

Mid-Term Review of the UNDP/GEF project:

“Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances (PIMS # 4996)”

Report

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Disclaimer

Please note that the analysis and recommendations of this report do not necessarily reflect the views of the United Nations Development Programme, its Executive Board or the United Nations Member States. This publication reflects the views of its authors.

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LIST OF ACRONYMS

ADF	African development fund
AEB	Águas e Energia de Boavista
ANMCV	National Municipality Association
APN	Águas de Porto Novo
ARE	Economic Regulatory Agency
AWP	Annual Work Progress
BAU	Business as-Usual
CCISS	Chamber of Commerce Industries and Services Sotavento
CO ₂	Carbon Di-Oxide
CO ₂ e	Carbon Di-Oxide equivalent
DGC	General Directorate Customs
DGE	Directorate General for Energy
DGIC	General Directorate for Industry and Commerce
DGOTDU	Directorate General of Land-use planning and urbanization
DGT	General Directorate for Tourism
DSM	Demand Side Management
ECM	Energy Conservation Measures
ECOWAS	Economic Community Of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
EE	Energy Efficiency
EEB	Energy Efficient Buildings
EEBC	Energy Efficiency Building Code
EEEP	ECOWAS Energy Efficiency Policy
ELECTRA	National Electricity and Water Company
EREP	ECOWAS Renewable Energy Policy
EOP	End of Project
EU	European Union
GEF	Global Environment Facility
GHG	Greenhouse Gases
GDP	Gross Domestic Product
HDI	Human Development Index
INE	National Statistics Institute- Cabo Verde
INGT	National Institute of Land Management
INPSS	National Social Insurance Fund
INMG	Institute of Meteorology and Geophysics
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producers
IFH	Housing Development Institute
IGQ	Instituto de Gestão de Qualidade/ Quality Management Institute
JICA	Japan International Corporation Agency
kWh	Kilowatt hour
LEC	Civil Engineering Laboratory Cabo Verde
LLC	Limited Liability Company
LUXDEV	Luxembourg Development Agency
MAHOT	Ministry of the Environment Housing and Land Use Planning
MEPS	Minimum Energy Performance Standards
MTIE	Ministry of Tourism, Industry, and Energy
M&V	Monitoring and Verification
MW	Megawatts
NAMA	Nationally Appropriate Mitigation Actions
NPD	National Project Director

NPM	National Project Manager
OAC	Order of Architects of Cabo Verde
PANA II	National Action Plan for the Environment
PMU	Project Management Unit
PSC	Project Steering Committee
SE4All	Sustainable Energy for All
S&L	Standards and Labelling
UNFCCC	United Nations Framework Convention on Climate Change
WE	Water Efficiency

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1. EXECUTIVE SUMMARY

Table 1: Project Information Table

Project Title:	Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances			
GEF Project ID:	5344		<i>Committed at endorsement (USD Million)</i>	<i>Realised co-financing / spent GEF budget at mid-term review (USD Millions)</i>
UNDP PIMS ID:	4996	GEF financing:	1.9184	
Country:	Cabo Verde	IA/EA own:	0.3000	
Region:	Africa	Government:	4.9113	
Focal Area:	Climate Change	Others¹:	4.8250	
FA Objectives, (OP/SP):	Institutions reinforce environmental governance and integrate principles of environmental sustainability, climate change and disaster relief reduction	Total co-financing:	10.036	
Executing Agency:	Directorate General of Energy (DGE) under Ministry of Tourism, Industry and Energy	Total Project Cost:	11.955	
Other Partners involved:	Directorate General for Environment (DGA) under Ministry of Environment, Housing and Land Use.	GEF endorsement:		ProDoc Signature: 30 July 2015
		(Operational) Closing Date:		Expected closing 31 Dec, 2019

1.1 Introduction and brief description of the project

Cabo Verde's energy sector is characterized by large consumption of imported fuel oil, biomass (wood) and some use of renewable energy particularly wind and solar power. The country's high dependence on petroleum products is increasing with the increase in the demand for electricity (growing by 8.1% per year). This represents a heavy burden on the national economy. The country's power generation capacity mix comprises of 76% by diesel, 19% by wind, 5% by solar. Residential sector accounts for about 29% of the total electricity consumption in the country. Other major sectors for usage of electricity are desalination (8%), institutions (8%), Tourism (9%), Commercial – Industrial – Agriculture (16%). The losses are to the extent of 30% (17% non-technical losses and 13% internal losses). As an archipelago, each island of Cabo Verde has its own local power station largely running on petroleum products and its own electrical grid. The electricity power system has reported high growth in the past, achieving coverage of 90% of the country in 2010.

Energy efficiency has been 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 has acknowledged the importance of reducing the dependence on imported fossil fuels. Accordingly, Cabo Verde- National Energy Policy, 2008 sets out objectives to decrease the dependence on fossil fuel based energy sector. The policy aims for energy conservation, energy efficiency and strengthening of legal framework within the energy sector.

¹ ECREEE – 3.9 million USD, APP – 0.612 million USD, UNICV – 0.313 million USD

Being the major end user of electricity, household appliances and buildings are the priority areas for energy efficiency and conservation related initiatives. There are a number of challenges and barriers to promote energy efficiency / conservation in buildings and appliances in the country. Such barriers and challenges includes;

- Lack of awareness among users, so they do not pull the market towards energy savings. This follows the dearth of information on potential savings with correct measures to achieve the same.
- Architects and builders have limited knowledge of bioclimatic building practices and materials in the country.
- The various ministries and institutions responsible for buildings have limited experience and capacity to implement appropriate framework.
- Absence of minimal public policies, institutional and regulatory mechanisms to promote energy efficiency in buildings and appliances.
- Financial Barriers: There is a lack of financial incentive for construction companies, individual households or public institutions to invest in energy efficiency.

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 the appliances. The appliances being targeted are Air Conditioners, Refrigerators & Freezers, Electric Water Heater, Televisions, Bulbs and Washing Machines².

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 transform 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 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

Table 2 provides the Project Objectives along with the summary of different Outcomes and the corresponding Outputs for the four planned outcomes of the project. The Table also provides the indicators to monitor and verify the achievement of the planned Objectives Outcomes and the Outputs of the project. There are some of the issues with the project design and the log-frame of the project. Accordingly, recommendations has been make some changes in the log-frame of the project. The recommend changes in the log-frame are also marked in the Table.

