is the project linked to the national development priorities of Cabo Verde, the relevant GEF Operational Programme and strategic priorities of UNDP.

The pertinent policies and strategies of the Government are as follows:

National Strategy and Plan of Action on Climate Change (2000)

National Program of Action for Adaptation to Climate Change (NAPA, 2007);

Medium-Term Water Management Strategy (PAGIRH 2009-2013) – lead by the National Institute for Water Resource Management (INGRH);

National Environment Action Plan (PANA II) is an umbrella programme for reform and transformation in the natural resources management sectors. The programme, implemented by the General Directorate for the Environment, mentions energy efficiency and renewable energy as important tools to promote sustainable development in the country.

National Action Plan for ‘Sustainable Energy for All’ initiative (2013) identified energy efficiency as an important priority area for GHG emission reduction. Similarly, the National Communications to UNFCCC mention energy efficiency and technological innovation as key interventions to reduce dependence on use of fossil fuel, in line with one of the strategies mentioned in National Energy Policy of Cabo Verde.

National Action Plan for Energy Efficiency (PNAEE 2015), prepared under the commitments of Cape Verde as part the Economic Community of West African States (ECOWAS), details energy efficiency goals and mentions the strategy outlined for the energy sector, demand management, promotion of more efficient processes and equipment, promotion of rational energy use as key structural elements of transformation of the country’s energy consumption patterns. CABEEP is directly relevant for two out of total four areas of intervention listed in PNAEE, namely EE in buildings and EE in home appliances and indirectly relevant for the area that targets EE for intensive consumers with emphasis on hotels.

CABEEP is also relevant for 4 out of 6 flagship initiatives defined in the ECOWAS Energy Efficiency Action Plan, namely:

- Efficient Lighting by replacing incandescent lamps with high efficiency lamps;

- Introduce Energy Efficiency Standards;
- Develop and adopt an energy efficiency framework and measures for buildings;
- Mobilise environmental finance instruments;

The ECOWAS regional framework document for energy efficiency in buildings (ECOWAS- EEB-guideline) provides relevant basic requirements for energy efficiency in buildings under the building permits procedure, including criteria of tropical architecture and the link to urban planning, well arranged in one document, serving as a template for country-specific customization during the process of developing energy efficiency building codes. Similarly, the ECOWAS standards and labelling (ECOWAS S&L) initiative supports design of an ECOWAS energy efficiency label; long term monitoring and verification of the effects of standards, and labels.

In relation to the UN Framework Convention on Climate Change (UNFCCC), the project is a relevant assistance tool for helping the Government of Cabo Verde to fulfil the country's commitment under UNFCCC for reduction of GHG emissions by improved energy efficiency, as the country had made an unconditional long-term commitment to reduce overall energy demand by 10% in relation to the base scenario by 2030<sup>15</sup>.

CABEEP is also aligned with the GEF-5 Focal Area Climate Change Mitigation that puts emphasis on technologies that are commercially available but face barriers and require market pull to achieve widespread adoption and diffusion. Expected outcomes under Objective 2 of the GEF-5 focal area 'Promote market transformation for energy efficiency in industry and the building sector' include adoption and enforcement of appropriate policy, legal and regulatory frameworks and mobilization of investments for energy savings and GHG reduction.

Energy efficiency is also amongst corporate priorities for UNDP that has been working on energy efficiency for more than 25 years and champions global initiatives such as United for Efficiency (U4E) —linking leading companies, civil society and senior policymakers toward a common purpose: transforming emerging and developing economies with energy-efficient products.

Being part of U4E allows UNDP to do this work with a consistent, proven method called the Integrated Policy Approach. The comprehensive approach ensures widespread and lasting market transformation. It includes mandatory minimum energy performance standards (MEPS), labelling and communication efforts to ensure stakeholders are well informed, financial mechanisms to support purchases of efficient products, monitoring of the market and enforcement of the rules, and safe handling of products.

Key UNDP services in the area of energy efficiency include policy and programme support to promote energy efficiency in households, public and municipal facilities, residential and commercial buildings, and industry. UNDP is also supporting national and local governments to design and adopt efficient policies and legislation and help governments with integrated solutions that tackle energy efficiency in disaster risk reduction and recovery processes. Additionally,

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<sup>15</sup> Intended Nationally Determined Contribution of Cabo Verde to UNFCCC, Ministry of Environmental, Housing and Land Planning, 2015

UNDP supports the implementation of business models and financing mechanisms to facilitate energy-efficient investment by private sector partners.

In relation to the UN Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development, energy is being recognized as a key enabler for development through establishment of SDG Goal 7: *Ensure access to affordable, reliable, sustainable and modern energy for all*. Its indicator 7.3 calls to double the global rate of improvement in energy efficiency by 2030. Universal access to energy, a higher share of renewable energy and massive improvements in energy efficiency are now part of the top global priorities for sustainable development. In addition to direct relation to SDG7, energy efficiency is indirectly related to other SDGs as summarized in Table 12 below.

**Table 12:** Relation of energy efficiency to UN SDGs<sup>16</sup>

Sustainable Development Goals	Linkage with energy efficiency
<i>Sustainable energy</i>	
7.3 Double the global rate of improvement in energy efficiency	7a. Enhance international cooperation to facilitate access to clean energy research and technologies, including renewable energy, energy efficiency, and advanced and cleaner fossil fuel technologies, and promote investment in energy infrastructure and clean energy technologies  7b. Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries
<i>Other SDGs:</i>	
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Energy efficiency and conservation influence the country's energy intensity and carbon content of economic growth
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Resilient infrastructure and public-private partnerships are required to ensure access to energy for all and to maximise energy efficiency
11. Make cities and human settlements inclusive, safe, resilient and sustainable	Municipalities require careful electricity planning and efficient power distribution
12. Ensure sustainable consumption and production patterns	The residential and buildings sector is a key part of a future in which there is sustainable consumption of energy and products
13. Take urgent action to combat climate change and its impacts	The carbon-intensive energy sector (based on fossil fuels) is a key driver of climate change.

**Based on the above, relevance of the project is rated Relevant (R) for the recipient country, as well as the donor and implementing agencies.**

### Effectiveness & Efficiency

The principal questions to be discussed in this section are whether and how the project outcomes as well as its objective have been achieved and whether the project results have been delivered

<sup>16</sup> Compiled from Transforming our World: the 2030 Agenda for Sustainable Development (UN, 2015), Indicators and a Monitoring Framework for the Sustainable Development Goals, Sustainable Development Solutions Network (SDSN)

with the least costly resources possible. The further text will also highlight positive and negative, foreseen and unforeseen changes and effects produced by the project intervention.

In the series of tables below, the project results and achievements have been summarized and compared against the target indicators listed in the project's logical framework. The initial information about the project results/achievements was extracted from the project's PIRs and verified and updated through interviews and meetings held during the data collection phase. Additional information was supplemented from the project-related documentation provided by PMU.

Tables 13 – 17 list the indicator targets for the individual outputs, summarize the delivery status at the Terminal Evaluation and provide rating for the Outputs' delivery. Each table contains an overview of the actually achieved project results in bullet points followed by a short narrative with additional insight and details on how and why the results have or have not been achieved. At the end, the narrative also explains the basis for rating of each project outcomes. The text following each table summarizes some important facts related to the project results that could not be captured in the tables but were considered important for the justification of the rating of the project outcomes.

**Table 13: Deliverables for Outcome 1**

Result	Indicators	EOP Targets	Delivery Status at TE	Rating
<b>OUTCOME 1:</b> Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	Direct energy savings in the buildings sector projects by EOP, MWh/y	4,634		MS
<b>Output 1.1:</b> New building code focused on energy savings in Cabo Verde (includes minimum energy performance standards and energy passports) and which promotes climate resiliency and adaptation' and includes water usage considerations	1a: New building space compliant with new energy efficiency code by EOP, million m2	??	Energy Efficiency Building Code (2020) Best Practices User Guide for Energy Efficient Buildings (2018 ToT on 19-20 November 2018 ToT on 17-18 July 2019)	N.A.
	1b: Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)	4,634		N.A.
	1.c: No of trained professionals and government officials by EOP to conduct code compliance	50	80 trained professionals from technical offices of Fogo, Brava and Maio (July 2019)	HS
<b>Output 1.2:</b> Inventory and database management system for national energy balance, detailed consumption statistics and related GHG's emissions in the building by major end use (air conditioning, lighting, water heating appliances).	1.d: No. of professionals trained to conduct energy audits	50	Proposal for development of EMS (May 2017)	MS
	1.e: No. of buildings energy performance in the database	100	13 specialists trained in February 2020	MS
	1.f: No. of energy audits carried out annually	15	Training of 15 experts postponed 78 public buildings examined (2017) 3 energy audits carried out (2018), 4 additional audits initiated (2020)	MS
<b>Output 1.3:</b> MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	1.g: No. of professionals trained in the building sector for MRV	25	Training scheduled for the 1st semester of 2020 but postponed because of COVID-19	MS
	1.h: No. of buildings adopted MRV protocol	30	Proposal for MRV protocol including operational verification (2017)	MU
<b>Output 1.4:</b> Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism	1.i: No. of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance No. of building permits approvals processed according to new EE code compliance mechanism	5	Compliance and enforcement framework for CEEE (2019) Energy Efficiency Building Manual (2019)	N.A.
	1.j: No of professionals and govt. staff trained to conduct energy efficiency code compliance	60	73 trained professionals from technical offices of Santiago, Sal and Sao Vicente islands (2019-2020)	S
	1.k: No. of verified energy efficiency code compliant buildings each year project implementation EOP	25	CEEE approved in July 2020 and not implemented	N.A.
	1.l: No. of accredited local authorities (at municipal level) to validate and verify mandatory energy efficiency code compliance by EOP	5	CEEE approved in July 2020 and not implemented	N.A.

All activities under Outcome 1 were implemented through a Long-Term Agreement (LTA) between UNDP CO and the international consulting company Pricewaterhouse Coopers India (PwC) selected through international competitive recruitment. LTA was signed in December 2016 for a duration of 3 years.

**Output 1.1:** Development of the new Energy Efficiency Code in Buildings for Cabo Verde started with a review of three directives and codes, namely the Energy Efficiency Building Directive of

Economic Community of West African States (ECOWAS), the Energy Performance of Building Directive (EPBD) of the European Union, and the Energy Conservation Building Code (ECBC) of India.

The initial review was followed by a situation analysis through a desk research on estimation of Cabo Verde's electricity consumption pattern, growth in building footprint, existing construction methods and materials and professional capacity in the country. Based on the compiled information, PwC identified the components of the new code, namely bio-climatic design, building envelope, heating, ventilation and air-conditioning (HVAC) and lighting.

The code was elaborated under wide consultation with the key stakeholders, namely the National Institute of Territory Management, the Association of Municipalities and Municipal Councils, the Orders of Architects and Engineers and the Civil Engineering Laboratory.

Before finalization of the new code, PwC with the project team organized a series of presentations with engineers, architects and technical offices in the municipalities of the islands of Santiago, Sal, Boa Vista, São Nicolau, Santo Antão and São Vicente in order to raise awareness among key actors in the construction sector about the proposals for the new legal and institutional framework for energy efficiency in buildings and discuss development and transformation of the market in the construction sector.

The Energy Efficiency Code in Buildings (Código de Eficiência Energética em Edifícios - CEEE) was established by the Decree 24/2020 promulgated in the Official Bulletin on 3 July 2020. The Code provides detailed specification to several principles defined by the Technical Building Code (CTE) published by Ordinance 4/2012. CEEE covers minimum energy performance requirements, i.e. the bioclimatic design of buildings, their facades, HVAC (heating, ventilation and air-conditioning) systems as well as interior lighting and control systems. All new commercial and public buildings with special low voltage or medium voltage connection, such as hotels and tourist resorts, public and private office buildings, educational institutions, hospitals and out-patient health care buildings, shopping malls and supermarkets, multiplex and public transport-related buildings as well as all existing public and commercial buildings that undergo major rehabilitation works have to comply with CEEE. In addition, the relevant authorities commenced work on implementation of CEEE into the national building by-law.

As additional support to the development of energy efficient buildings in Cabo Verde, PwC developed Best Practices User Guide for Energy Efficient Buildings. It provides practical guidance to architects, engineers, planners, and developers on ways of designing buildings that minimize the requirement for energy as part of a strategy to reduce energy consumption and address global warming within the municipalities.

**Output 1.2:** The work on this Output started with energy and greenhouse gas emissions mapping for buildings in the country based on their classification and major energy consuming appliances along with the preparation of energy information and management system. A defined methodology

was developed which resulted in assessment of building performance in 78 public buildings that were proposed for the initial implementation of an Energy Management System (EMS).

The core of this Output was a proposal for development of EMS as an online, web-based tool to manage and analyse energy and water consumption in buildings. The proposal was based on EMS that had been developed under a UNDP/GEF project in Croatia and customized to the specific conditions of Cabo Verde. The proposed EMS integrates energy and water use data along with corresponding GHG emission data and counts upon provision of energy and water consumption data collected from the buildings compliant with the new building code.

Initial group of 13 specialists were trained in February 2020 with a follow-up plan to train another 15 experts but the training was postponed to 2021 because of Covid-19 restrictions.

**Output 1.3:** To support implementation of the new building code, PwC proposed a plan for Measuring, Reporting and Verification (MRV) to determine actual savings achieved within a building facility by energy efficiency interventions. The essence of the proposed MRV plan is a comparison of measurements before and after implementation of an energy or water saving measures. The plan, developed on grounds of the widely accepted fundamental principles of MRV, provides methods, with different levels of cost and accuracy, for determining savings either for a whole building or for particular energy conservation measures applicable to all the public buildings, existing as well as new.

The proposed plan further includes operational verification as a low-cost initial step for realizing savings potential preceding official savings verification activities. In addition, the consulting company also proposed a standardized protocol that included a detailed MRV plan, compliance, reporting and related cost.

Training on MRV was delayed and scheduled for the 1st semester of 2020 but had to be further postponed because of Covid-19 restrictions to the week of November 30 to December 4, 2020.

**Output 1.4:** Stringency analysis of the new code was done including preparation of a stringency update framework and proposal of a mechanism for periodic update and reporting of data for existing buildings. The proposal for compliance and enforcement of CEEE was based on a review of the existing construction permit regulations, integration of CEEE into the Building Technical Code and stakeholder consultations for finalization of the regulatory framework. The consultations examined three alternative compliance models, namely a prescriptive model, a performance-based model, and an outcome-based model. Ultimately, the prescriptive method for compliance with CEEE was proposed as the most appropriate for adoption and implementation as it contains options for minimum requirements for different construction elements.

Furthermore, PwC proposed two distinctive approaches for the new building code enforcement, i) a centralized approach where relevant central institutions would have the overall authority, and ii) a decentralized approach where each municipal chamber would take the authority in their respective area under overall guidance from central institutions. Through consultations with

relevant stakeholders, the decentralized approach was selected as the preferred approach for implementation in Cabo Verde.

The project assisted with revision of the entire Building Technical Code and numerous capacity building activities were conducted at different strata towards adoption of CEEE. Finally, a Compliance and Enforcement mechanism to implement CEEE was prepared and put for discussion of relevant national stakeholders.

The first batch of 15 trainers were trained on the Santiago island with the intention to cascade down the training on other islands. The best trainers were selected and tasked with replicating the training in Santiago for 30 participants, Sal for 15 participants and São Vicente for 15 participants. At the time of finalization of the TE Report, another group of 13 professionals were trained in a training session from 26<sup>th</sup> October 26th to 6<sup>th</sup> November.

**Overall Assessment of Outcome 1:** The project succeeded to create a basic policy, institutional and legislative framework for construction of energy efficient buildings. The main tangible results under this component are the new building code and its approval by the Government, as well as technical proposals for development of a MRV protocol and for setup of a mechanism to ensure compliance with the building code. However, the development of the Code took more than 2 years and it was officially promulgated in July 2020, i.e. after the project closure.

MTR of the project recommended substantive revision of the indicators or their end-of-project (EOP) targets, namely drop indicators 1.a, 1.i, 1.j and 1.k, as well as reduce EOP for indicator 1.b to zero. However, these changes were not officially approved by PSC.

Under Outcome 1 initial steps were taken towards development of EMS in buildings but this work was not followed-up, apparently due to lack of involvement of the national utility companies (ELECTRA, AEB). The mere approval of the building code without development of EMS and introduction in practice did not bring about planned direct energy savings and GHG emission reductions from the project. Practical application of the building code and EMS will induce substantive energy savings in the future. However, as CEEE is applicable only for commercial and public buildings, the scale of post-project energy savings and GHG emission reduction will be lower than planned in the Project Document.