² Washing machines were not considered at the time of project design and was included later on while implementing the project

Table 2: Project Results Framework (as per Project Document) and Recommended Modifications

(Recommended Changes are marked in different style)

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
Project Objective To remove barriers to energy efficiency in Cabo Verdean built environment and domestic appliance.	<i>Indicator A</i> Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO ₂ e	0	297.8	0
	<i>Indicator B</i> Annual Reduction of energy consumption in the buildings and appliances MWh	0	115818	0
	<i>Indicator C</i> Reduction of consecutive (indirect) GHG emissions due to EEBC over a period of 10 years post project implementation (tons of CO₂e)			7200 ⁵
	<i>Indicator D</i> Reduction of consecutive (indirect) GHG emissions by use of energy efficient appliances over 10 years post project implementation (tons of CO₂e)			110000 ⁶
Outcome 1 Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	<i>Indicator 1-1</i> Direct energy savings in the buildings sector projects by EOP, MWh/yr. (energy and water efficiency)		4634	Indicator 1-2 (additional indicator) National Energy efficiency building code developed and implemented <i>(Indicator 1-1 relates more to the pilot projects (Outcome 3 and is suggested to be removed from here)</i>
Output 1.1 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	<i>Indicator 1a</i> New building space compliant with new energy efficiency code by EOP, million m ²	to be determined		It is recommended to drop this indicator, as this Output of the project is not for pilot projects. Pilot projects (new buildings are covered Under Outcome 3)
	<i>Indicator 1b</i> Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)		4634	0
	<i>Indicator 1c</i> Number of trained	Absence of trained officials	50	

³ The numbering of indicators has been done at the MTR for easy reference

⁴ Target as per Project Document

⁵ The project may either use this value or carry out a better estimate of the potential

⁶ The project may either use this value or carry out a better estimate of the potential

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
	professionals and government officials by EOP to conduct code compliance			
Output 1.2 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.).	<u>Indicator 1d</u> Number of professionals trained to conduct energy audits	Limited professional skill for energy audit	50	
	<u>Indicator 1e</u> Number of buildings energy performance in the database	Absence of buildings energy use database	100	
	<u>Indicator 1f</u> Number of energy audits carried out annually	Limited energy audit reports	15	
Output 1.3 MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	<u>Indicator 1g</u> Number of professionals trained in the building sector for MRV	NA	25	
	<u>Indicator 1h</u> Number of buildings adopted MRV protocol	NA	30	
Output 1.4 Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism	<u>Indicator 1i</u> Number of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance Number of building permits approvals processed according to new EE code compliance mechanism	Municipalities are currently responsible to oversee the new construction Lack of inspecting and monitoring mechanisms of new construction	5	It is recommended to drop this indicator
	<u>Indicator 1j</u> Number of professionals and govt. staff trained to conduct energy efficiency code compliance	Limited capacity for compliance enforcement	60	
	<u>Indicator 1k</u> Number of verified energy efficiency code compliant buildings each year project implementation EOP	Technical code of buildings (2012) and contains few provisions on energy efficiency	25	It is recommended to drop this indicator
	<u>Indicator 1l</u> Number of accredited local authorities (at municipal level) to validate and verify mandatory energy efficiency code compliance by EOP	None	5	
Outcome 2: Energy-Efficiency improvements through Standards & Labelling for appliances	<u>Indicator 2-1</u> Direct energy savings in the appliances stock by EOP MWh/Yr. <u>Indicator 2-2</u> % Increase in sales of energy efficient appliances as a result of		111,184 20%	<u>Revised additional Indicator 2-3</u> Standards and Labelling programs for imported appliances launched

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
	energy efficiency finance			
Output 2.1 Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	<u>Indicator 2a</u> Number 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	
	<u>Indicator 2b</u> Number 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	
	<u>Indicator 2c</u> % Increase in sales of energy efficient appliances with labelling and certification	Absence of data on sales of energy efficient appliances	30%	
Output 2.2 Regulations including import regulations for energy-efficiency standards for a first selection of appliances	<u>Indicator 2d</u> % Increase in import of energy efficient appliances due to developed new law and regulatory changes	Absence of data on appliances imported with improved efficiency	60%	30%
	<u>Indicator 2e</u> Number of trained energy efficiency standard compliance and enforcement officials	NA	60	
Output 2.3 Testing mechanism for selected appliances to be developed and established	<u>Indicator 2f</u> % Increase in testing of appliances as per new testing mechanism developed	No mechanism in place to test appliance efficiency	60%	It is recommended to drop this indicator There are no test labs in the country. This activity can't be carried out
	<u>Indicator 2g</u> Number of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	Absence of trained officials	25	It is recommended to drop this indicator There are no test labs in the country.
Output 2.4 National certification procedures to promote energy efficiency	<u>Indicator 2h</u> % Increase in energy efficient appliance sales through certification procedures.	No sales of energy efficient appliances	50%	30%
Output 2.5 Public awareness programme and diffusion strategy, which includes training seminars on the new regulations for	<u>Indicator 2i</u> Number of officials (manufactures, retailers, customs officials) trained to comply with new energy	Absence of awareness raising campaign for energy efficient appliances	25	

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
importers, appliances distributor's retail chains, and the general public.	efficient appliance law/regulation			
	<u>Indicator 2j</u> % 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%	Provision of a end of project survey made to measure the achievement
	<u>Indicator 2k</u> % Increase in local retailers and distributors to market more efficient appliances	Market for energy efficient appliances is non existential	40%	
Output 2.6 Demand Side Management program, run by the national utility, built around a "turn-in or exchange" mechanism/modality	<u>Indicator 2l</u> Number of professionals and state officials trained on DSM programs by EOP	Lack of information on DSM programs	25	
	<u>Indicator 2m</u> Number of energy audits carried out annually	Few energy audit reports available	15	There is no relevance of this indicator here. Further this is a repeat of indicator 1f. Indicator 2m may be dropped
	<u>Indicator 2n</u> Number of pilot DSM programs launched	No mechanism for phasing out of inefficient appliance with some initiatives to replace incandescent	2	
	<u>Indicator 2o</u> Number of satisfied users of building DSM program		25	There is no relevance of this indicator here. This Indicator may be dropped
Output 2.7 The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heater.	<u>Indicator 2p</u> Number 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	There are issues for monitoring the achievements against this indicator, as it would not be possible to segregate the results due to other initiatives This indicator may be dropped
	<u>Indicator 2q</u> % Increase in sales of energy efficient appliances as a result of energy efficiency finance	Absence of energy efficiency finance schemes	20%	
Outcome 3 Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects	<u>Indicator 3-1</u> Demonstration projects completed and energy efficiency best practices disseminated <u>Indicator 3-2</u> Basis layout and design of new buildings as per EEBC	0	5	6 3 This additional indicator is recommend to take care of the situation wherein the present set of demonstration is