The training programme for certification of professionals for enforcement of the new building code was developed late in the project and was delayed due to travel restrictions related to Corona-19. Lack of certified professionals at the end of the project hampers implementation and enforcement of the new building code.

**Based on the above, the achievement of Outcome 1 is rated Moderately Satisfactory (S).**

**Table 14: Deliverables for Outcome 2**

Result	Indicator	EOP Targets	Delivery Status at TE	Rating
<b>OUTCOME 2:</b> Energy-efficiency improvements through Standards & Labelling for appliances	a) Direct energy savings in the appliances stock by EOP MWh/yr	111,184		
	b) % Increase in sales of energy efficient appliances as a result of energy efficiency finance	20%		
<b>Output 2.1:</b> Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	2.a: No. of verification and enforcement procedures developed in line with ECOWAS labelling program	1	Guides for the certification regulation and minimum requirements for the 6 selected equipment categories	S
	2.b: No of manufacturers, retailers and consumers attend educational workshop on energy efficiency labels on appliances	50	42 representatives of consumers association and retailers	S
	2.c: % Increase in sales of energy efficient appliances with labelling and certification	30%	S&L programme not implemented	U
<b>Output 2.2:</b> Regulations including import regulations for energy-efficiency standards for a first selection of appliances	2.d: % Increase in import of energy efficient appliances due to developed new law and regulatory changes	60%	Draft MEPS for the 6 selected categories of appliances	MU
	2.e: No of trained energy efficiency standard compliance and enforcement officials	60	45 officials of CERMI, IGAE, IGQPI and Customs trained (2019) S&L programme not implemented	MS
<b>Output 2.3:</b> Testing mechanism for selected appliances to be developed and established	2.f: Increase in testing of appliances as per new testing mechanism developed	60%	No testing facilities supported Guidelines for testion of appliances (2019)	MS
	2.g: No. of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	25	Training on testing and reporting of appliances	MS
<b>Output 2.4:</b> National certification procedures to promote energy efficiency	2.h: % Increase in energy efficient appliance sales through certification procedures	50%	S&L programme not operational	N.A.
<b>Output 2.5:</b> Public awareness programme and diffusion strategy, which includes training seminars on the new regulations for importers, appliances distributor's retail chains, and the general public	2.i: No of officials (manufactures, retailers, customs officials) trained to comply with new energy efficient appliance law/regulation	25	12 training sessions for representatives of key agencies of the Government and retailers (October 2019)	
	2.j: % Increase in consumers and retailers understanding of trade-off between higher purchase cost and lower running cost of energy efficient appliances	40%	No reports available	N.A.
	2.K: % Increase in local retailers and distributors to market more efficient appliances	40%	No reports available	N.A.
<b>Output 2.6:</b> Demand Side Management program, run by the national utility, built around a "turn-in or exchange" mechanism/modality	2.l: No. of professionals and state officials trained on DSM programs by EOP	25	Three DSM programmes proposed and implementation strategy outlined	MS
	2.m: No. of energy audits carried out annually	15	No pilot DSM programmes launched	
	2.n: No of pilot DSM programs launched	2		
<b>Output 2.7:</b> The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heaters	2.o: No. of applicable project financing schemes on energy-efficient appliances identified, designed and launched during project implementation	2	Two most suitable fiscal incentives identified but none of them implemented	MS
	2.p: Increase in sales of energy-efficient appliances as a result of energy efficiency finance	20%		

All activities under Outcome 2 were implemented through a Long-Term Agreement (LTA) between UNDP CO and the consulting company Gesto Energia, S. A. selected through

international competitive recruitment. LTA was signed in November 2016 for a duration of 3 years.

**Output 2.1:** In early 2017, the first draft of the Standards & Labelling programme was presented to key project stakeholders and led to the decision to advance a Cabo Verde own national label design, integrated with the European Model, and to develop MEPS for 6 appliance categories. The selected appliance types had greater potential for reducing both energy consumption and GHG emissions.

The following appliance types were selected:

- Air conditioners – in line with ECOWAS MEPS; Class A
- Refrigerators & freezers: MEPS class B (transition to A in the future) Class A warranty seal;
- Television - EU MEPS; Class A warranty seal; Entry into force in one year.
- Light bulbs - MEPS class C and phase-out of incandescent bulbs by 2018.
- Electric water heater - cover only the water tank; MEPS class D;
- Washing machine - MEPS class A; Minimum requirement of water consumption; Class A seal.

It was proposed to adopt European model for testing with adapted surveillance (maximum two tests in one equipment).

The National System of Standards and Labelling for Electrical Equipment (Sistema Nacional de Etiquetagem e Requisitos dos Equipamentos Eléctricos - SNEREE) was officially promulgated through Decree 25/2019 (announced in the Official Bulletin on 13 June 2019) and came into force as of 1 January 2020. The Decree established obligation for affixing labels to all equipment with specification of the energy efficiency class of the equipment and provision of an information sheet and technical documentation informing about energy consumption and other essential EE characteristics of the product. The Decree established an official guarantee label for each category of appliances and defined minimum requirements for import of appliances into Cabo Verde and minimum requirements to qualify for the official label.

Overall responsibility to manage SNEREE was assigned to the National Directorate of Industry Commerce and Energy (DNICE). For SNEREE implementation, DNICE will be supported by the Directorate for Environment (DNA) and may request collaboration of several other entities with distinctive functions for the programme.

**Output 2.2:** Draft Minimum Performance Standards were developed for each of the 6 appliance categories covered by SNEREE, however, no training for compliance enforcement was provided. The following MEPS were drafted:

- Air conditioners – in line with ECOWAS MEPS; Class A
- Refrigerators & freezers: MEPS class B (transition to A in the future)
- Television – based on EU MEPS;
- Light bulbs - MEPS class C;
- Electric water heater - cover only the water tank; MEPS class D;

- Washing machine - MEPS class A; minimum requirement of water consumption; Class A.

At the time of TE, the 6 MEPS have not yet been officially promulgated and were under consideration by the Government.

Total 45 officials of CERMI, IGAE, IGQPI and Customs were trained by the consulting company Gesto Energia in 2019.

**Output 2.3:** For each category of appliances covered by SNEREE, Gesto Energia developed guidelines for measurement and testing of the appliances. A group of technicians from CERMI and DNICE was trained to use the guides and certify that the appliances are in compliance with the minimum requirements indicated by the energy efficiency labels.

Despite the original intention to support development of testing facilities for selected appliance categories, this work was not advanced under the project. Reportedly, the national utility company ELEKTRA has some laboratories for testing energy efficiency but no support for development of these facilities was provided by the project.

**Output 2.4:** An awareness campaign directed at the general public was prepared and conducted, based on several communication channels, with appliances buyers and users the main target audience. The use of different communication channels in the campaign enabled more effective transmission of the main message to the target audience.

A special strategy developed that identified school students as a channel for conveying energy related information to the public. They would act as ambassadors for conveying the useful message to their parents.

**Output 2.5:** For this part, Gesto Energia organized a sequence of 12 training sessions for representatives of key agencies of the Government and retailers on 30 September – 8 October 2019. The first part of the training was devoted to establish theoretical and informational basis for understanding the different processes of the proposed national S&L programme while the second part was reserved for practical sessions.

Total 43 representatives of main SNEREE stakeholders from different regions of the country were trained. A majority (40) of the participants came from various agencies of the Government (DNICE, DG Customs, ADECO, CERMI, IGQPI, IGAE) and 3 participants were representatives of appliance retailers.

**Output 2.6:** A proposal for a Demand Side Management (DSM) campaign was developed aiming to encourage resumption and modernization of household appliances in Cape Verde. The campaign was designed along the following three components:

- Lamp exchange programme
- Equipment takeback programme
- National equipment exchange Programme

The proposal included measurement of potential impacts of the implementation of the various programmes, essential implementation requirements and associated cost.

It was planned that DNICE would implement a pilot project for LED lamps exchange but because of the Covid-19 travel restrictions due to the pandemic launching of the pilot had to be postponed to 2021.

**Output 2.7:** The consulting company examined several possible fiscal incentives and finally recommended two options suitable for Cabo Verde, namely reduced taxation or tax credits for energy-efficient appliances. The option recommended and finally preferred by the authorities was the reduced tax model, where the value of energy-inefficient equipment is taxed at a higher level. However, no fiscal incentives have been implemented yet.

**Overall Assessment of Outcome 2:** CABEEP was instrumental for establishment of the national S&L programme for household appliances and for preparation of minimum energy performance standards (MEPS) for selected 6 categories of electrical appliances. As a result, Cabo Verde has developed more standards and labels for more appliance categories than other African countries (except South Africa). The labels are powerful tools to inform consumers about products directly at the point of purchase and allow consumers to select efficient models of household appliances. However, at the time of TE the S&L programme was not operational yet as MEPS had not been officially promulgated. The lack of implementation of the S&L programme means that there was no increase in sales of energy efficient appliances and no direct energy savings realized under the project.

Initial training was provided for representatives of relevant agencies of the Government, customer associations and retailers and the public awareness campaign helped to get the message on energy efficiency to the general public. Although proposals for DSM programmes and fiscal incentives to promote energy efficiency in appliance were outlined by the international consultants, they were not implemented under the project.

DSE developed two additional legislative documents, namely a Regulation of Intensive Energy Consumers and a Regulation on Energy Service Companies (ESCOS). The two regulations can be considered as a spin-off effect of the project as they had been developed using the capacities for development of energy efficiency standards built under CABEEP.

**Based on the above, the achievement of Outcome 2 is rated Moderately Satisfactory.**

**Table 15:** Deliverables for Outcome 3

Result	Indicator	EOP Targets	Output Delivery Status at TE	Rating
<b>OUTCOME 3:</b> Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects	Demonstration projects completed and energy efficiency best practices disseminated	5		
<b>Output 3.1:</b> Selection of at least 4 public buildings and 2 social housing programmes for pilot demonstration projects in energy efficiency investment	3.a: No. of finalized and approved demonstration project designs (engineering and construction)	5	EE retrofit demonstration projects designed in 4 public buildings (MICE, IGE, DNA, MIOTH and LEC) Assistance with electrification to two rural communities in Tarrafal	S
	3.b: No. of demo projects implemented each year	2	4 demo projects implemented	S
<b>Output 3.2:</b> Building stakeholders (architects, engineers, designers, developers, financial institutions) trained to monitor energy performance / water usage at the selected buildings in accordance with database management system	3.c: No of building stakeholders trained each year (certified professions)	15	ToT on CEEE 19-20 November 2018	S
	3.d: No of professionals certified as accredited professional	25	Training for certified experts prepared and postponed due to Covid-19	MS
<b>Output 3.3:</b> Monitoring and Reporting System of energy performance / water usage for the demonstration projects	3.e: No. of energy and water audits conducted in pilot projects	8	4 energy audits completed (DNA, LEC and 2 MIOTH buildings)	MS
	3.f: No. of M&V reports published from pilot projects	2	No reports produced	U

**Output 3.1:** Based on the selection criteria stipulated in Annex D of the Project Document, the project team identified 4 new public buildings for the pilot demonstration projects to showcase various advantages and potential of energy efficient buildings. The selection included the National Institute of Public Health in Praia, the Ambulatory Consultation Center in Mindelo, the City Hall of Tarrafal of São Nicolau Municipality and the Assomada Health Center. The eco-tourism resort in Tarrafal of Santiago Island was added to the above selection to reflect the fact that buildings used by the tourism industry are the largest consumers of energy in relative terms and to increase diversity of the demonstration projects.

The consulting company responsible for the development of CEEE provided technical advisory on building design, energy efficient technologies, material specifications, energy simulations, life cycle cost analysis, in order to define critical energy efficiency measures to be implemented in the pilots.

The process of selecting the demonstration projects was delayed due to problems in identification of the institutions responsible for construction of the selected buildings. Due to lack of data for implementation of the demonstration projects in the selected new buildings, the project team referred this issue to PSC. At its meeting in December 2018, PSC approved an option to launch demonstration projects in existing buildings. Finally, the demonstration projects were implemented on retrofits of 4 existing buildings, namely the National Directorate of Environment (DNA), the Civil Engineering Laboratory (LEC) and the Ministry of Infrastructure, Housing and Territory Planning (MIOTH – buildings 1 and 2). The project team wanted to add one additional building for demonstration, but this work was delayed due to the Covid-19 outbreak.

The energy efficiency measures implemented in the 4 demo projects included replacing inefficient lamps with LED lamps and conventional air-conditioning units with inverter A/C systems. Both new technological options are part of the minimum requirements defined CEEE. Further measures included overhaul of electrical installations in order to eliminate waste of energy and installation of photovoltaic energy production systems.

Within the scope of the initiative Energy and Sustainable Development of Communities, off-grid photovoltaic kits in 15 homes in the rural communities of Lagoa and Achada Lagoa in Tarrafal on the Santiago island in order to guarantee access to electricity for 15 families. The beneficiaries were trained on maintenance of the installed systems and sensitized to adopt good energy saving practices.

**Output 3.2:** A standard Train-the-Trainer (TtT) approach was used in the project. The 1<sup>st</sup> TtT workshop took place on 19-20 November 2019 with 28 participants (19 males and 9 females) from various organizations. Based on presentations and a written paper, 14 participants (9 males and 5 females) passed the training evaluation and were invited for the 2<sup>nd</sup> TtT workshop that was held on 16-17 July 2019 with 13 participants (8 males and 5 females), out of which 10 came from Santiago, 2 from São Vicente and 1 from Sal. The participants received certification as master trainers on CEEE.

Relevant authorities in the construction sector decided that assessment of conformity of new building construction projects with CEEE would be done by independent experts. A training programme for the first 15 building energy certification experts was prepared for early 2020 but had to be postponed due to Covid-19 restrictions.

**Output 3.3:** Following energy audits in the selected buildings, the proposed EE interventions focussed mainly on the HVAC and lighting systems. Other measures such as alteration to the window-to-wall ratio and adjustment of the building envelope were not possible in the already existing buildings. Therefore, the implemented EE measures consisted of replacement of air-conditioners, exchange of lamp bulbs and provision of solar PV panels.

The consulting company performed energy audits of the 4 demonstration projects and included simulations of energy performance in case the buildings were subject to major remodelling and application of some measures of bioclimatic design. The studies concluded that implementation of the new building code in existing buildings could yield energy savings up to 45%. A techno-economic analysis of adopted interventions estimated the payback period in the range from 4 to 20 months.

**Overall assessment of Outcome 3:** After unsuccessful attempts for demonstration of energy efficiency on new buildings, the project team did well to implement 4 projects on retrofit of existing buildings. As a matter of fact, energy efficiency measures in these demonstration projects were implemented before the actual approval of CEEE by the Government. However, this work could not show full range of benefits of the new building code as the applied measures could not alter the bioclimatic design and building envelopes.

The capacity building component started with in a standard way with TtT and a sizeable numbers of building design professionals and municipality officers were trained and sensitized through a series of. Due to late start the capacity building activities, the project did not produce the planned pool of certified professionals to ascertain conformity of new building construction projects with CEEE before the project closure. The certification programme will have to be implemented in the future.

The main shortcoming under this Outcome was lack of thorough monitoring of the demonstration projects. Consequently, no reports on results of the energy efficiency measures applied in retrofit of public buildings were available at the end of the project.

**Based on the above findings, the overall achievement of Outcome 3 is rated Moderately Satisfactory (MS).**

**Table 16:** Deliverables for Outcome 4

Result	Indicator	EOP Targets	Delivery Status at TE	Rating
<b>OUTCOME 4:</b> Additional investment mobilized in energy efficiency as a result of the dissemination and replication activities	% Increase in sales of energy efficient appliances during the project implementation	30%		
	% increase in number of energy efficiency buildings during and after project implementation	30%		
<b>Output 4.1.:</b> Elaboration of case study guides and disseminated among relevant audience	4.a: No of published comprehensive energy efficiency buildings user manuals and case study guides	5	No case study guides produced	U
	4.b: No. of set of guidelines prepared on energy efficient buildings for developers and investors by EOP	5	Best Practices User Guide for Energy Efficient Buildings (2018)	MS
<b>Output 4.2:</b> Public awareness raising campaign on standards and labels	4.c: No of awareness raising campaigns websites, newsletters, media outreach activities)	15	Awareness raising campaign for stakeholders proposed (May 2018)	S
	4.d: % Increase in sales of energy-efficient appliances during the project implementation	30%	Awareness raising campaign for general public proposed and implemented (January 2019) EE website, CABEEP website and social media presence (e.g. Facebook)	N.A.
<b>Output 4.3:</b> Training of Key Building Stakeholders (senior policy makers, introduction of energy efficiency technique and practices in Vocational Training Schools across the country) on energy efficient buildings	4.e: No. of training courses conducted for key stakeholders each year	4	No follow-up to the initial training	U
	4.f: No. of vocational training /vocational training schools or courses/units/modules within university programs	5	Cooperation protocols with 3 universities on establishment of EE courses  No information on introduction of EE practices into vocational training schools	MS
<b>Output 4.4:</b> A thorough monitoring of the impacts of the new energy efficient requirement is performed	4.g: % Reduction in energy consumption due to new energy efficiency requirements	30%	Activity not started	U
<b>Output 4.5:</b> Lessons learned study prepared and disseminated	4.H: No. of sets of knowledge sharing products developed by EOP	4	Study tour to Portugal No lessons learned studies produced	MU

**Output 4.1:** User guide on best practice for energy efficient buildings was prepared by PwC under Outcome 1.

**Output 4.2:** The consulting company Gesto Energia developed awareness raising campaigns for SNEREE stakeholders and general public. These campaigns consisted of an educational workshop, special training sessions, preparation of brochures and leaflets, as well as use of electronic media.