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
				not reflecting actual implementation of EEBC
Output 3.1 Selection of at least four public buildings and two social housing programmes for pilot demonstration projects in energy efficiency investment	<u>Indicator 3a</u> Number of finalized and approved demonstration project designs (engineering and construction)	NA	6	3
	<u>Indicator 3b</u> Number of demo projects implemented each year	NA	2	It is recommend that this indicator be dropped
Output 3.2 Preparation of Basic layout and design of new buildings as per EEBC (engineering and structural design may be done on a later date)	<u>Indicator 3c</u> Basic layout and design of new building as per EEBC			3
Outcome 4 Additional investment mobilized in energy-efficiency as a result of the dissemination and replication activities.	<u>Indicator 4-1</u> % Increase in sales of energy efficient appliances during the project implementation	0	30%	There are monitoring issues with indicator 4-1. In the absence of data regarding the number of EE buildings in the baseline, it is not possible to compute the % increase.
	<u>Indicator 4-2</u> % increase in number of energy efficiency buildings during and after project implementation	0	30%	
Output 4.1 Elaboration of case study guides and disseminated among relevant audience	<u>Indicator 4a</u> Number of published comprehensive energy efficiency buildings user manuals and case study guides <u>Indicator 4b</u> Number of set of guidelines prepared on energy efficient buildings for developed and investors by EOP	User manual available on sustainable architecture	5 5	
Output 4.2 Public awareness raising campaign on standards and labels	<u>Indicator 4c</u> Number of awareness raising campaigns (websites, newsletters, media outreach activities)	Absence of campaigns on S&L of appliances	15	
	<u>Indicator 4d</u> % Increase in sales of energy efficient appliances during the project implementation	No data available	30%	There are monitoring issues with the indicator
Output 4.3 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	<u>Indicator 4e</u> Number of training courses conducted for key stakeholders each year	Limited trainings for energy efficiency techniques	4	
	<u>Indicator 4f</u> Number of vocational training /vocational training	NA	5	

Objective/ Outcome or Output	Indicator ³	Baseline	Target ⁴	Proposed Revision/ Target
	schools or courses/units/modules within university programs			
Output 4.4 A thorough monitoring of the impacts of the new energy efficient requirement is performed.	<i>Indicator 4g</i> % Reduction in energy consumption due to new energy efficiency requirements	NA	30%	
Output 4.5 Lessons learned study prepared and disseminated	<i>Indicator 4h</i> Number of sets of knowledge sharing products developed by EOP	NA	4	

For achieving the project objective and outcomes, it is planned to carry out a number of activities, grouped under different Outputs.

1.2 MTR Ratings & Achievement Summary Table

Table 3 provides a summary of the ratings for;

- a) Progress towards results
- b) Project Objectives
- c) Implementation and Adaptive Management
- d) Sustainability.

Table 3: Mid-term review ratings and achievements summary

Main criteria	Rating ⁷	Explanation
Project Strategy	NA	<p>The energy sector in Cabo Verde, has a high dependency on imported fossil fuels. The government acknowledges the importance of reducing the dependence on imported fossil fuels and ‘Energy Efficiency’ has been identified as the key way to do so. Energy efficiency is also recognised by the government as a way to reduce the emissions of GHG.</p> <p>The project, ‘Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances’, is aimed to introducing EE measures in two large energy consuming sectors, namely the buildings and the appliances in the households. For the buildings the project plans to introduce ‘Energy Efficiency Building Code’ leading to reduction in the demand for energy due to improvements in the building design. In case of appliances the project plans to introduce minimum energy performance levels and the EE rating system, thereby giving the options to the buyers to buy appliances with higher EE.</p> <p>Apart from introducing the new EE laws for the buildings and appliances the project plans to remove the barriers towards uptake of the EE measures, thereby facilitating the implementation of the newly introduced rules. The proposed project is grouped into four Components / Outcomes, each consisting of a number of complementary activities designed to achieve the project goal.</p>
Progress towards results		

⁷ HS: Highly Satisfactory, S: Satisfactory, MS: Marginally Satisfactory, MU: Marginally Unsatisfactory, U: Unsatisfactory, HU: Highly Unsatisfactory, L: Likely, ML: Moderately Likely, MU: Moderately Unlikely, U: Unlikely

Project Objective	MS	<p>The stated objective of the project is 'Removal of barriers to energy efficiency in Cabo Verdean built environment and domestic appliance. Accordingly, the project design has components / activities which are specific either to the EE in buildings (EEBC) or to EE in appliances (S&L program)</p> <p>It is expected that by the end of the project. EEBC would be in place along with the requisite mechanism for its enforcement. However, the draft of the EEBC being considered for approval, is applicable for the new commercial buildings. It is not applicable for retrofitting of EE in the old buildings. Also is is not applicable for residential buildings. Thus, the potential for reducing the energy consumption due to EE measures in the buildings and the consequent reduction in the emission of GHG will remain untapped to a large extent, unless EEBC is made applicable for all types of buildings and provision in the EEBC is made for retrofitting of the important (large energy consuming) buildings with EE measures.</p> <p>For the EE in the appliances, it is expected that the S&L program would be in place by the end of the project. Also, the requisite infrastructure to implement the program is likely to be in place. The standards and EE labelling of the appliances has two parts, one part pertains to minimum energy performance level of the appliances in the country and the second part (EE labels) give is opportunity to the buyers of the appliances to go beyond the specified minimum energy performance levels. With the S&L program in place, it will be possible to attain the minimum energy performance level in the appliances. However, the EE in the appliance beyond the specified minimum performance level would be achieved only in case of a mass awareness creation amongst the buyers regarding the benefits of EE appliance.</p> <p>The activities for different Outputs of the project would get implemented towards the end of the project. The impacts of the efforts in terms of reduction in energy consumption and GHG emissions reductions would get realized only after the implementation of the project. There would not be any direct GHG emission reductions due to the project.</p>
- Outcome 1	MS	<p>The component of the project pertains to development of a policy, institutional, and legislative framework to support energy efficiency in buildings in Cabo Verde, through the introduction of an energy efficient building code (EEBC). As per project design, the new building code was also to introducing the concepts like energy audits, MEPS for buildings with a pilot action (under Outcome 3) on public buildings.</p> <p>At the time of MTR, the only activity within different activities for Outcome 1, where the progress is satisfactory is the development and implementation of the EEBC. Implementation of all other activities and achievement of the corresponding outcomes is much delayed. Rest of the activities under Outcome would get implemented only in case an extension for the implementation of the project is granted.</p> <p>Although, the EEBC code is likely to be approved by the end of the project, but it will be applicable only for the new commercial and public buildings, thereby significantly reducing the scale of impacts and results.</p>
- Outcome 2	S	<p>Outcome 2 of the project is focused on introducing a national framework for Standard & Labelling (S&L) of domestic appliances. Under this Outcome, the project is to develop regulations for adoption of minimum energy performance standards along with the labelling for the appliances as regards the level of energy efficiency. The appliances covered under the program are air-conditioners, domestic refrigerators, lighting products and electric storage water heaters. Later on (during implementation of the project washing</p>