To support the campaigns, a Cape Verde energy efficiency website was established (<https://www.eficienciaenergetica.cv/site/>) in order to facilitate information of stakeholders and the general public. The website includes an application that facilitates creation of the energy label for each group of appliances covered by SNEREE.

**Output 4.3:** In 2018, PwC conducted a series of training and awareness raising activities related to CEEE as follows:

- One-day awareness workshop for engineers working in the building sector on 23 July 2018 at Santiago;
- Three one-day workshops for municipalities at Santiago, Sal and São Vicente (24-28 July 2018);
- One-day training workshop for officials of municipalities of Sal and São Vicente on 24th and 27th September 2018;
- One-day training program for architects on 21 November 2018;
- Half-a-day workshop on 22 November 2018 on CEEE for students of architecture and civil engineering with the objective to sensitize the students the main aspects of the CEEE and importance of energy efficiency;

Total 84 architects/engineers, 45 officials and 30 students participated in the above activities.

There has also been cooperation with the University of Cabo Verde and two other universities that consider inclusion of energy efficiency into their curricula. No concrete results in this regard have been achieved as the Covid-19 restrictions have hampered launching of the courses.

**Output 4.4:** This activity was not initiated as the CEEE and SNEREE have not been implemented yet.

**Output 4.5:** Lessons learned studies from practical implementation of CEE and SNEREE were expected to be prepared at towards the end of the LTAs with the two consulting companies implementing Outcomes 1 and 2. Since the two regulatory regimes had not been put into practice, PMU decided to prepare instead a study of lessons learned from implementation of the demonstration projects and recruit a consultant for this task. However, as the extension of the project into 2020 was not granted, the contract for the consultant was finally not approved by the National Director of the project.

PMU considered the lessons learned studies very important not only for the Outcome 4 but for the entire project. However, it was decided the studies would be initiated only after launching the implementation of the two regulatory regimes when there will be information and data available for comparison with the baseline. Since the project has been closed, DNICE will have to mobilize funding for the studies.

**Overall Assessment of Outcome 4:** Apart from the training and public awareness activities, the activities on dissemination of the project results were not implemented. Although the delay of the lessons learned studies until after launching the regulatory regimes on energy efficiency in buildings and appliances makes sense, the evaluators concluded that at least the experience from implementation of the demonstration pilots should have been compiled and disseminated. This is because the demonstration projects have large potential for replication and absence of results and lessons learned from their implementation is not conducive to mobilization of additional investments for energy efficiency.

**Based on the above findings, the overall achievement of the Outcome 4 is rated Moderately Unsatisfactory (MU).**

### Achievement of the Project Objective

The primary objective of the project was to remove barriers to energy efficiency in buildings and appliances in Cabo Verde and facilitate market transformation leading to substantial energy savings and greenhouse gas reductions through development of a new building code and its application in selected pilot demonstration projects, as well as development of a S&L programme and implementation of minimum energy efficiency standards for selected categories of appliances. The Project Document estimated the expected resulting direct emission reductions at 297.8 ktCO<sub>2</sub>e and the expected indirect emission reductions nearly 703.9 ktCO<sub>2</sub>e following dissemination of experience from project implementation and replication of project activities.

Status of achievement of the Objective is summarized in Table 17 below.

**Table 17:** Status of achievement of the Project Objective

Project Objective	Indicator	EOP Targets	Delivery Status at TE	Rating
Reduce energy consumption and related GHG emissions in buildings and household appliances in Cabo Verde through introducing a range of legislative and regulatory measures and resulting in an estimated indirect CO <sub>2</sub> savings of some 703.99 ktCO <sub>2</sub> over the 10-year project lifetime	A: Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO <sub>2</sub> e	297.8	54.06 The reported value could not be verified	MU
	B: Annual reduction of energy consumption in the buildings and appliances, MWh	115,818	110.30	MU
	C: Reduction of consecutive (indirect) GHG emissions due to EEBC over a period of 10 years post project implementation (tons of CO <sub>2</sub> e)	7,200	N.A.	N.A.
	D: Reduction of consecutive (indirect) GHG emissions by use of energy efficient appliances over 10 years post project implementation (tons of CO <sub>2</sub> e)	110,000	N.A.	N.A.

There are inconsistencies in the listing of the expected global environmental benefits in the Project Document. On the title page, the expected cumulative direct and indirect GHG emission reductions are 297.8 and 703.9 ktCO<sub>2</sub>e, respectively. However, Annex C of the ProDoc displays a different set of figures, namely 304.75 ktCO<sub>2</sub>e for total direct and 687.0 ktCO<sub>2</sub>e for total indirect emission reductions.

The basis for the estimation of the total direct GHG reductions during the approved 4-year project period (2015-2019) were assumptions that the two principal regulatory documents (CEEE and SNEREE) would get developed and approved one year after the start of the project and that it would be possible to implement the six pilot demonstration projects on EE buildings within the implementation timeline of the project.

Firstly, development and approval of such regulatory documents is subject to a relatively complicated legislative process consisting of iterative consultations with relevant stakeholders and subsequent revisions of proposed new legislation before final approval by a law-making body and/or the Government. Cabo Verde was no exception to the above described process and the two regulatory frameworks were finalized at the end of the project. CEEE was officially promulgated after the project closure (on 3<sup>rd</sup> July 2020).

Secondly, establishment of new buildings requires a number of sequential steps in the process from identification to actual construction of the buildings that take about 2-3 years on average. Therefore, the assumptions made at the project inception and expectations of direct energy savings and related GHG emission reductions after one year of the project implementation were not realistic.

Although SNEREE was officially promulgated before the project closure (in June 2019), this signified only establishment of the basic regulatory and institutional framework without promulgation of Minimum Energy Performance Standards (MEPS) for the appliances covered by the regulation. Reportedly, draft MEPS were available at the time of completion of this report, but not officially promulgated hence the appliances component of the project could not induce the direct energy savings either.

The inconsistencies and unrealistic assumptions related to energy savings and GHG reduction targets were highlighted in the MTR report issued in February 2019. In addition to bringing the attention to the length of the legislative approval process, the MTR Report casted doubts about potential to generate planned energy savings from implementation of CEEE due to the fact that the adopted code would be applicable only for commercial buildings and not for residential buildings. Consequently, MTR recommended a substantive revision of the EOP targets for indicators A and B (see Table 16) related to direct as well as indirect energy savings and GHG emission reductions within the project time period. However, the revised EOP targets had not been approved by PSC.

Additionally, MTR proposed two new indicators C and D (also listed in Table 16) for cumulative indirect GHG emission reductions from a 10-year post-project period of implementation of the EE measures. Similarly, the new indicators and their 10-year cumulative targets had not been approved by PSC.

It can be concluded that the project has created legislative frameworks for future implementation of energy efficiency measures in the building construction and household electrical appliances sectors in Cabo Verde. Due to late approval of the two key regulatory documents, the direct energy

savings and GHG emission reductions were produced only from the demonstration projects and not from practical application of the EE regulatory frameworks. Although a value of 54.06 ktCO<sub>2</sub>e has been reported in the 2020 PIR for cumulative GHG emission reductions from the energy efficiency measures in the building sector and in domestic appliances by end of the project, this calculation could not be verified by the evaluators due to lack of data.

However, the capacities built and institutional mechanisms created for implementation and enforcement of the two regulatory regimes have not been tested in practice during the project period. Therefore, effectiveness and functionality of both CEEE and SNEREE remains to be seen in the near future.

**Based on the above findings, the overall achievement of the Project Objective is rated Moderately Unsatisfactory (MU).**

### Efficiency

The main issues examined in relation to efficiency were the length of the project implementation period and to what extent the results have been achieved with the least costly GEF and other resources possible.

The Project was approved for implementation by GEF CEO on 5 January 2015 for a period of 48 months. However, the Project Document was signed by the Government on 30 July 2015 that officially marked start of the project implementation. As explained in the previous sections, only slow progress was made in the initial two years of project implementation.

There were delays in the UNDP's response to the request for extension of the project that was submitted in line with the MTR recommendations. Consequently, for the first quarter of the last year of implementation the project did not have approved budget. This led to some reduction of activities that were planned for the last year of the project. The confusion about the project extension finally ended with refusal of the extension request hence the project had to be operationally closed at the end of 2019 with a small budget carry-over to 2020 to cover TE consultancy.

The project was successful in provision of support for preparation of the two main legal framework documents regulating energy efficiency market in the building construction and electrical appliances in Cabo Verde. However, due to delays related to the complexity of the legislative approval processes, the key documents were approved by the Government only in July 2019 (SNEREE) and in July 2020 (CEEE), i.e. at the closure of the project or even after. Although implementation plans for both CEEE and SNEREE had been prepared under the project, due to the late approval of the legal regulatory frameworks and the refusal to grant the project extension there was no time to follow-up with implementation of the two regulatory regimes before the project closure.

The closure of the project at the end of 2019 means that the project has only slightly exceeded its originally planned implementation period of 4 years but has not delivered all results as planned. Since 2018, the implementation progress had been accelerated but the confusion with the project extension request hampered the previously gained momentum for the last year of the project.

In line with the NIM modality, DNICE was designated as the national project implementing entity. Nevertheless, the audit of the financial statements of the NIM executed project, conducted in 2018, found that DNICE did not have a specific bank account for the receipt and control of the project funds and that all payments were made directly by the UN Joint Office, through prepared and approved by DNICE. Despite the minor formal deficiencies, the general opinion of the auditors about the use of the project funds was positive.

The confusion about project extension and lack of approval of the extension request from UNDP/GEF contributed to slowdown in project implementation in its last year and hampered implementation of some activities that would have produced additional results (e.g. training on certification for enforcement of CEEE and the preparation of the lessons learned study for distribution and mobilization of investment).

Based on the above findings, the efficiency in terms of the project timeline and use of resources is rated **Moderately Satisfactory (MS)**.

### Country ownership

In order to examine country ownership, GEF evaluations are required to find evidence that the project fits within stated sector development priorities, and also that outputs, such as new environmental laws, have been developed with involvement from the governmental officials and have been adopted into national strategies, policies and legal codes.

As shown in under the section Relevance above, the project had clear and direct linkages to national development and sectoral plans and was expected to contribute to the Government's plan for reduction of energy demand through implementation of energy efficiency standards and legislative regimes.

The project was designed upon extensive consultations with an array of public stakeholders, including extensive inputs from the key agencies of the Government relevant for the building construction and electrical appliances sectors. Key project stakeholders continued their involvement in the project implementation, although the participation in the first year was affected by the change of government after 2016 multiple elections.

A confirmation of strong country ownership of the project is also the fact that the Government has approved the two main regulatory frameworks in line with the project objectives. However, the supplementary regulatory tools such as EMS for building and MEPS for appliances have not been approved by the closure of the project.

In-kind support and extensive participation in capacity building activities by various other stakeholders such as municipalities, as well as professional and consumer associations also serves as evidence of strong country ownership of the project.

### Mainstreaming

The focus of this section is to discuss to what extent was the project mainstreaming UNDP priorities such as poverty alleviation, improved governance, and women's empowerment, i.e. whether it is possible to identify and define positive or negative effects of the project on local populations, whether gender issues had been taken into account in project design and implementation and in what way has the project contributed to greater consideration of gender aspects.

The project preparation coincided with the issuance of the GEF Policy on Gender Mainstreaming<sup>17</sup> that expresses GEF's commitment to enhancing the degree to which the GEF and its implementing agencies promote the goal of gender equality through GEF-funded projects. Lack of experience with implementation of the above cited policy is perhaps explanation for the fact that the project did not include any specific activities on gender empowerment and equality.

Under the Energy and Sustainable Development of Communities programme, the project engaged in provision of photovoltaic systems and LED lamps to 15 families in the communities of Lagoa and Achada in Tarrafal on the Santiago island that belong to the most isolated rural communities in Cabo Verde. These communities live from agriculture and animal husbandry and in order to sell their products they face a necessity to make long trips to the nearest markets. This task is usually assigned to female members of the families. Improved access to electricity enables the families to conserve some products and reduce thus the frequency of trips to the markets. Apart from that, electricity also improves the quality of life of the rural families in general and provide potential for additional income-generating activities such as rural tourism. Amongst the assisted families, there were single parent families headed by women.

Although the decision to provide assistance to the rural communities proves social inclusiveness of the project, the aspect of mainstreaming of women and marginalized communities was not followed thoroughly in the project implementation. Some information on involvement of women in the project was available, for example the PIRs reported in some cases on involvement of females in capacity building activities. However, such reporting was more *ad-hoc* as PMU did not systematically collect gender-disaggregated data on various activities, e.g. participation in capacity building activities.

It is recognized that gender equality and the empowerment of women and their access to sustainable energy have a significant positive impact on sustainable economic growth and inclusive social development, which are key drivers of poverty alleviation and social progress. Due to different roles, perception and opportunities for men and women in contributing to and

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<sup>17</sup> Policy on Gender Mainstreaming, Global Environmental Facility, May 2012

benefiting from energy-efficient technologies, it is important to ensure that gender relations are taken into consideration in future interventions on energy efficiency.

### Sustainability

Sustainability of the project is judged by the commitment of the beneficiary country to continue and replicate the project activities beyond the project completion date. The evaluation identifies key risks to sustainability and explains how these risks may affect continuation of the project benefits after the project closes. The assessment covers institutional/governance risks, financial, socio-political, and environmental risks.

#### Institutional framework and governance:

There are no explicit measures to ensure institutional sustainability in the Project Document. At the project conception, it was anticipated that production of different outputs such as new laws and regulations related to energy efficiency and new national S&L programme for energy efficient appliances will transform the market by both encouraging and requiring greater levels of investment and attention to energy efficiency measures and thus ensure that both buildings and appliances sectors in Cabo Verde are transformed by the results of this project.

The development and promulgation of CEE and SNEREE has created basic legislative frameworks and has outlined the institutional frameworks for operationalization and enforcement. There is a high level of institutional commitment to improving energy efficiency on the side of relevant agencies of the Government, in particular DNICE that is the designated entity responsible for operationalization and management of SNEREE and for collaboration with other relevant entities.

The fact that the standards and regulations have been developed in line with the international best practices, in particular norms and guidelines of the European Union and ECOWAS, ensures credibility and further strengthens the legal and regulatory frameworks.

By EOP, it was also expected to have in place mechanisms to implement and enforce the promulgated regulatory frameworks. As this part of the project has not been implemented, there are concerns with respect to MRV and enforcement dimension of the CEEE and SNEREE.

Based on the above, the institutional framework and governance sustainability is rated: **Moderately Likely (L).**

Financial sustainability: The financial sustainability is judged by the commitment of the project stakeholders for continued support for sustaining the already realized project benefits and their extension to new set of appliances.

The new regulations on buildings and appliances supported by the targeted demonstration projects were expected to catalyse new and additional investment in energy efficiency projects. The fact that some of the planned results under Outcomes 3 and 4 were not achieved, in particular the results related to dissemination and replication of experience, reservations about the effectiveness of the revenue-generating potential of CEEE and SNEREE (ability to sustain operation through collected

levies from developers and appliance retailers), together with uncertainty about allocation of Government funding, cast doubts on the ability to sustain full implementation of the two regulatory regimes without external financial support. Recently made attempts to use the country GEF Star allocation for a follow-up GEF project were reportedly not successful hence the only available options are bilateral development assistance (e.g. LuxDev), contribution of private sector companies and/or assistance of the emerging national financial sector in the country.

Based on the above, financial sustainability is rated **Moderately Likely (L)**.