		<p>machines were also added to the list). The project also envisages development and adoption of national certification procedures for the appliances.</p> <p>There are provisions for training on the new framework (standards and labels) for the key decision makers and other stakeholders (chamber of commerce, importer, retailers, and national administration).</p> <p>The only significant achievement for Outcome 2, at the time of MRT is the preparation of the draft of the standards and labelling program. The enabling activities like training of different stakeholders, the financing schemes, awareness creation, demand side management schemes etc. are being planned. Thus, in order to achieve the objectives a bit of catching up needs to be done. However, when viewed in terms of the indicators for Outcome 2, the progress towards results is Satisfactory.</p>
- Outcome 3	MS	<p>This component of the project is targeted to create demonstration regarding the benefits of energy efficient design of the buildings. It is envisaged that pilot projects with energy efficiency in buildings would be implemented (4 public buildings and 2 social housing programmes), showcasing best practices related to energy efficiency in buildings. The demonstration projects were to significantly comply with the technical sections of the new energy efficiency building code, developed under Outcome 1 of the project. It is envisaged that demonstration projects will facilitate creation of more energy efficient buildings in the country.</p> <p>This component of the project is also expected to support training of relevant building stakeholders (architects, engineers, designers, developers, financial institutions) on different aspects of energy efficient building design and the corresponding benefits. The Outcome 3 of the project is also expected to lead to generation of case studies (to be prepared under Outcome 4), thereby facilitating the replication regarding adoption of EEBC in the country.</p> <p>Somehow, the project has not been able to identify and implement the pilot projects for new buildings. The 'Project Document' has specified selection of either the new buildings or the retrofits in the existing buildings for the pilot projects. Against the intended action of demonstrating the results of EEBC by implementing it in some of the new buildings, the project could carry out EE measures in some of the existing buildings, wherein the action carried out included replacement of air conditioners, replacement of lamps, provision of solar PV. As retrofitting in the existing buildings provides only limited options (replacement of appliances, provision of insulation, replacement of lamps etc.) for improving the energy efficiency there is hardly any demonstration of the benefits of EEBC. Further, the improvement of the energy performance of the buildings due to replacement of lamps and appliances is already being taken care of by Outcome 2 of the project. Some of the air conditioners being replaced are already at the end of their life. Although, provision of solar PV is good, it certainly can't be considered as an EE measure.</p> <p>For the case studies the project is proposing, that the results of the energy simulation and the theoretically determined energy savings potential be used to prepare the case studies (best practices) and disseminated. Whereas, what is desired as per the project design is the real case studies from the pilot projects.</p>
- Outcome 4	MU	<p>The objective of this Outcome of the project is dissemination of the results of the project, so that the replication of the activities can take place. Different activities under this Outcome of the project includes preparation of case studies (for the good results from Outcome 1,2 and 3), a public awareness</p>

		<p>campaign, and a lessons learned study.</p> <p>As far as the EEBC code is concerned, it is likely to be approved by the end of the project, but it will be applicable only for the commercial and public buildings, thereby significantly reducing the scale of desired impacts and results. Thus, the outreach, information dissemination etc. would have only limited results. Also, due to the lacking in the achievement of results for Outcome 3, the effectiveness of the dissemination of results (with the objective of replication) would suffer.</p> <p>For the EE in appliances part of the outreach and awareness creation efforts, the results would be achieved only after the implementation of the project (and not by the end of the project). This is due to the fact that the implementation of the activities is expected to completed by the end of the project implementation timelines.</p>
Implementation and adaptive management	MS	<p>The project is being implemented under NIM with the DGE as the responsible agency for the achievement of the project results as the implementing partner (national implementing partner). The implementation of the project on a regular basis is done by the project management unit (PMU). The project has a full time national project manager (NPM). Service provider agencies (consulting firms) one each for building and appliances has been hired to carry out different activities under different outcomes and outputs of the project. The Project Steering Committee (PSC) is in place (although there were significant initial delays to formulate and put it in place) plays a critical role in project monitoring and evaluation by quality assurance, using evaluations for performance improvement, accountability and learning, and ensuring that required resources are committed and providing overall direction to the project team.</p> <p>In the present working and management arrangement 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.</p> <p>Project implementation has responded to changing conditions and risks, and taken advantage of opportunities for partnerships and actions that support the overall project objective. Management arrangements are in place in terms of a project team comprising of a National Project Director, a Project Manager and a Project Staff. A Steering Committee is in place and provides guidance to the Management team for the project. The present implementation arrangement lacks the required technical inputs.</p> <p>The project had a slow start due to delayed formation of the SC and delayed hiring of the two consulting firms for execution of the activities. There was no proper work plan for the first two years of project execution (2015 and 2016). The work planning from the year 2017 onwards is being done properly. The work plan for the year 2019 is already in place.</p> <p>A key reporting requirement, the inception report, was prepared after the inception workshop of the project in June 2015. However, the inception report did cover the important aspects like, the agreed work plans and other arrangements.</p> <p>No PIR for the project was prepared for the year 2015s PIRs for the project were prepared for the years 2017 and 2018. Although, the PIRs of the years 2017 and 2018 were prepared, the contents of the reports are not as per the requirements. While reporting the progress towards implementation the PIRs</p>