Socio-political sustainability: While sustainability of implementation of both CEEE and SNEREE will heavily depend on reporting, verification and enforcement, an additional risk to the socio-political sustainability of the S&L programme is lack of interest of consumers for purchase of EE appliances. Public awareness in Cabo Verde has not yet been at the level where energy efficiency can be driven by consumer demand. The project has made effort to improve awareness on energy efficiency but unless the electricity supply is reliable and billing and tariff collection are provided properly, there may not be sufficient incentives for consumers to reduce their demand for electricity and to achieve the expected market transformation on appliances.

Although considerable consumer awareness raising activities were completed under the project, they should continue beyond the project time boundary achieving full market transformation and real consumers' behaviour shift towards energy efficient appliances.

Based on the above socio-political sustainability is rated **Moderately Likely (L)**.

Environmental sustainability: The project generates a positive environmental effect through promotion of energy efficient measures in building construction and penetration of energy efficient equipment to the market.

Around the project completion, there were substantive energy efficiency interventions conducted under the National Energy Sustainability Program, including replacement of 8,107 sodium vapor lamps and mercury vapor luminaires with LED lamps, in Praia and replacement of 632 sodium vapor lamps and mercury vapor luminaires with LED lamps, in Santa Maria. Additional 1,218 LED luminaires were installed in Praia and 110 LED luminaires in Santa Maria. Under the same programme, solar thermal heating systems were installed at the Hospital Baptista de Sousa (in São Vicente) and at the Hospital Agostinho Neto (in Santiago). The new installations, albeit outside of the scope of CABEEP, prove strong interest of the Government to achieve positive environmental effects through energy efficiency interventions.

The main environmental risk is related to the lack of incentives for effective phase-out and disposal of old inefficient appliances. As a result of the project interventions, the inefficient appliances could be withdrawn from the market but not from service. Experience from other countries implementing S&L programmes for household appliances shows that customers upon purchase of the more efficient devices often pass on their old units to friends or extended families and thus the old units remain in operation. The continued use of inefficient appliances translates into an increase

in energy consumption as the obsolete appliances remain in service in parallel with the new devices that were supposed to displace them. Therefore, the real energy savings and GHG emission reductions could be lower than expected.

Another environmental risk is related to the removal of old and inefficient appliances at the end of their economic life. Once the market transformation is achieved, there will be increased demand for ultimate disposal of the out-of-date appliances. The potential negative effects are related to lack of recycling and disposal options for outdated electrical equipment. The challenge is not so big for relatively simple items such as collected inefficient light bulbs but could be more prominent for sophisticated equipment such as refrigerators and air-conditioners where the essence of negative environmental impact is presence of ozone-depleting substances (ODS) in these appliances. To minimize this environmental risk, it will be important to ensure that recycling and disposal facilities are available in the country and handling and final disposal of inefficient energy appliances is carried out in accordance with the best international practices and without harmful environmental effects.

Based on the above, the environmental sustainability is rated **Moderately Likely (L)**.

Since overall rating for sustainability should not be higher than its lowest rated dimension, the overall rating for sustainability is rated **Moderately Likely (ML)**.

### Exit strategy

An exit strategy is explicitly linked to sustainability in that it considers means of ensuring sustainability of the project achievements after the end of the technical and financial support by the donor. A sound exit strategy should be planned early in the project implementation and should be based on established partnerships and local linkages, on developed local organizational and human capacities and on mobilization of local and external resources.

At the operational closure, the project does not have a written exit strategy as a concise document outlining steps and activities to ensure sustainable management of the achieved results by the project stakeholders after the end of the donor support.

### Key factors that affected implementation and outcomes

#### Project design

A number of erroneous and unrealistic assumptions were made in the project design and formulation that had direct or indirect effect on its implementation and achievement of planned results.

The design of the project for parallel preparation and introduction of two major regulatory legislative frameworks for energy efficiency, namely the new code for construction of buildings and the standards & labelling programme for household appliances, appears overambitious unrealistic, particularly in a small country such as Cabo Verde with lack of required technical capacities. Another flaw in the project design was the erroneous assumption that a rather complex

process consisting of drafting, stakeholder consultations and legislative approval of the two regulatory frameworks could be completed within the 1<sup>st</sup> year of the project implementation.

Yet another unrealistic element in the project design was the expectation that construction of six new buildings for the pilot demonstration projects will demonstrate direct energy savings and GHG emission reductions within the lifetime of the project. This plan apparently ignored the average length of a standard procedure required for construction of new buildings (2-3 years) that stretches from basic and detailed design of the buildings, through approval of the building plans by the developer and relevant authorities, to actual construction of the buildings. Even if the new building code had been approved and implemented after the 1<sup>st</sup> year of the project implementation, construction of the buildings for the demonstration projects would have been completed at the very end of the project 4-year period hence no demonstration of direct energy efficiency measures in new buildings would be possible under the project.

### Project implementation

#### Inception workshop

For implementation of a majority of project activities, PMU recruited two experienced international consulting companies. However, neither PMU nor UNDP CO possessed the required technical capacity to appraise, guide and evaluate the work carried out by the two consulting companies. This insufficiency was identified by MTR that recommended recruitment of an international technical advisor to provide technical support to PMU in implementation of the substantive components of the project.

As the MTR recommendation had been made deeply in the 3<sup>rd</sup> year of the project implementation (MTR report was finalized in February 2019), there was not enough time for the technical advisor to be recruited and influence the work of the consulting companies.

The main factor that negatively influenced implementation of the project was the major restructuring of the Government in 2016 that resulted in temporary lack of oversight for the energy sector in the country and for CABEEP as well. As a result of the administrative transition, the project was unable to establish and convene PSC as its main governance body immediately after the project had been officially approved. Insufficient governance of the project was another factor negatively affecting the project implementation. The absence of PSC in the initial 2 years of the project could have been reflection of the Government transition in 2016, but continuation of this status in 2017 and early 2018 was a signal of weak ownership of the project by the national authorities.

### Achievement of outcomes

Design and implementation of CABEEP was an innovative and ambitious effort to develop and introduce in parallel two major regulatory frameworks on energy efficiency in buildings and household appliances. While on one hand the all-inclusive focus of the project was good for

efficiency of use of GEF funding, on the other hand the parallel development of the two regulatory regimes has proven overambitious from the point of view of timeliness of the delivery.

Due to the complexity of the consultation and legislative processes, the main factor for limited achievement of the Outcomes was the delayed adoption and promulgation of CEEE and SNEREE that did not provide sufficient time for their introduction into practice and enforcement during the project.

The summary of ratings of the mandatory evaluation criteria is in the Table 18 below.

**Table 18:** Overall Project Rating

<b>Evaluation Criteria</b>	<b>Evaluators' Rating</b>
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Moderately Satisfactory (MS)
<b>Overall quality of monitoring and evaluation</b>	<b>Moderately Satisfactory (MS)</b>
Quality of UNDP Implementation	Moderately Satisfactory (MS)
Quality of Execution - Executing Agency	Moderately Satisfactory (MS)
<b>Overall quality implementation / execution</b>	<b>Moderately Satisfactory (MS)</b>
<b>Relevance</b>	<b>Relevant</b>
<b>Effectiveness</b>	
Outcome 1	Moderately Satisfactory (MS)
Outcome 2	Moderately Satisfactory (MS)
Outcome 3	Moderately Satisfactory (MS)
Outcome 4	Moderately Unsatisfactory (MU)
<b>Efficiency</b>	<b>Moderately Satisfactory (MS)</b>
<b>Overall Project Objective rating</b>	<b>Moderately Unsatisfactory (MU)</b>
<b>Overall likelihood of sustainability</b>	<b>Moderately Likely (L)</b>
Institutional framework and governance	Moderately Likely (L)
Financial	Moderately Likely (L)
Socio-political	Moderately Likely (L)
Environmental	Moderately Likely (L)

## CONCLUSIONS AND RECOMMENDATIONS

This section contains conclusions as judgements based on the findings provided in the previous section. A short summary of relevant finding precedes each conclusion that is followed by a recommendation as a corrective action proposed to be taken by relevant project stakeholders to address the deficiencies identified in the findings and conclusions.

This Terminal Evaluation makes two types of recommendations. Recommendations on substantive matters are provided for consideration of the national project partners in order to ensure the project results are consolidated and sustained by relevant project stakeholders. These recommendations are suggested for implementation as soon as possible using the existing institutional capacities and frameworks that have been created by the current project.

The implementation experience from CABEEP allows that some conclusions could be generalized for all UNDP programming areas. Recommendations of this type are provided for consideration of UNDP in order to improve the project design in general.

### Recommendations to follow-up and/or reinforce initial benefits from the project

Finding 1: The project strengthened legal, regulatory and institutional frameworks for introduction of the building code for energy efficiency and for establishment of the national standards and labelling programme for household electrical appliances. Implementation of the new regulatory regimes has not started due to project implementation delays and complexity of the legislative approval process.

Conclusion 1: Implementation of CEEE and SNEREE is of critical importance for sustainability of the institutional and governance frameworks for energy efficiency in buildings and household appliances that have been created under the project.

*Recommendation 1: The Government of Cabo Verde with assistance of UNDP should ensure human and financial resources necessary for implementation of CEEE and SNEREE.*

Finding 2: It was decided by all stakeholders in the construction sector, that the assessment of conformity of building construction projects with CEEE has to be done by independent experts. Training of the first 15 building energy certification experts was delayed and completed only after the project operational closure.

Conclusion 2: Lack of trained professionals for implementation of CEEE could undermine effectiveness of implementation of the new building code. Special attention has to be given to establishment of a mechanism for determination of compliance with CEEE by certified professionals.

*Recommendation 2: DNICE should step up the efforts for establishment of a certification programme for compliance check with CEEE and for training of certified experts.*

Finding 3: The project proposed that the new building code will be enforced by municipalities.

Conclusion 3: A mechanism for effective enforcement is a crucial step in implementation of CEEE. In particular, it is very important for preparation of the market for implementation of energy efficiency standards in buildings and for familiarization of all relevant stakeholders in the building sector with CEEE compliance checking mechanisms.

*Recommendation 3: DNICE and INGT should provide support to municipalities for exercising their authority for enforcement of CEEE.*

Finding 4: For showcasing best practices on energy efficiency in buildings, four demonstration pilot projects were implemented under CABEEP. However, performance of the demonstration projects was not carefully monitored.

Conclusion 4: Application of the measuring, reporting and verification (MRV) protocols prepared under the project would be an effective tool for a performance assessment of energy efficiency measures in the pilot demonstration projects.

*Recommendation 4: Owners of the demonstration buildings should ensure rigorous measuring of energy savings through application of the proposed MRV protocols for annual monitoring as required by CEEE.*

Finding 5: The project planned to develop user manuals for energy efficiency best practices and lessons learned studies from implementation of the demonstration projects. Extension of the project to develop these products was not approved.

Conclusion 5: Dissemination of project results to building construction professionals and decision-makers is important for replication and upscaling of the project activities.

*Recommendation 5: DNICE should commission a study on lessons learned from implementation of the project and disseminate the study to decision makers and key stakeholders in building construction and maintenance.*

Finding 6: The work on establishment of an Energy Management System for buildings in Cabo Verde was not completed under the project.

Conclusion 6: Implementation of an Energy Management System will ensure continued monitoring, evaluation and control of energy consumption, identify potential for energy efficiency improvements and help to attract investments into energy efficiency measures.

*Recommendation 6: DSE should ensure adoption and implementation of EMS for public and private sector buildings.*

Finding 7: Together with the national S&L programme, MEPS for 6 selected categories of equipment were prepared but not officially promulgated.

Conclusion 7: Regulations such as the national S&L programme have to be properly mandated and well implemented. SNEREE as an umbrella law will deliver the required impact only in case it is supplemented by promulgated MEPS for the categories of appliances covered by the S&L programme.

*Recommendation 7: The Government should accelerate the work on finalization of MEPS for the selected 6 categories of appliances and get them officially promulgated for implementation.*

Finding 8: The project elaborated a strategy for monitoring, verification and enforcement (MVE) of the energy efficiency standards and labels. However, the strategy has not been put into operation yet.

Conclusion 8: Effective enforcement is essential to the operation of the national S&L programme and for credibility of the whole system and to avoid undermining the efforts of importers and retailers committed to the purpose of the regulation.

*Recommendation 8: The Government should establish and implement effective, properly mandated and transparent enforcement procedure for compliance with the promulgated appliances' standards and labels. The enforcement procedure should be largely disclosed to all market actors and thoroughly followed by national market surveillance authorities (MSAs).*

Finding 9: The proposed plan for monitoring and verification of the correct display of energy labels and for ensuring that products perform in line with the energy labels will be a sole responsibility of the market surveillance authorities (MSAs) with little or no involvement of other stakeholders.

Conclusion 9: An effective regulatory compliance infrastructure is a highly cost-effective means of setting of a level playground for all appliance importers and retailers and prevention of unfair competition. Alerts and pressure from consumer organizations can be of assistance in this regard. Checking compliance with standards and labels requires attention by all relevant stakeholders to ensure that the energy performance of a product is declared correctly on a label and that only compliant products are allowed to be placed on the market.

*Recommendation 9: DNICE/DSE should consider assistance of consumer associations for complementary monitoring of the energy efficiency markets for effective surveillance and increased compliance of marketed appliances with the standards and labels at the points of sale.*

Finding 10: The project has built basic awareness about benefits of energy efficient appliances in the general public.

Conclusion 10: Consumer awareness on the benefits of energy efficiency is an important driver for markets with energy efficient products. The

*Recommendation 10: The Government should continue public awareness campaign for energy efficient appliances using the channels of delivery established under the project. In particular, it should upload all relevant documents and knowledge products resulting from the project to*

*the official project/DSE website and ensure maintenance of the website after the project closure.*

**Finding 11:** Under coordination from DNICE/DSE, two new regulations on energy intensive consumers and on Energy Service Companies energy efficiency were prepared for submission to the Council of Ministers.

**Conclusion 11:** The successful preparation of two additional regulations prove the capability of the institutional framework created by the project that is available for the near future.

*Recommendation 11: The Government should consider preparation of MEPS for high consuming appliance categories, such as electro motors, chillers and industrial & commercial freezers*

Recommendations to improve the design and monitoring of UNDP projects.

**Finding 12:** The project results framework has several incorrectly defined indicators and/or their targets for measuring progress towards achievement of the planned results. Monitoring of progress was performed only at the level of Outcomes and did not assess progress towards Outputs.

**Conclusion 12:** The project results framework with correctly defined indicators is a key element for effective monitoring of progress towards planned results. Monitoring of progress at the level of Outcomes was not sufficient to inform the project implementation team about lack of progress on delivery of the project Outputs.

*Recommendation 12: For all projects, UNDP CO should ensure that project indicators and their target values are correctly formulated to measure delivery at the project output and outcome levels and that progress towards achievement of results is regularly assessed at the level of project outputs.*

**Finding 13:** Although co-financing from external sources is a necessary condition for approval of GEF projects, information about actually realized co-financing was not systematically monitored by the project partners and therefore a comprehensive information on realized co-financing was not readily available for TE.

**Conclusion 13:** Lack of data on extent of materialization of co-financing for the project does not allow the evaluators to assess the effect of co-financing or the lack of thereof on achievement of project outcomes and on sustainability of project results.

*Recommendation 13: For GEF-funded projects, UNDP CO should track actual levels of co-financing during implementation of GEF projects and report the actually realized levels of co-financing in annual PIRs.*

### Lessons learned and best practices related to project performance and sustainability

As the project was not able to identify developers of new buildings for the pilot demonstration projects, a decision was taken to focus on relatively less complicated energy efficiency retrofits in existing buildings. This allowed relevant stakeholders to get some experience with energy efficiency interventions in buildings. Starting with simpler interventions appears to be good practice as it allows developers and building owners establish initial/basic experience that is important for development of local market in building construction.

However, visits of the demonstration projects revealed insufficient monitoring of energy savings from introduction of energy efficiency measures by the demonstration building owners. Lack of monitoring is not conducive to market transformation as it is missed opportunity to inform about benefits from relatively simple intervention, particularly in absence of fiscal incentives for introduction of more expensive energy efficiency measures in new buildings. Inability to advance implementation of building EMS after approval of the building code is detrimental to the development objective of the project as information on gains and savings from EE measures hampers transition towards more advanced markets in building construction.

Changes in governments – central or municipal – induce changes in priorities of the newly appointed officials and cause delays in implementation of projects. The risk of governmental change has to be anticipated at the project inception and its mitigation require extra effort of the Implementing Agency and the project implementing team.

Awareness and information campaigns targeting private sector companies and financial intermediaries are of paramount importance for projects on removal of financial barriers to development of markets. There are direct financial benefits from energy savings and indirect reputational benefits from reduction of GHG emissions. Good understanding of the direct as well as indirect benefits associated with energy efficiency investments by the private and financial sectors could serve as a key driver towards development of markets with energy efficient goods and services.

There are also special lessons learned from the experience with the remote modality for this evaluation. The Covid-19 pandemic has put some constraints on the evaluative activities, in particular to conduct field mission for data collection and limited possibilities for triangulation of results obtained during desk reviews through observation and direct contact with project stakeholders and beneficiaries.

For this particular evaluation, a national consultant was recruited to assist with data collection. The Covid-19 situation had a negative impact on access to field sites for the international consultant due to travel restrictions. The national consultant was not affected by the travel restrictions and could therefore interact directly with stakeholders and make visit of remote project sites. Hence the benefit of having a national consultant was two-fold, to assist to overcome language barrier in collection of data from stakeholders and documents, and to perform on-site observations.

In a normal situation, it is usually possible to organize all planned face-to-face meetings with project stakeholders and beneficiaries during a period of a standard one-week field mission of an international consultant. The remote conduct of this evaluation proved to be more demanding for timely organization of the planned meetings as some stakeholders felt more freedom of choice that resulted in postponement of some interviews and few of the stakeholders even refused to have a virtual meeting with the evaluation team. Active involvement of UNDP CO proved to be an important factor for organization of virtual meetings as the UN office can more easily convince national stakeholders and beneficiaries to adhere to the planned schedule of meetings with the evaluation team. Obviously, the assistance of the Implementing Agency should be restricted only to organization of meetings and not to data collection that would compromise independence of the evaluation.

## Annex 1: Evaluation Terms of Reference

**TERMINAL EVALUATION TERMS OF REFERENCE**  
**PROJECT: CABO VERDE APPLIANCES & BUILDING ENERGY -EFFICIENCY PROJECT**  
**CABEEP (PIMS 4996)**

**Application Deadline:** 13<sup>th</sup> July 2020

**Category:** Energy and Environment

**Type of Contract:** Individual Contract

**Assignment Type:** International Consultant

**Duty Station:** Praia, Cabo Verde

**Languages Required:** English. Working knowledge of Portuguese (or alternatively Spanish) preferred.

**Starting Date:** 20<sup>th</sup> July 2020

**Duration of Initial Contract:** 35 Working days

**Expected Duration of Assignment:** 10 weeks

### INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the Medium sized project titled **Cabo Verde Appliances & Building Energy-Efficiency Project - CABEEP (PIMS4996)**,

The essentials of the project to be evaluated are as follows:

### PROJECT SUMMARY TABLE

Project Title:		Cabo Verde Appliances & Building Energy-Efficiency Project - CABEEP (PIMS4996)		
GEF Project ID:	5344		<u>at endorsement</u> <u>(Million US\$)</u>	<u>at completion</u> <u>(Million US\$)</u>
UNDP Project ID:	4996	GEF financing:	1.9184	1.9184
Country:	Cabo Verde	IA/EA own:	0.3000	0.3000
Region:	Africa	Government (MTIE):	4.9113	4.9113
Focal Area:	RBA	Other:	4.8250	4.8250
FA Objectives, (OP/SP):	Energy, Infrastructure Transport and Technology	Total co-financing:	9.7236	\$ 10.036

Executing Agency	UNDP	Total Project Cost:	11.642	11.955
Other Partners involved:		ProDoc Signature (date project began):		30/07/2015
		(Operational) Closing Date:	Proposed: 31.12. 2019	Actual: 31.07.2020

## OBJECTIVE AND SCOPE

The project, 'Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances', is aimed to address legal and regulatory frameworks, legislation and nationally coordinated policies in Cabo Verde to address the issue for energy efficiency in buildings as well as in appliances. The appliances being targeted are Air Conditioners, Refrigerators & Freezers, Electric Water Heater, Televisions, Bulbs and Washing Machines.

The Project aim to enable and facilitate market transformation leading to substantial energy savings and greenhouse gas reductions. The project implementation is estimated to result in direct emission reductions of 297.8 ktCO<sub>2</sub>e through pilot demonstration projects, minimum energy efficiency and water efficiency standards for buildings and appliances. The indirect emission reduction is expected to be nearly 703.9 ktCO<sub>2</sub>e resulting from replication and dissemination activities from project implementation. The outcome will be significant in supporting the country's economic development, improving quality of life and leading to significant environmental benefits in accordance to the national plans and priorities.

The Project is grouped into four (4) components each consisting of a number of complementary activities designed to achieve the goal.

Listed below are major components:

1. Component 1: Enabling policy, institutional, and legislative framework for energy efficiency in buildings
2. Component 2: Enabling energy efficiency improvements through S&L for appliances
3. Component 3: Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects
4. Replication and dissemination of lessons learnt and best practices

In an international context in which countries are called to face the "Emergency Health of International Reach" imposed by the COVID-19 pandemic, Cape Verde response is presented in a National Contingency Plan, which aims to be a document guiding on disease prevention and control actions.

As part of prevention efforts, the Government created a National Technical Intervention and Response Team (ETNIR), to prepare for the emerging threat. The National Technical Team for Rapid Intervention, in conjunction with the National Coordination Organization (ICN), is responsible for: coordinating response actions at the national level; mobilizing the country's health structures for prevention and emergency response; and articulating information among all levels of the health pyramid, ensuring the integration of other sectors and institutions, including the private sector. ETNIR adopts the "one health" approach and articulates with professionals in the technical areas of human, animal and environmental health, in addition to civil protection, airport and port management and defense and security forces (police and armed forces). The Government of Cabo Verde drew up a National Contingency Plan to serve as a guiding

document for the prevention and control of the disease, with clear responsibilities at the central and local levels, and a multisectoral and multidisciplinary perspective.

On March 26, through Ministerial Resolution 53/2020, the Government declared a calamity risk situation with measures for the whole national territory aimed at reducing the risks of spread and contagion of virus from March 27, at midnight until April 17. On March 28, 2020, through Presidential Decree 6/2020, the state of emergency of the country was decreed, with severe restriction measures throughout the national territory until the 17th April. The follow-up of the evolution of the situation continues to be followed very strictly. The state of emergency was extended to the island of Santiago until the 29th of May, while the remaining islands began their gradual return to activities, with well-defined precautionary measures, which differ from island to island, depending on the epidemiological situation.

Inter-island travel remains suspended, with the possibility of resuming from 30 June. International travel is still closed. Various economic activities, including tourism, are gradually being resumed. Cape Verde currently has 760 identified cases, 449 active cases, of which 301 have been recovered and 7 have died.

The situation linked to COVID19 had a negative impact on the activities of the project, where several activities were delayed and others had to be replanned, favoring the use of new technologies for holding meetings, training sessions and collecting information, among others. Considering the above, we strongly recommend taking into account the situation of COVID19 in the financial proposal and work plan / methodology to be used in this consultancy.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

## **EVALUATION APPROACH AND METHOD**

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An overall approach and method<sup>1</sup> for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (Annex C). The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Praia, Cabo Verde, including the following project sites (*Santiago Island, Mindelo, Sal, Maio, Fogo and Brava*). Interviews will be held with the following organizations and individuals at a minimum: DNICE, National Directorate of Environment, UNDP- CO, CERMI, GESTO, PWC, ECREE; National Institute for Territorial Management (INGT), National Association of Municipalities (ANMCV), University of Cabo Verde (Uni CV), University of Jean Piaget, Order of Architects, General Directorate of Customs.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in Annex B of this Terms of Reference.

### **COVID-19 national situation and specificities**

As of 11 March 2020, The World Health Organization (WHO) declared COVID-19 a global pandemic as the new coronavirus rapidly spread to all regions of the world. Travel to the country has been restricted since 28th March, 2020 and travel within the country is also restricted. If it is not possible to travel to or within the country for the TE, then the TE team should develop a methodology and approach that takes this into account. This may require the use of remote interview methods, extended desk reviews, data analysis, surveys and evaluation questionnaires. These approaches and methodologies should be detailed in the Inception Report and agreed with the Commissioning Unit.

If a data collection/field mission is not possible then remote interviews may be undertaken through telephone or online (skype, zoom etc.) arranged by the evaluation team (international and national consultants). If all or part of the TE is to be carried out virtually then consideration should be taken for stakeholder availability, ability and willingness to be interviewed remotely and the constraints this may place on TE. These limitations must be reflected in the final TE report.

International Consultants can be engaged to work remotely with National evaluator support in the field if it is safe for them to operate and travel. No stakeholders, consultants or UNDP staff should be put in harm's way and safety is the key priority.

A short evaluation mission may be considered if it is confirmed to be safe for staff, consultants, stakeholders and communities, and if such a mission is possible within the TE schedule. Equally, qualified and independent National Consultants can be hired to undertake the TE and interviews in country as long as it is safe to do so.

## **EVALUATION CRITERIA & RATINGS**

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An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see [Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Praia, Cabo Verde, including the following project sites (*Santiago Island, Mindelo, Sal, Maio, Fogo and Brava*). Interviews will be held with the following organizations and individuals at a minimum: DNICE, National Directorate of Environment, UNDP- CO, CERMI, GESTO, PWC, ECREE; National Institute for Territorial Management (INGT), National Association of Municipalities (ANMCV), University of Cabo Verde (Uni CV), University of Jean Piaget, Order of Architects, General Directorate of Customs.

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A short evaluation mission may be considered if it is confirmed to be safe for staff, consultants, stakeholders and communities, and if such a mission is possible within the TE schedule. Equally, qualified and independent National Consultants can be hired to undertake the TE and interviews in country as long as it is safe to do so.

### EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see [Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#).

<b>Evaluation Ratings:</b>			
<b>1. Monitoring and Evaluation</b>	<i>rating</i>	<b>2. IA&amp; EA Execution</b>	<i>rating</i>
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
Limitations on the project in the guiding evaluation questions related to the COVID-19 context		Impact of COVID-19 in the Project implementation	
<b>3. Assessment of Outcomes</b>	<i>rating</i>	<b>4. Sustainability</b>	<i>rating</i>
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental:	
		Overall likelihood of sustainability:	

### PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between

planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)- GEF		Total (mill. US\$)		
	Planned	Actual	Planned	Actual	Planned	Actual	Actual	Actual	
Grants	0.3000	0.3000			1.9184	1.9184			
Loans/Concessions									
• In-kind support			4.9113						
• Other			4.8250						
Totals	0.3000	0.3000	4.9113		1.9184	1.9184	11.955	11.955	

## MAINSTREAMING

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UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

## IMPACT

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The evaluators (a team of international consultant- team leader and national consultant) will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.

## CONCLUSIONS, RECOMMENDATIONS & LESSONS

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The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**.

## IMPLEMENTATION ARRANGEMENTS

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The principal responsibility for managing this evaluation resides with the UNDP CO in Cabo Verde. The UNDP CO will contract the evaluators (international consultant- team leader and national consultant) and ensure the timely

provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

#### EVALUATION TIMEFRAME

The total duration of the evaluation will be 10 weeks (35) working days) according to the following plan:

Activity	Timing	Completion Date
<b>Preparation</b>	3 days ( <i>recommended: 2-4</i> )	<i>August 1, 2020</i>
<b>Evaluation Mission</b>	12 days ( <i>r: 7-15</i> )	<i>August 12 – 22,2020</i>
<b>Draft Evaluation Report</b>	15 days ( <i>r: 5-10</i> )	<i>September 1, 2020</i>
<b>Final Report</b>	5 days ( <i>r: 1-2</i> )	<i>September 30 2020</i>

#### EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
<b>Inception Report</b>	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission. <i>August 1, 2020</i>	Evaluator submits to UNDP CO
<b>Presentation</b>	Initial Findings	End of evaluation mission <i>August 22, 2020</i>	To project management, UNDP CO
<b>Draft Final Report</b>	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission <i>September 1 2020</i>	Sent to CO, reviewed by RTA, PCU, GEF OFPs
<b>Final Report*</b>	Revised report	Within 1 week of receiving UNDP comments on draft <i>September,30 2020</i>	Sent to CO for uploading to UNDP ERC.

\*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

## TEAM COMPOSITION

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The evaluation team will be composed (2 evaluators -1 international and 1 national evaluators). The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. (If the team has more than 1 evaluator, one will be designated as the team leader and will be responsible for finalizing the report). The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

- A Master's degree in Energy, Environment Science, Natural Resource Management, or other closely related field. (10 points)
- Recent experience with result-based management evaluation methodologies; (5 points)
- Competence in adaptive management, as applied to Climate Change; (5 points)
- At least 5 years Work experience in relevant technical areas; (10 points)
- Experience working with the GEF or GEF-evaluations; (10 points)
- Demonstrated understanding of issues related to gender and Climate Change; experience in gender sensitive evaluation and analysis. (10 points)
- Recent experience with result-based management evaluation methodologies; (10 points)
- Project evaluation/review experiences within United Nations system will be considered an asset; (5 points)
- Financial proposal (30 points)
- Mastery of written English is a requirement, as the key deliverables will be in English; Working knowledge of Portuguese (or alternatively Spanish) preferred, as many of the reports to be analyzed are only available in Portuguese (5)

## EVALUATOR ETHICS

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Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'

## PAYMENT MODALITIES AND SPECIFICATIONS

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*(this payment schedule is indicative, to be filled in by the CO and UNDP GEF Technical Adviser based on their standard procurement procedures)*

%	Milestone
10%	At contract signing and approval of work plan
40%	Following submission and approval of the 1ST draft terminal evaluation report
50%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

In line with the UNDP's financial regulations, should it be determined by the UNDP and/or the consultant that a deliverable or service cannot be satisfactorily completed due to the impact of COVID-19 and limitations to the evaluation, that deliverable or service will not be paid or will be partially paid.

Due to the current COVID-19 situation and its implications, a partial payment may be considered if the consultant invested time towards the deliverable but was unable to complete to circumstances beyond his/her control.

### APPLICATION PROCESS

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Applications should be submitted to the following email address: [procurement.cv@cv.jo.un.org](mailto:procurement.cv@cv.jo.un.org) indicating the following reference “**International consultant - Terminal Evaluation Project: Cabo Verde Appliances & Building Energy-Efficiency (CABEEP-PIMS 4996)**” by July 13, 2020 (, 04.30 pm Cabo Verde time).

Interested individual consultants must submit the following documents/information to demonstrate their qualifications:

- a) Duly accomplished Letter of Confirmation of Interest and Availability using the template provided by UNDP;
- b) Personal CV and P11, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references;
- c) Brief description of why the individual considers him/herself as the most suitable for the assignment;
- d) Financial Proposal, as per template provided.

The selected consultant will have the obligation to:

1. Before any travel, obtain the security permits for traveling to the countries where the services will be required. These permits may be obtained at [www.undss.org](http://www.undss.org).
2. Have the contract signed by the country office and the expert before starting the work and before starting any travel. If the expert travels and starts the work without having signed the contract, the work and travel will be at the expert's own risk and responsibility.
3. All background compiled, and deliverables produced by the expert are the property of the UN agency. The expert must obtain written permission from the UN agency to use all or part of the documents for any other consulting or work.
4. Have passed the necessary UNDP trainings and courses, as advised by UNDP, most notably the BSAFE Security in the Field t training.