		<p>did not use the indicators provided in the log-frame (project document).</p> <p>Accordingly, the management of the project is rated as Marginally Satisfactory. With the recommended appointment of the ‘Technical Advisor’, the situation is likely to change.</p>
Sustainability	L	<p>At an aggregate level, technical risks to sustainability of the project are considered low. The financial sustainability of the project is assessed to be likely. At this mid-point in project implementation, socioeconomic sustainability is considered as likely. From the view point of institutional framework and governance risks, the sustainability of the project is Moderately Likely. From the view point of environmental risk, sustainability of the project is Likely.</p> <p>At an aggregate level the sustainability of the project is assessed as Likely</p>

1.3 Summary of conclusions

The government of Cabo Verde acknowledges the importance of reducing its dependence on imported fossil fuels. Energy efficiency has been identified as a key area in which important cost savings can be made. Accordingly, Cabo Verde- National Energy Policy, 2008 sets out objectives to decrease the dependence on fossil fuel based energy sector. The policy aims for energy conservation, energy efficiency and strengthening of legal framework within the energy sector. Being the major end user of electricity, household appliances and buildings are the priority areas for energy efficiency and conservation related initiatives. There are a number of challenges and barriers to promote energy efficiency / conservation in buildings and appliances in the country. The present GEF project is targeted towards removal of such barriers. The project has specific components targeted at the EE in buildings and those targeted at EE for appliances, with very little interrelation between the activities to be carried out for EE in buildings and those to be carried out for EE in appliances. Thus, there is no synergy in combining the two aspects in a single project, except probably for the fact that given the size of the country, individually these components would have been quite small in terms of energy savings to justify a project.

The project, 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 the appliances. While, for the buildings the proposal is to introduce mandatory EEBC, for the appliances the proposal is to introduce a S&L program. The S&L program on one hand will ensure minimum energy performance level of the appliances, on the other hand it will promote adoption of appliances, with the EE levels beyond the minimum energy performance levels.

At the time of MTR, the progress made towards project implementation and achievement of results is not very encouraging. This is despite the fact that both EEBC and the S&L programs are likely to be in place by the end of the project. In case of EEBC, although the code is likely to be approved by the end of the project, but it will be applicable only for the new commercial and public buildings. The draft of the EEBC which has been put forward for approval is not applicable for residential buildings and for EE retrofitting in the existing buildings, thereby significantly reducing the scale of impacts and results. In case of S&L program, although the program is expected to be in place by the end of the project, the impacts are likely to be quite less. This is considering that the only significant achievement at the time of MRT is the preparation of the draft of the standards and labelling program. The enabling activities like training of different stakeholders, the financing schemes, awareness creation, demand side management schemes etc. are yet to be implemented.

Some of the reasons for such a situation includes, problems with the project design; delayed start of the project due to delayed hiring of the consulting firms responsible for implementation of the project

activities. The recommendations being made that the time of this MTR are expected to improve the situation and the results by the end of project.

1.4 Recommendations

Recommendation 1:

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.

Recommendation 2:

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.

Recommendation 3:

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.

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.

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.

Recommendation 4:

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.

Recommendation 5:

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:

- 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).
- 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).
- 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).

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.

Recommendation 6:

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.

Recommendation 7:

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.

Recommendation 8:

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 to 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.

Recommendation 9:

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&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.

Recommendation 10:

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&V activities to the required level.

2. INTRODUCTION

2.1 Purpose of the Mid Term Review and Objectives

The objective of the Mid-Term Review (MTR) is to assess progress towards achievement of the project objectives and outcomes as specified in the Project Document. It is also meant to evaluate early signs of project success or failure with the goal of identifying required changes that should be made in order to set the project on-track so that the intended results are achieved. The MTR has been carried out in compliance with the monitoring and evaluation plan as elaborated in the project document, and is in line with GEF / UNDP policies.

2.2 Scope and methodology

The design of the MTR is based on the requirements set out in the TOR prepared by the UNDP CO (please see Annex A). Before undertaking the MTR, an Inception Report was presented, including the proposed tasks, activities and deliverables, as well as a table of main review questions that need to be answered to determine and assess project results, and to identify where the information is expected to come from (e.g. documents, interviews and field visits). The review efforts have been focused on the following four categories of project progress;

- Project strategy
- Progress towards results
- Project implementation and adaptive management
- Sustainability

The table of mid-term review criteria and questions is presented in Annex B.

Sources of data and data collection

Data have been collected through an extensive desk review of all relevant documents, meetings and interviews with key stakeholders and site visits to answer the MTR review questions. The sources of data were carefully identified, in order to obtain useful evidence-based information that is credible and reliable.

- A desk review of the following documents was carried out (see Annex C):
 - Progress reports and project documents; such as the UNDP Project Document (ProDoc), Project Information Form (PIF), Baseline GEF Tracking Tool, Project Inception Report.
 - Project Monitoring documents, namely the Annual UNDP/GEF Project Implementation Reviews (PIRs); Minutes of the Steering Committee meetings, Quarterly Project Reports, Quarterly Work Plans, Financial reports.
 - Project Outcome documents; consultancy reports generated through Project activities, TORs and RFPs prepared by the project team.
 - Background information (websites, reports, national policy papers, or other written information) from relevant Government ministries and institutions, as well as other stakeholders; background information on building EE and alliances EE; technical reports; project manuals and guidelines.
- Mission: Prior to the mission to Cabo Verde, stakeholders were contacted by UNDP CO Cabo Verde to schedule meetings and site visits in an optimum way in order to meet with a maximum of relevant stakeholders. During the mission, interviews were held with the Project Team, UNDP CO,

and a wide range of identified stakeholders, beneficiaries and key informants which included steering committee members, senior officials of various ministries, academia, local Government. The mission was carried out during the period 7 to 11 January 2019, and included the visits to the sites of the pilot projects supported by the project. The mission schedule is given in Annex D.

The review of documents provided the basic facts and information for developing a first draft mid-term review (MTR) report, while the mission was needed to verify the basic facts, obtain missing data and to learn the opinion of respondents to help interpret the facts. The individual interviews with key informants were based on open discussion to allow respondents to express what they feel as main issues, followed by more specific questions on the issues mentioned. The list of mid-term review questions (as provided in Annex B) was used as the checklist to raise relevant questions and issues during the interviews that corresponded to the level and type of involvement of the interviewee or the organisation visited.

Regarding the data analysis and methods for analysis, the documents listed in Annex C were reviewed and analysed. The notes of the interviews with key informants were used to verify facts and information presented in reports and documents and helped to formulate the conclusions and recommendations. A five-day mission has the limitation of potentially giving a snapshot impression only. However, the mid-term reviewers feel that this mix of data collection and analysis tools has yielded viable answers to the review questions within the limits of available time and budget resources.