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

## Annex 2: Evaluation Matrix

Evaluative Criteria Questions	Indicators	Sources	Methodology
<b>Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?</b>			
<ul style="list-style-type: none"> <li>Does the project relate to the GEF Climate Change focal area and has it been designed to deliver global environmental benefits in line with relevant international climate change objectives?</li> </ul>	<ul style="list-style-type: none"> <li>The project includes the relevant GEF outcomes, outputs and indicators</li> <li>The project makes explicit links with global climate action goals</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>GEF-5 Focal Area Strategy</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Is the project aligned to national development objectives, broadly, and to national energy efficiency priorities specifically?</li> </ul>	<ul style="list-style-type: none"> <li>The project design includes explicit links (indicators, outputs, outcomes) to the national development policy/national energy policies</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>National development strategy, energy policies, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Is the project's Theory of Change relevant to addressing the development challenge(s) identified?</li> </ul>	<ul style="list-style-type: none"> <li>The Theory of Change clearly indicates how project interventions and projected results will contribute to the reduction of the three major barriers to low carbon development (Policy, institutional/ technical capacity and financial)</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Does the project directly and adequately address the needs of beneficiaries at local and regional levels?</li> </ul>	<ul style="list-style-type: none"> <li>The Theory of Change clearly identifies beneficiary groups and defines how their capabilities will be enhanced by the project</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Is the project's results framework relevant to the development challenges have the planned results been achieved?</li> </ul>	<ul style="list-style-type: none"> <li>The project indicators are SMART</li> <li>Indicator baselines are clearly defined and milestones and targets are included</li> <li>The results framework is comprehensive and demonstrates systematic links to the theory of change</li> </ul>	<ul style="list-style-type: none"> <li>Project Document</li> <li>PIF</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>

<ul style="list-style-type: none"> <li>• Have the relevant stakeholders been adequately identified and have their views, needs and rights been considered during design and implementation?</li> </ul>	<ul style="list-style-type: none"> <li>• The stakeholder mapping and associated engagement plan includes all relevant stakeholders and appropriate modalities for engagement.</li> <li>• Planning and implementation have been participatory and inclusive</li> </ul>	<ul style="list-style-type: none"> <li>• Project Document</li> <li>• Inception report</li> <li>• Stakeholder mapping/engagement plan and reporting</li> <li>• Quarterly Reports</li> <li>• Annual Reports (PIR)</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Stakeholder Interviews</li> </ul>
<ul style="list-style-type: none"> <li>• Have the interventions of the project been adequately considered in the context of other development activities being undertaken in the same or related thematic area?</li> </ul>	<ul style="list-style-type: none"> <li>• A partnership framework has been developed that incorporates parallel initiatives, key partners and identifies complementarities</li> </ul>	<ul style="list-style-type: none"> <li>• Project Document</li> <li>• Quarterly Reports</li> <li>• Annual Reports (PIR)</li> <li>• Stakeholder mapping/engagement plan and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Stakeholder Interviews</li> </ul>
<ul style="list-style-type: none"> <li>• Did the project design adequately identify, assess and design appropriate mitigation actions for the potential social and environmental risks posed by its interventions?</li> </ul>	<ul style="list-style-type: none"> <li>• The SES checklist was prepared and all reasonable risks were identified with appropriate impact and probability ratings and risk mitigation measures specified</li> </ul>	<ul style="list-style-type: none"> <li>• Project Document</li> <li>• SES Annex</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> </ul>
<b>Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?</b>			
<ul style="list-style-type: none"> <li>• Has the project achieved its output and outcome level targets?</li> </ul>	<ul style="list-style-type: none"> <li>• The project has met or exceeded the output and outcome indicator end-of-project targets</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly Reports</li> <li>• Annual Reports (PIR)</li> <li>• Site visit/field reports</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team, stakeholders and beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>• Have lessons learned been captured and integrated into project planning and implementation?</li> </ul>	<ul style="list-style-type: none"> <li>• Lessons learned have been captured periodically and/or at project end</li> </ul>	<ul style="list-style-type: none"> <li>• Validation Workshop Minutes (<i>if available</i>)</li> <li>• Quarterly Reports</li> <li>• Annual Reports (PIR)</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team, stakeholders and beneficiaries</li> </ul>

<ul style="list-style-type: none"> <li>• Has the M&amp;E plan been well-formulated, and has it served as an effective tool to support project implementation?</li> </ul>	<ul style="list-style-type: none"> <li>• The M&amp;E plan has an adequate budget and was adequately funded</li> <li>• The logical framework was used during implementation as a management and M&amp;E tool</li> <li>• There was compliance with the financial and narrative reporting requirements (timeliness and quality)</li> <li>• Monitoring and reporting has been at both the activity and results levels</li> </ul>	<ul style="list-style-type: none"> <li>• Project Document</li> <li>• M&amp;E Plan</li> <li>• AWP</li> <li>• FACE forms</li> <li>• Quarterly Narrative Reports</li> <li>• Site visit reports</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team and government stakeholders</li> </ul>
<ul style="list-style-type: none"> <li>• Were relevant counterparts from the Government and civil society involved in project implementation, including as part of the Project Board?</li> </ul>	<ul style="list-style-type: none"> <li>• The Project Board participation included representatives from key project stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>• Project Board Minutes (<i>if available</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with project staff, stakeholders and beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>• How effective were the partnership arrangements under the project and to what extent did they contribute to achievements of the project results?</li> </ul>	<ul style="list-style-type: none"> <li>• A partnership framework has been developed that ensured coordination of parallel initiatives, involvement of key partners and identification of complementarities</li> </ul>	<ul style="list-style-type: none"> <li>• Annual Reports (PIR)</li> <li>• Quarterly reports</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team, stakeholders and other donors</li> </ul>
<ul style="list-style-type: none"> <li>• How well were risks (including those identified in the Social and Environmental Screening (SES) Checklist), assumptions and impact drivers being managed?</li> </ul>	<ul style="list-style-type: none"> <li>• A clearly defined risk identification, categorization and mitigation strategy (updated risk log in ATLAS)</li> </ul>	<ul style="list-style-type: none"> <li>• UNDP ATLAS Risk Log</li> <li>• M&amp;E Reports</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team, stakeholders and beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?</b></li> </ul>			
<ul style="list-style-type: none"> <li>• Did the project adjust dynamically to reflect changing national priorities/external evaluations during implementation to ensure it remained relevant?</li> </ul>	<ul style="list-style-type: none"> <li>• The project demonstrated adaptive management and changes were integrated into project planning and implementation through adjustments to annual work plans, budgets and activities</li> <li>• Changes to AWP/Budget were made based on mid-term or other external evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Annual Work Plans</li> <li>• Validation Workshop Minutes</li> <li>• Quarterly Reports</li> <li>• Annual Reports (PIR)</li> <li>• Project Board meeting minutes (<i>if available</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Desk Review of Documents</li> <li>• Interviews with project team stakeholders and beneficiaries</li> </ul>

	<ul style="list-style-type: none"> <li>Any changes to the project's planned activities were approved by the Project Board</li> <li>Any substantive changes (outcome-level changes) approved by the Project Board and donor, as required</li> </ul>		
<ul style="list-style-type: none"> <li>Was the process of achieving results efficient? Did the actual or expected results (outputs and outcomes) justify the costs incurred? Were the resources effectively utilized?</li> </ul>	<ul style="list-style-type: none"> <li>The project achieved the planned results in an efficient manner</li> <li>Funds used for project implementation were utilized affectively and contributed to achievement of project results</li> </ul>	<ul style="list-style-type: none"> <li>Annual Workplans</li> <li>Quarterly Reports</li> <li>Project document</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> <li>Interviews with project team, stakeholders, beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>What were the strengths and weaknesses of the implementation modality?</li> </ul>	<ul style="list-style-type: none"> <li>The project implementation followed the division of responsibilities between the project implementing partners in an efficient manner</li> </ul>	<ul style="list-style-type: none"> <li>Annual Reports (PIR)</li> <li>Quarterly reports</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> <li>Interviews with project team, stakeholders, beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>Was co-financing adequately estimated during project design (sources, type, value, relevance), effectively tracked during implementation? Which were the reasons for any differences between expected and realised co-financing?</li> </ul>	<ul style="list-style-type: none"> <li>Co-financing was realized in keeping with original estimates</li> <li>Co-financing was tracked continuously throughout the project lifecycle and deviations identified and alternative sources identified</li> <li>Co-financiers were actively engaged throughout project implementation</li> </ul>	<ul style="list-style-type: none"> <li>Annual Work Plans (AWPs)</li> <li>Validation Workshop Minutes (<i>if available</i>)</li> <li>Quarterly Reports, including financial reports</li> <li>Annual Reports (PIR)</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> <li>Interviews with project team stakeholders, other donors and beneficiaries</li> </ul>
<ul style="list-style-type: none"> <li>Was the level of implementation support provided by UNDP adequate and in keeping with the implementation modality and any related agreements?</li> </ul>	<ul style="list-style-type: none"> <li>Technical support to the Executing Agency and project team were timely and of acceptable quality.</li> <li>Management inputs and processes, including budgeting and procurement, were adequate</li> </ul>	<ul style="list-style-type: none"> <li>UNDP project support documents (emails, procurement/ recruitment documents)</li> <li>Quarterly Reports</li> <li>Annual Reports (PIR)</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> <li>Interviews with project team, UNDP personnel</li> </ul>

<ul style="list-style-type: none"> <li>Were financial audit/spot check findings adequately addressed and relevant changes made to improve financial management?</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate management responses and associated actions were taken in response to audit/spot check findings.</li> <li>Successive audits demonstrated improvements in financial management practices</li> </ul>	<ul style="list-style-type: none"> <li>Project Audit Reports (if available)</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<b>Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?</b>			
<ul style="list-style-type: none"> <li>Are there political, social or financial risks that may jeopardize the sustainability of project outcomes?</li> </ul>	<ul style="list-style-type: none"> <li>The exit strategy includes explicit interventions to ensure sustainability of relevant activities</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> <li>Risk Log</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>What are the factors that will require attention in order to improve prospects of sustainability and potential for replication?</li> </ul>	<ul style="list-style-type: none"> <li>The exit strategy includes explicit interventions to ensure sustainability of relevant activities and identifies relevant factors requiring attention in the future</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits?</li> </ul>	<ul style="list-style-type: none"> <li>The exit strategy identifies relevant socio-political risks and includes explicit interventions to mitigate same</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> <li>Risk Log</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Have key stakeholders identified their interest in project benefits beyond project-end and accepted responsibility for ensuring that project benefits continue to flow?</li> </ul>	<ul style="list-style-type: none"> <li>Key stakeholders are assigned specific, agreed roles and responsibilities outlined in the exit strategy</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> <li>Risk Log</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<ul style="list-style-type: none"> <li>Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes?</li> </ul>	<ul style="list-style-type: none"> <li>The exit strategy identifies relevant environmental risks and includes explicit interventions to mitigate same</li> </ul>	<ul style="list-style-type: none"> <li>Program Framework Document</li> <li>Risk Log</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>
<b>Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?</b>			
<ul style="list-style-type: none"> <li>Are there verifiable improvements in ecological status, or reductions in ecological stress, that can be linked directly to project interventions?</li> </ul>	<ul style="list-style-type: none"> <li>The project has contributed directly to improved ecological conditions, including through reduced GHG emissions for energy generation</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly Reports</li> <li>Annual Reports (PIR)</li> </ul>	<ul style="list-style-type: none"> <li>Desk Review of Documents</li> </ul>

<b>CROSS-CUTTING ISSUES: PROMOTION OF UN VALUES FROM A HUMAN DEVELOPMENT PERSPECTIVE</b>			
<b>Evaluation Questions</b>	<b>Indicators</b>	<b>Sources</b>	<b>Methodology</b>
<b>Supporting policy dialogue on human development issues</b>			
<ul style="list-style-type: none"> <li>• To what extent did the initiative support the government in monitoring achievement of MDGs?</li> <li>• What assistance has the initiative provided supported the government in promoting human development approach and monitoring MDGs?</li> <li>• To what extent do the project objectives conform to agreed priorities in the UNDP country programme document (CPD) and UNDAF?</li> </ul>	<ul style="list-style-type: none"> <li>• Level of contribution of the project to the achievement of MDGs</li> <li>• Level of alignment of the project objectives with the CPD and UNDAF</li> </ul>	<ul style="list-style-type: none"> <li>• Project documents</li> <li>• Evaluation reports</li> <li>• HDR reports</li> <li>• MDG reports</li> <li>• National Planning Commission</li> <li>• Ministry of Finance</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with government partners</li> <li>• Desk review of secondary data</li> </ul>
<b>Contribution to gender equality</b>			
<ul style="list-style-type: none"> <li>• To what extent was the UNDP initiative designed to appropriately incorporate in each outcome area contributions to attainment of gender equality?</li> <li>• To what extent did UNDP support positive changes in terms of gender equality and were there any unintended effects?</li> <li>• Provide example(s) of how the initiative contributes to gender equality.</li> <li>• Can results of the programme be disaggregated by sex?</li> </ul>	<ul style="list-style-type: none"> <li>• Level and quality of monitoring of gender related issues</li> </ul>	<ul style="list-style-type: none"> <li>• Project documents</li> <li>• Evaluation reports</li> <li>• UNDP staff</li> <li>• Government partners</li> <li>• Beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with UNDP staff and government partners</li> <li>• Observations from field visits</li> <li>• Desk review of secondary data</li> </ul>
<b>Addressing equity issues (social inclusion)</b>			
<ul style="list-style-type: none"> <li>• How did the UNDP initiative take into account the plight and needs of vulnerable and disadvantaged to promote social equity, for example, women, youth, disabled persons?</li> </ul>	<ul style="list-style-type: none"> <li>• Level and quality of monitoring of social inclusion related issues</li> </ul>	<ul style="list-style-type: none"> <li>• Project documents</li> <li>• Evaluation reports</li> <li>• UNDP staff</li> <li>• Government partners</li> <li>• Beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews with UNDP staff and government partners</li> <li>• Observations from field visits</li> </ul>

<ul style="list-style-type: none"> <li>• To what extent have indigenous peoples, women, conflict-displaced peoples, and other stakeholders been involved in project design?</li> <li>• Provide example(s) of how the initiative takes into account the needs of vulnerable and disadvantaged groups, for example, women, youth, disabled persons</li> <li>• How has UNDP programmed social inclusion into the initiative?</li> </ul>			<ul style="list-style-type: none"> <li>• Desk review of secondary data</li> </ul>
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### Annex 3: List of People Interviewed

<b>Name</b>	<b>Organization</b>	<b>Position</b>
Maria-Celeste Benchimol	UNDP CO Cabo Verde	Programme Specialist
Teresa Le	UNDP Bureau for Policy and Programme Support/Global Policy Network	Regional Technical Specialist – Climate Change Mitigation and Energy
Edson Mendes	Project Management Unit	Project Manager
Rajeev Ralhan	Pricewaterhouse Coopers Private Limited	Executive Director – Clean Energy
Sanyukta Pande		Senior Associate
Miguel Vieira Pita	Gesto Energy Consultants	Manager
Rito Évora	National Directorate of Industry, Commerce and Energy (DNICE)	Director
Ariel Assunção		Director of Energy Service (DSE/DNICE)
Elisângelo Monteiro	Inspectorate-General for Economic Activities	President
Cesar Freitas	Order of Cabo Verde Architects	President
Luis Pina*	CERMI	Executive Director
Gilson Correia*		Non-Executive Director
Djamila Baptista	Inspectorate-General for Economic Activities	Secretary
Carla Martins	National Laboratory for Civil Engineers	President
Aldina Freire		Secretary
**	Ministry of Infrastructure, Territory Planning and Housing (MIOTH)	N.A.
Aldina Varela	Ministry of Industry, Trade and Energy (MICE)	Office's Director
Dionisio Tavares	Lagoa	Community Representative
Gerson Rocha	Lama	Community Representative

- Instead of virtual interview provided written answers to interview questions

\*\* Meeting with the key persons of the General Directorate of Planning, Budget and Management was not possible, hence just the demonstration project (PV installation) was visited

## Annex 4: List of Documents Consulted

1. Cape Verde Appliances & Building Energy-Efficiency Project (CABEEP): Request for CEO Endorsement, UNDP/GEF 2014
2. Cape Verde Appliances & Building Energy-Efficiency Project (CABEEP): GEF CC Mitigation Tracking Tool for MTR, UNDP, 2018
3. Removing barriers to Energy Efficiency in the Cabo Verdean Built Environment and for Appliances: Mid-Term Review Report, UNDP, 2019
4. Annual Project Implementation Reviews (PIRs), UNDP/GEF, 2017, 2018, 2019, 2020
5. Combined Delivery Reports (CDRs), UNDP, 2015, 2016, 2017, 2018, 2019
6. Report from Workshop on Launching the Project on Energy Efficiency in Buildings and Appliances, Ministry of Tourism, Investments and Business Development, 2015
7. Annual Reports, PMU, 2015, 2016, 2017, 2018, 2019
8. Minutes of Coordination Meetings with UNDP, PMU, 2015, 2016, 2017, 2018, 2019
9. National Strategy and Action Plan for Global Environmental Management in Cabo Verde, 2007
10. Action Agenda: Sustainable Energy 4 All, Cabo Verde, 2015
11. From Vision to Coordinated Action: Consolidation of SE4ALL Action Agendas, National Renewable Energy Action Plans, and National Energy Efficiency Action Plans of the ECOWAS Region countries, 2017
12. Strategic Plan for Sustainable development 2017-2021, Cabo Verde, 2017
13. Report of the 1<sup>st</sup> Project Steering Committee, PMU, 2017
14. Implementation Strategy for Amendment to Construction Permit Regulations, Pricewaterhouse Coopers, 2018
15. Training and certification programs for building stakeholders, Pricewaterhouse Coopers, 2018
16. Compliance and Enforcement Mechanism to Implement Energy Efficiency Building Code in Cape Verde, 2019
17. Report from Train-the Trainers Workshop on Energy Efficiency in Buildings, Pricewaterhouse Coopers, 2019
18. Energy Efficiency Building Code of Cape Verde, Official Bulletin No. 77, 2020
19. Final Report, Pricewaterhouse Coopers, 2019
20. Processes for Implementation of the National Equipment Standards & Labelling Programme, Gesto Energia, 2018
21. Programme of Education of Stakeholders, Gesto Energy Consultants, 2018
22. Fiscal and Financial Incentives Programme, Gesto Energy Consultants, 2018
23. Demand Side Management Programme, Gesto Energia, 2018
24. Model for Updating and Strengthening Energy Efficiency For Cape Verde, Gesto Energy Consultants, 2019
25. Awareness Raising Campaign, Gesto Energy Consultants, 2019
26. Draft Ordinances for MEPS for 6 selected appliance categories, Gesto Energy Consultants, 2019