This review has been conducted in accordance with the principles outlined in the United Nations Evaluation Group ‘Ethical Guidelines for Evaluation’ (see Annex G).

2.3 Structure of the mid-term review report

The review has been undertaken in accordance with the UNDP guidelines on mid-term reviews (UNDP, 2014)⁸ as well as general criteria of UNDP evaluations. This report is structured according to the table of contents that is given in Annex B of the MTR guidelines (UNDP, 2014), and the Terms of Reference issued by UNDP Country Office. The variation is that the chapter on findings has been split into three separate chapters to accommodate the large text.

The report is organised as follows;

- Chapter 1 contains the Executive Summary
- Chapter 2 provides an Introduction to the project
- Chapter 3 covers the Project Description and background context
- Chapter 4: Findings - project strategy
- Chapter 5: Findings - progress towards results
- Chapter 6: Findings - project implementation
- Chapter 7: Findings - sustainability
- Chapter 8 provides Conclusions and Recommendations

For easy and ready reference, Annex B shows where the main review criteria and questions of the MTR can be located in different sections of the report.

⁸ *Project-Level Monitoring: Guidance for Conducting Mid-term Reviews of UNDP-supported, GEF-financed projects* (UNDP, 2014), Also taking into account elements of the *Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed projects* (UNDP, 2012)

3. PROJECT DESCRIPTION AND CONTEXT

3.1 Development context; problems that the project sought to address⁹

Cabo Verde's energy sector is characterized by consumption of imported fuel oil, biomass (wood) and use of renewable energy particularly wind and solar power. The country's high dependence on petroleum products is increasing with the increase in the demand for electricity (growing by 8.1% per year). This represents a heavy burden on the national economy. The government has acknowledged the importance of reducing the dependence on imported fossil fuels. Accordingly, Cabo Verde-National Energy Policy, 2008 sets out objectives to decrease the dependence on fossil fuel based energy sector. The policy aims for energy conservation, energy efficiency and strengthening of legal framework within the energy sector.

Energy efficiency has been identified by the Government of Cabo Verde 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 project, 'Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances', is aimed to address the problem of heavy burden on the national economy due to the need to import fossil fuel for generation of electricity. This is envisaged to be achieved by addressing the increasing demand for electricity through improvement in energy efficiency in the household sector (through introduction of appliances with higher energy efficiency) and by constructing the buildings which are energy efficiency.

3.2 Description of the project: objective, outcomes and outputs

The project has planned to introduce 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 the appliances. The appliances being targeted are Air Conditioners, Refrigerators & Freezers, Electric Water Heater, Televisions, Bulbs.

The goal of the project is 'removal of barriers to energy efficiency in Cabo Verdean built environment and for appliances'. Being one of the major end user of electricity, household sector (household appliances and buildings) is one of the priority areas for energy efficiency and conservation related initiatives. However, there are a number of challenges and barriers to promote energy efficiency / conservation in buildings and appliances in the country. Such barriers and challenges includes;

- Lack of awareness among users, so they do not pull the market towards energy savings. This follows the dearth of information on potential savings with correct measures to achieve the same.
- Architects and builders have limited knowledge of bioclimatic building practices and materials in the country.
- The various ministries and institutions responsible for buildings have limited experience and capacity to implement appropriate framework.
- Absence of minimal public policies, institutional and regulatory mechanisms to promote energy efficiency in buildings and appliances.
- Financial Barriers: There is a lack of financial incentive for construction companies, individual households or public institutions to invest in energy efficiency.

The primary objective is to transform the market for energy efficiency in the country by introducing new laws on building codes and for domestic appliances by introducing a labelling programme, new import regulations, testing procedures, and certification leading to significant improvements in energy

⁹ Based on the information in the Project Document

efficiency in the country. The project has 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 design has provided for the projected Outcome for each of the four components of the project, along with the corresponding set of Outputs and indicators. For each of Output, corresponding set of activities has also been provided. Table 4 summarises the project's outcomes, outputs, indicators and the activities for the project.

Table 4: Outcomes, Outputs, Indicators and Activities of the Project (as per Project Document)

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
Project Objective To remove barriers to energy efficiency in Cabo Verdean built environment and domestic appliance.	<i>Indicator A</i> Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO _{2e}	0	297.8	
	<i>Indicator B</i> Annual Reduction of energy consumption in the buildings and appliances MWh	0	115818	
Outcome 1 Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	<i>Indicator 1</i> Direct energy savings in the buildings sector projects by EOP, MWh/yr. (energy and water efficiency)	0	4634	
Output 1.1 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	<i>Indicator 1a</i> New building space compliant with new energy efficiency code by EOP, million m ²	to be determined		Activity 1.1.1: Data collection for baseline formulation and current situation analysis Activity 1.1.2: Develop code structure and define the scope Activity 1.1.3: Conduct code stringency analysis Activity 1.1.4: Develop compliance forms and users manuals
	<i>Indicator 1b</i> Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)		4634	
	<i>Indicator 1c</i> Number of trained professionals and government officials by	Absence of trained officials	50	

¹⁰ The numbering of indicators has been done at the MTR for easy reference

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
	EOP to conduct code compliance			
Output 1.2 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.).	<i>Indicator 1d</i> Number of professionals trained to conduct energy audits	Limited professional skill for energy audit	50	
	<i>Indicator 1e</i> Number of buildings energy performance in the database	Absence of buildings energy use database	100	Activity 1.2.1: Identification and classification of buildings
	<i>Indicator 1f</i> Number of energy audits carried out annually	Limited energy audit reports	15	Activity 1.2.2: Develop Energy, GHG and water end use mapping for buildings in the country through preparation of an energy information and management system Activity 1.2.3: Policy mechanism for periodic update and reporting of data for existing buildings
Output 1.3 MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	<i>Indicator 1g</i> Number of professionals trained in the building sector for MRV	NA	25	
	<i>Indicator 1h</i> Number of buildings adopted MRV protocol	NA	30	
Output 1.4 Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism	<i>Indicator 1i</i> Number of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance Number of building permits approvals processed according to new EE code compliance mechanism	Municipalities are currently responsible to oversee the new construction Lack of inspecting and monitoring mechanisms of new construction	5	Activity 1.4.1: Incorporation of energy code in the construction approval process Activity 1.4.2: Inspection and reporting mechanism for new building construction
	<i>Indicator 1j</i> Number of professionals and govt. staff trained to conduct energy efficiency code compliance	Limited capacity for compliance enforcement	60	
	<i>Indicator 1k</i> Number of verified energy efficiency code compliant buildings each year project implementation EOP	Technical code of buildings (2012) and contains few provisions on energy efficiency	25	
	<i>Indicator 1l</i> Number of accredited local authorities (at municipal level) to validate and verify	None	5	

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
	mandatory energy efficiency code compliance by EOP			
Outcome 2: Energy-Efficiency improvements through Standards & Labelling for appliances	<u>Indicator 2-1</u> Direct energy savings in the appliances stock by EOP MWh/Yr. <u>Indicator 2-2</u> % Increase in sales of energy efficient appliances as a result of energy efficiency finance		111,184 20%	
Output 2.1 Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	<u>Indicator 2a</u> Number 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	Activity 2.1.1: Design of informative labels for appliances Activity 2.1.2: Selection of appropriate testing procedure for each appliance Activity 2.1.3: Setting labelling threshold and range for each labelled appliance
	<u>Indicator 2b</u> Number 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	
	<u>Indicator 2c</u> % Increase in sales of energy efficient appliances with labelling and certification	Absence of data on sales of energy efficient appliances	30%	
Output 2.2 Regulations including import regulations for energy-efficiency standards for a first selection of appliances	<u>Indicator 2d</u> % Increase in import of energy efficient appliances due to developed new law and regulatory changes	Absence of data on appliances imported with improved efficiency	60%	
	<u>Indicator 2e</u> Number of trained energy efficiency standard compliance and enforcement officials	NA	60	
Output 2.3 Testing mechanism for selected appliances to be developed and established	<u>Indicator 2f</u> % Increase in testing of appliances as per new testing mechanism developed	No mechanism in place to test appliance efficiency	60%	Activity 2.3.1: Engagement of national and regional test facilities for appliances testing, and feasibility of setting National test lab in Cabo Verde Activity 2.3.2: Periodic testing and reporting of labelled appliances
	<u>Indicator 2g</u>	Absence of	25	

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
	Number of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	trained officials		
Output 2.4 National certification procedures to promote energy efficiency	<u>Indicator 2h</u> % Increase in energy efficient appliance sales through certification procedures.	No sales of energy efficient appliances	50%	Activity 2.4.1: Design of a national certification program for selected appliances
Output 2.5 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.	<u>Indicator 2i</u> Number 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	Activity 2.5.1: Design of comprehensive awareness programs for key stakeholders – importers, retailers, consumers, enforcement agencies etc.
	<u>Indicator 2j</u> % 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%	
	<u>Indicator 2k</u> % Increase in local retailers and distributors to market more efficient appliances	Market for energy efficient appliances is non existential	40%	
Output 2.6 Demand Side Management program, run by the national utility, built around a “turn-in or exchange” mechanism/modality	<u>Indicator 2l</u> Number of professionals and state officials trained on DSM programs by EOP	Lack of information on DSM programs	25	Activity 2.6.1: Developing an incentive mechanism for phasing out existing inefficient appliances through DSM program
	<u>Indicator 2m</u> Number of energy audits carried out annually	Few energy audit reports available	15	
	<u>Indicator 2n</u> Number of pilot DSM programs launched	No mechanism for phasing out of inefficient appliance with some initiatives to replace incandescent	2	Activity 2.6.2: Implementing DSM for selected appliances with the most saving potential
	<u>Indicator 2o</u> Number of satisfied users of building DSM program	NA	25	
Output 2.7 The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heater.	<u>Indicator 2p</u> Number 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	Activity 2.7.1: Develop and implement fiscal incentive programs for import of super efficient appliances and for large-scale replacement program
	<u>Indicator 2q</u> % Increase in sales of energy efficient appliances	Absence of energy efficiency finance schemes	20%	

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
	as a result of energy efficiency finance			
Outcome 3 Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects	<i>Indicator 3</i> Demonstration projects completed and energy efficiency best practices disseminated	0	5	
Output 3.1 Selection of at least 4 public buildings and 2 social housing programmes for pilot demonstration projects in energy efficiency investment	<i>Indicator 3a</i> Number of finalized and approved demonstration project designs (engineering and construction)	NA	6	Activity 3.1.1: Identification of pilots based on national survey and selection criteria with most energy saving potential (new and existing buildings/retrofits)
	<i>Indicator 3b</i> Number of demo projects implemented each year	NA	2	Activity 3.1.2: Implementing energy efficiency measures
Outcome 4 Additional investment mobilized in energy-efficiency as a result of the dissemination and replication activities.	<i>Indicator 4-1</i> % Increase in sales of energy efficient appliances during the project implementation <i>Indicator 4-2</i> % increase in number of energy efficiency buildings during and after project implementation	0	30%	
Output 4.1 Elaboration of case study guides and disseminated among relevant audience	<i>Indicator 4a</i> Number of published comprehensive energy efficiency buildings user manuals and case study guides <i>Indicator 4b</i> Number of set of guidelines prepared on energy efficient buildings for developed and investors by EOP	User manual available on sustainable architecture	5 5	Activity 4.1.1: Develop energy efficiency case study guides and best practice user guides
Output 4.2 Public awareness raising campaign on standards and labels	<i>Indicator 4c</i> Number of awareness raising campaigns (websites, newsletters, media outreach activities)	Absence of campaigns on S&L of appliances	15	Activity 4.2.1: Develop awareness-raising campaign for end users, retailers and distributors on S&L program for imported appliances (websites, media outreach, educational initiatives with schools etc.)
	<i>Indicator 4d</i> % Increase in sales of energy efficient appliances during the project implementation	No data available	30%	
Output 4.3 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	<i>Indicator 4e</i> Number of training courses conducted for key stakeholders each year	Limited trainings for energy efficiency techniques	4	Activity 4.3.1: Conducting training courses and workshops for key building stakeholders for energy efficiency building design, building life cycle and facility management Activity 4.3.2: Capacity development and support to LEC (Civil Engineering

Objective/ Outcome or Output	Indicator ¹⁰	Baseline	Target	Proposed Activities
				Lab)
	<i>Indicator 4f</i> Number of vocational training /vocational training schools or courses/units/modules within university programs	NA	5	Activity 4.3.3: Develop vocational training programs and develop energy efficiency best practices modules for university curriculum
Output 4.4 A thorough monitoring of the impacts of the new energy efficient requirement is performed.	<i>Indicator 4g</i> % Reduction in energy consumption due to new energy efficiency requirements	NA	30%	Activity 4.4.1: A monitoring plan to assess the demonstration projects and system for tracking and monitoring of labels for EE appliances
Output 4.5 Lessons learned study prepared and disseminated	<i>Indicator 4h</i> Number of sets of knowledge sharing products developed by EOP	NA	4	Activity 4.5.1: Developed standards to increase the stringency level for energy efficient appliances and for buildings (REACH standard) Activity 4.6.1: Develop and publish energy efficiency best practice user manuals

3.3 Project Implementation Arrangement

Figure 1 provides the details of the set up for implementation of the project. The project is being nationally implemented (according to the UNDP NIM implementation modality) by the DGE. DGE is responsible for the achievement of the project results as the implementing partner (national implementing partner). UNDP and DGE put together forms a project management board which is planned to meet once a year to oversee the project implementation, and approve the annual budget.