27. Final Report, Gesto Energy Consultants, 2019
28. National Standards&Labels Program of Cabo Verde, Official Bulletin No. 63, 201
29. GEF Evaluation Policy, GEF IEO, 2019
30. UNDP Revised Evaluation Policy, UNDP, 2019
31. Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, GEF, 2017
32. UNDP Evaluation Guidelines, Independent Evaluation Office of UNDP, 2019
33. Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects, UNDP, 2020
34. Outcome-Level Evaluations, A Companion Guide, UNDP, 2011
35. Glossary of Key Terms in Evaluation and Results Based Management, OECD, 2010
36. Ethical Guidelines for Evaluations, UNEG, 2008
37. Integrating Human Rights and Gender Equality in Evaluations, UNEG, 2014

## Annex 5: Project Stakeholder Map from the Project Document

Stakeholder	Role
<b>Government</b>	
Directorate General for Energy (DGE)-National Implementing Partner) DNICE	The DGE/DNICE is the government agency responsible to elaborate and implement government policies in the field of industry, energy, mines, and geology. The DGE/DNICE will act as the executing agency for this project and takes key responsibilities for monitoring, reporting, and verification of energy efficiency in buildings and for appliances. The Project Management Unit (PMU) will be located in the DGE/DNICE. DGE/DNICE will align this project strategy with broader Energy Demand Side Management policies proposed in the country. Role of DGE is to ensure timely implementation and delivery of project outputs. DGE/DNICE is key body to undertake the baseline data analysis and advance the adoption, implementation and enforcement of the national regulatory framework for energy efficiency in main productive sectors.
Ministry of Industry, Commerce and Energy (MICE)	The MICE is responsible for the development of government policies related to tourism, industry, and energy. The MICE will play a key role in undertaking the baseline data analysis for the public buildings and for coordinating the work with ELECTRA, the national utility. MICE will ensure that the project implementation logic contributes is aligned with the policy orientations of the Energy Sector Demand Side Management that is been drafted.
The General Directorate for Industry and Commerce (DGIC) (Now is DNICE as well)	Under the DGIC liberalization of trade ECOWAS treaty region was developed. It provides coordination and harmonization of policies targeted to environmental protection. DGIC promotes the establishment of joint production enterprises within the ECOWAS member states. The ministry fosters local industry and is responsible to promote sector policies and regulations. DGIC will be a partner to promote new import regulations for appliances.
The General Directorate of Tourism (DGT)	The DGT is responsible for recognizing the tourism sector and develop strategies for the economic development of Cape Verde. The DGT has developed a public private partnership (PPP) model strategy for sustainable tourism in Cabo Verde (2010-2015). The DGT is responsible for the growth of new hotels and resorts in the country. DGT's role is to support audits for tourism buildings and develop baseline for existing buildings. The DGT will help in pilot project identification and will support dissemination of lessons learned and best practices demonstrated within this project among tourist sector operators and investors.
National Directorate of Environment (DGA/DNA)	DGA/DNA is responsible for coordination with other agencies with respect to all matters pertaining to environment and for managing EIA. DGA/DNA is responsible for the national environmental education program and the environmental information system (SIA). It will collaborate in project implementation, especially on the design of outreach campaigns with environmental education programs. It will be a partner as well on integrating energy efficiency considerations on the construction project EIA (environmental impact assessment) and will be responsible for integrating the project in a broader low emission and climate resilient national strategy.
Institute of Meteorology and Geophysics (INMG)	The INMG is a National Institute under the Ministry of the Environment Housing and Land Use Planning (MAA), responsible for promoting coordination and implementation of government policy measures and actions in the fields of Meteorology and Geophysics. As the designated authority and focal point of Cabo Verde for the UNFCCC, INMG will collaborate on the implementation of all MRV measures to quantify GHG emissions offsets and to implement energy information system related initiatives.
DG Customs- Ministry of Finance	Customs control the import and inspection of all goods coming into the country and will have a key role to play in enforcing the energy efficiency standards and labelling program for appliances. They will collaborate on the design and implementation of appliances import regulations and standards. In general, they will facilitate implementation of component 2 of the project.
DGI – General Directorate of Infrastructure	DGI is the central agency responsible for the execution of civil construction and public works policy, including industrial infrastructure, economic and social, hydraulic works and public buildings. DGI will be an important partner in obligation and incorporation of energy efficiency as the main criterion in all public buildings.
National Municipality Association (ANMCV)	The National Municipality Association (ANMCV) includes all major cities and municipalities in the country and mandates to represent their interests. According to the legal statutes creating the association, the ANMCV has the mission to promote, advocate, represent local authorities and support them in assuming their jurisdiction and reinforcing their financial autonomy. ANMCV could support capacity development activities targeting municipal authorities. Additionally, ANMCV support will be valuable in designing awareness raising and reinforcement activities for municipal decision-makers, planners and technical staff involved on the permitting process.
Municipalities	Cabo Verde counts with 22 municipalities across the 9 inhabited islands. Within the municipalities, the technical cabinets are responsible for land use planning, zoning enforcement and building permitting approval in their jurisdiction. The Municipal Charter and the Decentralization Act (Law n° 69/VII/2010, of 16th August) determines the main responsibilities to municipalities. Responsibilities over land-use & urban planning, social action and interventions, civil protection and municipal police, culture promotion, transportation water, public health, sports and social equipment/facilities, environment and sanitation, housing, education, internal commerce, employment and economic development and entrepreneurship promotion sectors have been partially assumed by municipalities. In regards to energy, according to the existing regulatory framework, municipalities have competences over rural electrification and public lighting. However, rural electrification programs have been implemented mainly by state institutions.
IGQPI-Management Quality and Intellectual Property Institute	IGQPI is responsible to coordinate the national quality management system. It promotes and coordinates activities targeted to demonstrate the credibility of economic agents, as well as develop functions as the

	national metrology lab. IGQ is responsible for coordination of all normalization and standardization processes, metrology and conformity assessment. IGQ is responsible for recognizing and qualify as Sector Normalization Organism the public or private entities on which IGQ will delegate technical normalization on specific activity sectors. ICQ will be relevant partner on capacity development activities and other initiatives to implement S&L for appliances and establish testing procedures.
National Institute on Land Management (INGT under installation after Decree creation in April 2014)	INGT is responsible to develop and implement policies in land-use planning and management, urban development, cadastre, housing, cartography, geodesy, toponimia, and Spatial Data Infrastructure. It will integrate and cover the responsibilities of the old DGOTDU and Housing policies cabinet.
Cabinet on support of housing policies & Directorate General of Land-use planning and urbanization (DGOTDU) – Ministry of Environment, Housing and Land-use Planning	DGOTDU is the government unit responsible for land-use planning policies. The Directorate assumes the responsibilities over study, promotion, coordination and execution on land management policies and urbanism. Promotion of land-use guidelines, support, review and clearance of island-wide and municipal level land-use plans are under its responsibility.  In collaboration with municipalities, and IFH, the cabinet on housing policies support and is responsible for the promotion of requalification, rehabilitation of housing units and promotion of urban renewal initiatives.  DGOTDU and Housing policies cabinet will support detail identification and selection of demonstration projects on social housing programs. They are also expected to support initiatives of sustainable urban planning and promotion of energy efficiency considerations on zoning and neighbourhood detail planning.
<b>Electricity Sector Bodies</b>	
ELECTRA	Electra is a limited company that produces and distributes electricity across the territory of Cabo Verde, with a rate of 95% coverage in 2019, as well as the production and distribution of drinking water in S. Vicente, Sal and in Praia on Santiago with a coverage rate of 50%, and the collection, treatment and reuse of wastewater in Praia. ELECTRA, as the major utility collaborates on the design of inefficient appliances replacement and its financial mechanisms. Additionally, it will support awareness raising activities.
AEB - Água e Energia da Boavista	AEB, under a subcontractor agreement with ELECTRA is responsible as a utility running water and electricity production and distribution services in Boavista island. It will collaborate on the design of inefficient appliances replacement and its financial mechanisms. In addition, it will also support awareness raising activities.
Águas de Ponta Preta/ Águas de Porto-Novo (APP/APN)	APP/APN are the partner companies responsible for water production in Sal and Santo Antão Island. Additionally, they produce and sell electricity to some resorts in Sal islands and they have partnered with the Porto-Novo Municipality (in Santo Antão island) for a RE-based small grid in a remote rural community (Tarrafal de Monte Trigo)
Multisector Economic Regulatory Agency (ARME)	ARME was created under the Decree- Law nº 26/2003, is an independent administrative authority that regulates the water, energy, transport sectors. It sets regulations for energy and water sector, transportation. ARME gives technical support and advisory to the government and its collaboration ARME come from the fusion between ARE & ANAC will be essential to device incentives schemas and awareness raising campaigns.
<b>Other Organizations</b>	
Regional Centre for Renewable Energy and Energy Efficiency (ECREEE)	Provide relevant guidance on ECOWAS rules and regulation to ensure that regulatory framework and policies are in line with regional and international guidelines.  Synergies with ECREEE will be promoted for demonstration projects selection and implementation, awareness raising. Collaboration with ECREEE is essential to ensure S&L and testing procedures proposed are in line with ECOWAS-region orientation and regulations.  Additionally, synergies will be developed with the regional initiative for Energy efficiency in buildings, as well as in regards to the solar-thermal regional project which implementation is planned to start in 2015
OAC Architects Order	A professional association, the Chamber of Architects represents the sector practitioner's interest and is responsible for licensing the professional to work in the country. They will be a key partner on all technical discussion to propose a new energy efficient building code and building permitting process review, which are appropriate to the country climate and reality. They are expected to partner as well on all capacity development initiatives, dissemination of best practices and sector practitioners awareness raising.
OEC Engineers Order	A professional association, the Chamber of Engineers represents the sector practitioner's interest. Thermal, industrial and civil engineers are member of this order. They should participate on the process to prepare new building codes and the definition of compliance mechanism. They will be associated with all the activities related to curriculum development and capacity building.
Universities and vocational training schools/IEFP	The different public (UniCv) and private universities across the country have established (1) Architecture and several Engineering schools to locally train professional on this area. National Employment and vocational training Institute (IEFP) is responsible for management of a national system of vocational training schools. Some professional families linked to electricity and construction sector have been developed through professional training programs. Universities and training centres are expected to participate on curriculum revision initiatives and to collaborate for delivering new training and raising awareness among practitioners.
Center for Renewable Energy and Industrial Maintenance (CERMI)	The CERMI is a public entity established in Cabo Verde to assist the country's government and execute public policies for energy transition and efficiency. The CERMI mission focuses on the promotion of knowledge, through the training of young people, as well as the dissemination of modern techniques and technologies in the field of renewable energies, energy efficiency and industrial maintenance.
Luxembourg Development Agency -(LUXDEV)	LUXDEV oversees the bilateral development programs in the country and ensures the overall operational coordination. Currently, the agency is supporting the implementation of the project -“Support to the national employment and vocational training programme”; moreover, the project supported capacity building to enhance the needed skills for the day-today management of the institutions and the drafting of new curricula for new courses.

The European Union (EU)	The European Union has created SE4All Technical Assistance Facility to support Cabo Verde and other developing countries, which are committed to reach the SE4All objectives through appropriate sector reforms and scaling up of investment in the energy sector. Examples of areas of support include national energy sector policies and reforms, capacity building particularly in the policy and regulatory areas, technical support in preparation of investment projects, mobilization of funds and facilitation of partnerships, industrial and technology cooperation, and project demonstrations.
IFH (Housing Development Institute)	IFH is a public real estate and housing corporation established in 1999. A social and public housing real estate developer, IFH address the Cabo Verde housing deficit as well as upgrading existing housing stock. IFH is responsible for affordable housing development and social housing management, public land urbanization and servicing projects. It estimates that housing deficit in the country is at around 42,000 dwellings in 2010. In 2009, the government launched a new housing policy: a national social housing system, which was established as the new legal framework to attract investments in public housing by minimizing housing and infrastructure cost and promote housing developments and public housing programs management efficiency. IFH is responsible for the implementation of the public housing program “Kasa Para todos. This program contemplated the delivery of the construction of three classes of accommodation: economic, social and controlled costs, in addition to the rehabilitation of social housing in several municipalities in the country to citizens as housing units to buy, to rent or resolvable rent and sale contracts. With about 1,460 buildings constructed (economic, cost controlled and social housing), 1,450 rehabilitated housing and management of state assets of about 390 properties, the IFH has assumed responsibility with its function of promoting and structuring of urban space in the country.
Chamber of Commerce Industries and Services Sotavento (CCISS) and the Chamber Commerce, Industry and Services Barlovento (CCIsB)	The Chambers of Commerce Industries and Services (CCISS) are organizations of private law public utility. CCISS was established in 1995, to influence the public policies of promotion and corporate citizenship through corporate social responsibility. Chambers of commerce have been delegated the authority to manage commerce, import and export licensing system. The Chamber of commerce will support awareness rising among importers and retailers to achieve market transformation.
Civil Engineering Laboratory Cabo Verde (LEC) - Ministry of Infrastructure, Housing and Land Managment	The LEC aims to undertake, promote and coordinate scientific research, technological development, and activities necessary for the progress and good practice of civil engineering. The relevant duties of the LEC include conducting studies in the field of standards and technical regulations, testing thermal properties of construction materials and providing quality certification of materials, components and other construction products.
Private Sector Partner/(s)	Various Private sector partners will play a key role in the co-financing of project activities and replicating best practices. This includes commercial and industrial associations, industrial/commercial enterprises/business groups, construction companies, oil companies/gas companies/production and distribution companies of conventional and renewable energy. Private sector partners may include participation and contribution in increasing energy efficiency in the building sector. They will contribute to technology transfer related to low emission climate resilient development strategy; participate in the evaluation of GHG emissions in industry and GHG mitigation.
Civil society, consumer associations (ADECO) association for social service and community intervention (ASSIC); and community organizations	Some local associations, such as the above mentioned ASSIC has been involved in community awareness campaigns on energy use safety and energy efficiency. Other environmental NGOs, such as ADAD have advocated for other environmental causes, such as plastic bags banning. Consumer association ADECO, and all relevant associations and NGOs would be partners to develop and implement awareness raising campaigns. ADECO will be an important partner in developing a national S&L system for appliances.
Media (Community radios, National TV and private radios and press)	Media sector is large and diverse in Cabo Verde. Public TVs, community and state radios, private newspapers and radios have most of them developed some type of scientific and educational programs or special editions, journalist to participate in trainings and awareness raising campaign. Their insights on public opinion in the country will be relevant to target well the messages on the communications and educational materials and to ensure dissemination of best practices and results achieved through this project.

## Annex 6: Project Results Framework (at the Project Inception)

### Strategic results framework

<b>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:</b> Institutions reinforce environmental governance and integrate principles of environmental sustainability, climate change and disaster relief reduction; public and private institutions adopt a holistic approach to conservation and protection of critical habitats and biodiversity.
<b>Country Programme Outcome Indicators:</b> % of public resources allocated to environment; Number of key sector strategies integrating environmental dimension.
<b>Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one):</b> 1. Mainstreaming environment and energy OR 2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.
<b>Applicable GEF Strategic Objective and Program: Climate Change Mitigation Objective 2:</b> Promote market transformation for energy efficiency in industry and the building sector
<b>Applicable GEF Expected Outcomes:</b> <ul style="list-style-type: none"> <li>• Appropriate policy, legal and regulatory frameworks adopted and enforced</li> <li>• Sustainable financing and delivery mechanisms established and operational</li> <li>• GHG emissions avoided</li> </ul>
<b>Applicable GEF Outcome Indicators:</b> <ul style="list-style-type: none"> <li>• Extent to which EE policies and regulations are adopted and enforced (score of 0 to 4)</li> <li>• Volume of investment mobilized</li> <li>• Tonnes of CO2 equivalent</li> </ul>

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>Project Objective:</b> The objective of the project is to reduce energy consumption and related GHG emissions in buildings and household appliances in Cabo Verde through introducing a range of legislative and regulatory measures and resulting in an estimated indirect CO2 savings of some 703.99 ktCO2 over the 10-year project lifetime.	Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO2e	0	297.8	M&E reports of the pilot/model projects. Reports and documents available on code compliance GHG national inventory (energy sector) and national energy balance.	<i>Risk:</i> Energy performance reports may not be made available unless mandated and they may not be accurate <i>Assumptions:</i> Government of Cabo Verde commitment to energy efficiency remains firm All energy performance reports are made available
	Annual Reduction of energy consumption in the buildings and appliances, MWh	0	115,818	Project implementation reports Building sector energy database GHG national inventory (energy sector) and national energy balance and utilities report to DGE.	

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>OUTCOME 1:</b> Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	Direct energy savings in the buildings sector projects by EOP, MWh/y	0	4,634		
<b>Output 1.1:</b> New building code focused on energy savings in Cabo Verde (includes minimum energy performance standards and energy passports) and which promotes climate resiliency and adaptation' and includes water usage considerations	New building space compliant with new energy efficiency code by EOP, million m2	to be determined		EE code compliance reports/documents	<i>Risks:</i> Lack of political will to introduce a new law on energy savings which includes new energy efficiency building codes <i>Assumptions:</i> Government of Cabo Verde commitment to energy efficiency remains firm No change in stakeholder commitments for co-financing and other cooperation to facilitate the output 1.1
	Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)	0	4,634	Energy monitoring reports of demonstration buildings	
	No of trained professionals and government officials by EOP to conduct code compliance	0	50	Workshop proceedings and evaluation reports Completion reports for training and capacity building workshops	
<b>Output 1.2:</b> Inventory and database management system for national energy balance, detailed consumption statistics and related GHG's emissions in the building by major end use (air conditioning, lighting, water heating, appliances).	No. of professionals trained to conduct energy audits	Limited professional skill for energy audit	50	Completion reports of trainings and capacity building workshops	<i>Risk:</i> Insufficient data collection. Too many variations in energy consumption/savings. Poor quality of energy audits and no flow of information to database <i>Assumptions:</i> Reporting of building energy performance is consistent and well understood by key stakeholders
	No. of buildings energy performance in the database	0	100	Inventory and database management reports Energy management system developed Project implementation reports	
	No. of energy audits carried out annually	Limited energy audit reports	15	Reports generated from database	
<b>Output 1.3:</b> MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	No. of professionals trained in the building sector for MRV	0	25	Documentation on the training courses; training reports MRV approach report	<i>Risk:</i> Limited qualified professionals to develop MRV protocol
	No. of buildings adopted MRV protocol	0	30	Building MRV reports	

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<p><b>Output 1.4:</b> Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism</p>	<p>No. of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance</p> <p>No. of building permits approvals processed according to new EE code compliance mechanism</p>	<p>Municipalities are currently responsible to oversee the new construction</p> <p>Lack of inspecting and monitoring mechanisms of new construction</p>	<p>5</p>	<p>Official notifications issued by municipal bodies</p>	<p><i>Risk:</i></p> <p>Lack of continued commitment of the key public authorities and government entities to develop and implement effective energy efficiency building policies and practices</p> <p>Non availability of qualified staff to promote the new energy efficiency code and energy efficiency programs</p> <p><i>Assumption:</i></p> <p>Key public authorities are aware of the need to learn on energy efficiency code compliance need. A continued support to promote energy efficiency code and other programs.</p>
	<p>No of professionals and govt. staff trained to conduct energy efficiency code compliance</p>	<p>Limited capacity for compliance enforcement</p>	<p>60</p>	<p>Capacity building program reports</p>	
	<p>No. of verified energy efficiency code compliant buildings each year project implementation EOP</p>	<p>Technical code of buildings (2012) and contains few provisions on energy efficiency</p>	<p>25</p>	<p>Documentation of revised building permits</p>	
	<p>No. of accredited local authorities (at municipal level) to validate and verify mandatory energy efficiency code compliance by EOP</p>	<p>0</p>	<p>5</p>	<p>Accredited local authorities list available with DGE</p>	

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>OUTCOME 2:</b> Energy-Efficiency improvements through Standards & Labelling for appliances	a) Direct energy savings in the appliances stock by EOP MWh/yr	0	111,184		
	b) % Increase in sales of energy efficient appliances as a result of energy efficiency finance	0	20%		
<b>Output 2.1:</b> Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	No. of verification and enforcement procedures developed in line with ECOWAS labelling program	ECOWAS concept note on S&L programs available No energy-efficiency policy for refrigerators/freezers, air-conditioners etc.	1	New energy efficiency policy draft for appliances	<i>Risk:</i> No motivation from the market for energy efficient appliances  <i>Assumption:</i> Manufacturers are willing to commit staff time for appliance S&L training and financial resources to improve their products.
	No of manufacturers, retailers and consumers attend educational workshop on energy efficiency labels on appliances	No awareness on energy efficiency labelling of appliances Some awareness campaigns implemented on incandescent bulbs targeting households	50	Education workshops reports	
	% Increase in sales of energy efficient appliances with labelling and certification	0	30%	Sales data analysis report	
<b>Output 2.2:</b> Regulations including import regulations for energy-efficiency standards for a first selection of appliances	% Increase in import of energy efficient appliances due to developed new law and regulatory changes	0	60%	Import data from customs	<i>Risk:</i> Lack of collaboration on customs officials to implement new regulations. Lack of continued Ministry of Finance commitment to introduce fiscal and financial incentives.
	No of trained energy efficiency standard compliance and enforcement officials	0	60	Workshop reports and outcomes	
<b>Output 2.3:</b> Testing mechanism for selected appliances to be developed and established	% Increase in testing of appliances as per new testing mechanism developed	0	60%	Appliance testing reports	<i>Risk:</i> Limited capacity to establish a national testing mechanism for new appliances and a framework for labelling and certification of appliances
	No. of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	0	25	Project implementation reports Documentation on the training courses; training reports	
<b>Output 2.4:</b> National certification procedures to promote energy efficiency	% Increase in energy efficient appliance sales through certification procedures	0	50%	Annual sales report	<i>Risk:</i> : Limited consumer trust on the certification procedure and label system. <i>Assumption:</i> appliances sales will continue to increase

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>Output 2.5:</b> Public awareness programme and diffusion strategy, which includes training seminars on the new regulations for importers, appliances distributor's retail chains, and the general public	No of officials (manufactures, retailers, customs officials) trained to comply with new energy efficient appliance law/regulation	Absence of awareness raising campaign for energy efficient appliances	25	Training program reports Documentation on the training courses	<i>Risk:</i> Limited adherence of importers and commerce to the awareness raising initiatives <i>Assumption:</i>
	% Increase in consumers and retailers understanding of trade-off between higher purchase cost and lower running cost of energy efficient appliances	Limited awareness of energy efficient appliances benefits	40%	Surveys reports of consumes and retailer understanding and perceptions of energy efficient appliance INE thematic surveys or ADECO reports	
	% Increase in local retailers and distributors to market more efficient appliances	Market for energy efficient appliances is non-existent	40%	Customs reports on volume of energy efficient appliances import	
<b>Output 2.6:</b> Demand Side Management program, run by the national utility, built around a “turn-in or exchange” mechanism/modality	No. of professionals and state officials trained on DSM programs by EOP	Lack of information on DSM programs	25		<i>Risk:</i> Limited adherence of utilities, financing institutions and retailers to the program <i>Assumption:</i> Retailers and/or importers are interested in turn-in mechanism to increase their sales
	No. of energy audits carried out annually	Few energy audit reports available	15		
	No of pilot DSM programs launched	No mechanism for phasing out of inefficient appliance with some initiatives to replace incandescent	2	Pilot program case study documentation	
<b>Output 2.7:</b> The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heaters	No. of applicable project financing schemes on energy efficient appliances identified, designed and launched during project implementation	No data available on Energy efficiency finance. No energy efficient appliance finance scheme	2	Documentation of the designed financing scheme, including implementation mechanisms, and rules and regulations EE finance scheme launched	<i>Risk:</i> Limited awareness and sensibility of financial institutions and commerce sector on the advantages of supporting this type of schemes. <i>Assumptions:</i> Banks/FIs are willing to finance building energy efficiency projects
	% Increase in sales of energy efficient appliances as a result of energy efficiency finance	Absence of energy efficiency finance schemes	20%	Sales data reports Facility/mechanism management agency report	

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>OUTCOME 3:</b> Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects	Demonstration projects completed and energy efficiency best practices disseminated	0	5		
<b>Output 3.1:</b> Selection of at least 4 public buildings and 2 social housing programmes for pilot demonstration projects in energy efficiency investment	No. of finalized and approved demonstration project designs (engineering and construction)	0	5	Documentation of demonstration projects	
	No. of demo projects implemented each year	0	2		
<b>Output 3.2:</b> Building stakeholders (architects, engineers, designers, developers, financial institutions) trained to monitor energy performance / water usage at the selected buildings in accordance with database management system	No of building stakeholders trained each year (certified professions)	Limited professionals trained to monitor energy performance	15	Training needs assessment report Documentation of the training courses Training course evaluation report	<i>Risk:</i> Market-size is limited to absorb all certified professionals <i>Assumption:</i> Regulation catalyze demand of professional services
	No of professionals certified as accredited professional	No accredited professional program	25	Launch of accredited program in the first year of project	
<b>Output 3.3:</b> 3.3 Monitoring and Reporting System of energy performance / water usage for the demonstration projects	No. of energy and water audits conducted in pilot projects	0	8	Audit Reports	
	No. of M&V reports published from pilot projects	0	2	M&V reports	

Objective/Outcome or Output	Indicator	Baseline	EOP Targets	Sources of Verification	Risks and Assumptions
<b>OUTCOME 4:</b> Additional investment mobilized in energy-efficiency as a result of the dissemination and replication activities	a) % Increase in sales of energy efficient appliances during the project implementation	0	30%		
	b) % increase in number of energy efficiency buildings during and after project implementation	0	30%		
<b>Output 4.1.:</b> Elaboration of case study guides and disseminated among relevant audience	No of published comprehensive energy efficiency buildings user manuals and case study guides	User manual available on sustainable architecture	5	Project implementation reports User manual reports Published guidelines for energy efficient buildings	<i>Risk:</i> Failure to trigger positive response from key stakeholders and certified practitioners <i>Assumption:</i> Experts to deliver trainings are available and willingness of the targeted stakeholders to benefit from the training. Accredited authorities willing to cooperate on energy efficiency in buildings
	No. of set of guidelines prepared on energy efficient buildings for developed and investors by EOP		5		
<b>Output 4.2:</b> Public awareness raising campaign on standards and labels	No of awareness raising campaigns websites, newsletters, media outreach activities)	0	15	Consumer awareness campaign reports	
	% Increase in sales of energy efficient appliances during the project implementation	0	30%	Sales data reports	
<b>Output 4.3:</b> Training of Key Building Stakeholders (senior policy makers, introduction of energy efficiency technique and practices in Vocational Training Schools across the country) on energy efficient buildings	No. of training courses conducted for key stakeholders each year	Limited trainings for energy efficiency techniques	4	Documentation on the training courses; training reports	
	No. of vocational training /vocational training schools or courses/units/modules within university programs	0	5	Vocational training modules	
<b>Output 4.4:</b> A thorough monitoring of the impacts of the new energy efficient requirement is performed	% Reduction in energy consumption due to new energy efficiency requirements	0	30%	Documented monitoring plan and audit reports	
<b>Output 4.5:</b> Lessons learned study prepared and disseminated	No. of sets of knowledge sharing products developed by EOP	0	4	Launched knowledge products	

## Annex 7: Performance Rating of GEF Projects

The main dimensions of project performance on which ratings are provided in terminal evaluation are outcomes, sustainability, quality of monitoring and evaluation, quality of implementation, and quality of execution.

### Outcome ratings

The overall ratings on the outcomes of the project will be based on performance of the criteria of relevance, effectiveness and efficiency. A six-point rating scale is used to assess overall outcomes.

Highly Satisfactory (HS)	Level of outcomes achieved clearly exceeds expectations and/or there were no short comings
Satisfactory (S)	Level of outcomes achieved was as expected and/or there were no or minor short comings
Moderately Satisfactory (MS)	Level of outcomes achieved more or less as expected and/or there were moderate short comings
Moderately Unsatisfactory (MU)	Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings
Unsatisfactory (U)	Level of outcomes achieved substantially lower than expected and/or there were major short comings
Highly Unsatisfactory (U)	Only a negligible level of outcomes achieved and/or there were severe short comings
Unable to Assess (UA)	The available information does not allow an assessment of the level of outcome achievements

### Sustainability Ratings

The sustainability will be assessed taking into account the risks related to financial, sociopolitical, institutional, and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale.

Likely (L)	There is little or no risks to sustainability
Moderately Likely (ML)	There are moderate risks to sustainability
Moderately Unlikely (MU)	There are significant risks to sustainability
Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

### Monitoring and Evaluation Ratings

Quality of project M&E are assessed in terms of design and implementation on a six point scale:

Highly Satisfactory (HS)	There were no short comings and quality of M&E design / implementation exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of M&E design / implementation meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of M&E design/implementation more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of M&E design / implementation somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of M&E design/implementation substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in M&E design/ implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design / implementation

### Implementation and Execution Rating

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF Agencies that have direct access to GEF resources. Quality of Execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF Agencies and executed the funded activities on ground. The performance will be rated on a six-point scale.

Highly Satisfactory (HS)	There were no short comings and quality of implementation / execution exceeded expectations
Satisfactory (S)	There were no or minor short comings and quality of implementation / execution meets expectations
Moderately Satisfactory (MS)	There were some short comings and quality of implementation / execution more or less meets expectations
Moderately Unsatisfactory (MU)	There were significant shortcomings and quality of implementation / execution somewhat lower than expected
Unsatisfactory (U)	There were major short comings and quality of implementation / execution substantially lower than expected
Highly Unsatisfactory (U)	There were severe short comings in quality of implementation / execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation / execution

## Annex 8: Evaluation Report Outline

### i. Opening page:

- Title of UNDP supported GEF financed project
- UNDP and GEF project ID#s.
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- GEF Operational Program/Strategic Program
- Implementing Partner and other project partners
- Evaluation team members
- Acknowledgements

### ii. Executive Summary

- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

### iii. Acronyms and Abbreviations

#### 1. Introduction

- Purpose of the evaluation
- Scope & Methodology
- Structure of the evaluation report

#### 2. Project description and development context

- Project start and duration
- Problems that the project sought to address
- Immediate and development objectives of the project
- Baseline Indicators established
- Main stakeholders
- Expected Results

#### 3. Findings

(In addition to a descriptive assessment, all criteria marked with (\*) must be rated)

##### 3.1 Project Design / Formulation

- Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
- Assumptions and Risks
- Lessons from other relevant projects (e.g., same focal area) incorporated into project design
- Planned stakeholder participation
- Replication approach

- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Management arrangements

### 3.2 Project Implementation

- Adaptive management (changes to the project design and project outputs during implementation)
- Partnership arrangements (with relevant stakeholders involved in the country/region)
- Feedback from M&E activities used for adaptive management
- Project Finance:
- Monitoring and evaluation: design at entry and implementation (\*)
- UNDP and Implementing Partner implementation / execution (\*) coordination, and operational issues

### 3.3 Project Results

- Overall results (attainment of objectives) (\*)
- Relevance (\*)
- Effectiveness & Efficiency (\*)
- Country ownership
- Mainstreaming
- Sustainability (\*)
- Impact

### 4. Conclusions, Recommendations & Lessons

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Best and worst practices in addressing issues relating to relevance, performance and success

### 5. Annexes

- ToR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Evaluation Question Matrix
- Questionnaire used and summary of results
- Evaluation Consultant Agreement Form

## Annex 9: Evaluation Consultant Agreement Forms

### Agreement to abide by the Code of Conduct for Evaluation in the UN System

#### Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Name of Consultant:** Dalibor Kysela

**Name of Consultancy Organization (where relevant):** \_\_\_\_\_ N.A. \_\_\_\_\_

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Vienna 31 July 2020

Signature: \_\_\_\_\_



## Agreement to abide by the Code of Conduct for Evaluation in the UN System

### Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

**Name of Consultant:** Heleno Sanches

**Name of Consultancy Organization (where relevant):** \_\_\_\_\_ N.A. \_\_\_\_\_

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at Praia, 31 July 2020

Signature: \_\_\_\_\_



**Annex 10: Audit Trail – annexed as separate file**