Other important stakeholders, which are participating in the Project Management (through the steering committee), includes National Land Management Institute (INGT), Ministry of Finance and Planning, DG Customs, DG Environment, OE (Ordem dos Engenheiros), Chambers of Commerce, DG Industry and Commerce, Quality Management & Intellectual Property Institute, National Municipality Association (ANMCV), Association of the Building sector companies (ECREEE; LEC). UNDP national team and regional technical advisors provides the overall management and guidance from its Cabo Verde country office and are responsible for monitoring and evaluation of the project as per GEF and UNDP requirements.

Day to day implementation of the project is looked after by the project management unit (PMU) to implement the project. The PMU reports to a senior government official as the national project director (NPD), designated by the DGE. The NPD is responsible for overall strategic guidance to the project management, including approval to the annual work plan and achievement of planned results, use of UNDP transferred funds through effective management and well established project review and oversight mechanisms. The NPD is also required to ensure coordination with various ministries and agencies, provide guidance to the project team to coordinate with UNDP, and to look after the administrative arrangements required under the Cabo Verde government and the UNDP.

The project has appointed a full time national project manager (NPM) to coordinate all the activities undertaken by the project management unit, and coordinate the timely implementation of the project components. The NPM is primarily responsible for the day-to-day management of the project

operations covering the administrative, financial and operational aspects of the project component implementation. A full-time Project Assistant supports the national project manager (NPM).

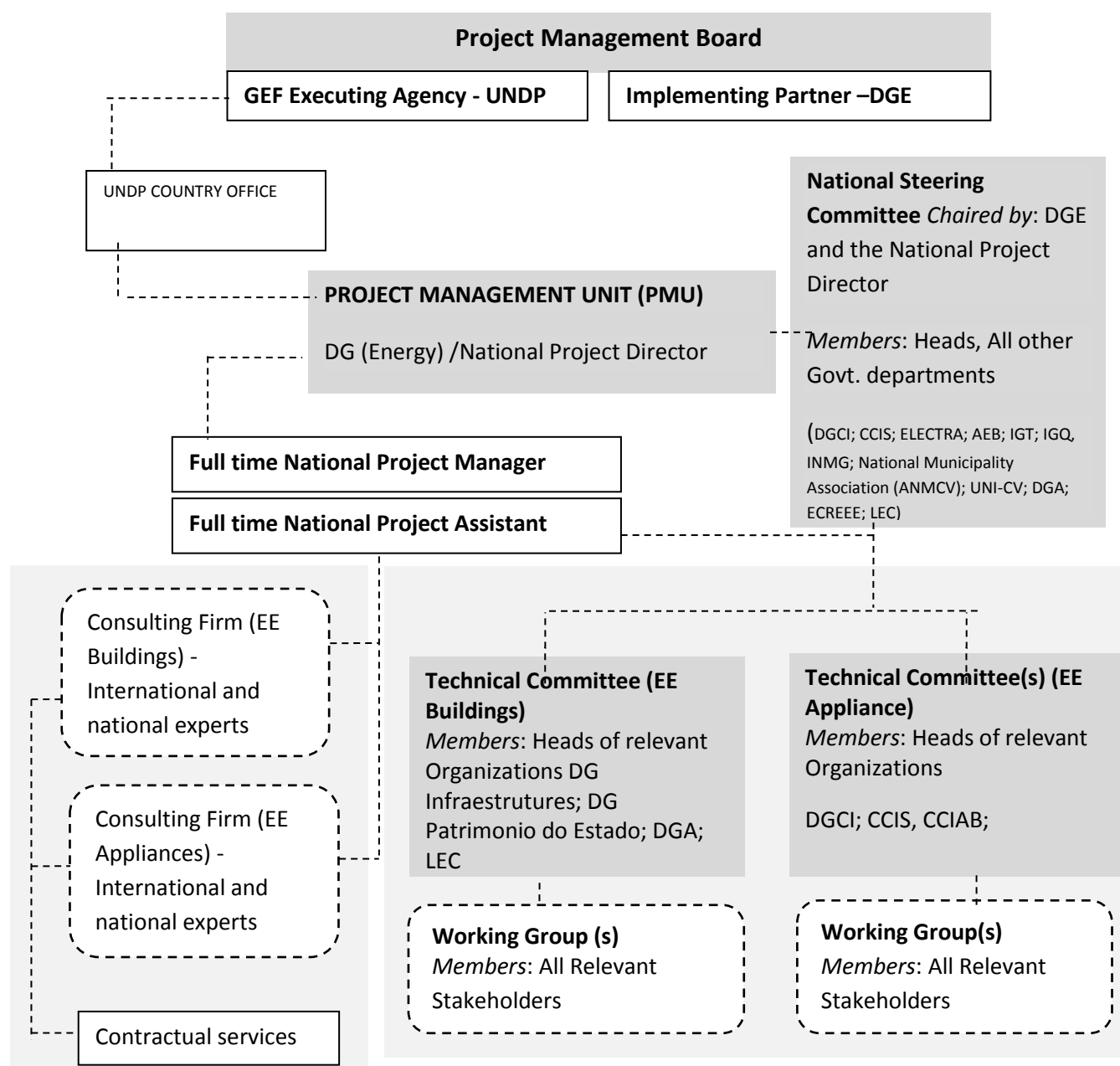


Figure 1: Implementation structure for the project (Source: Project Document)

Service provider agencies (consulting firms) one each for building and appliances has been selected to provide technical assistance in activities that will be carried out in all relevant project components. The consulting agency comprises of international and national experts and are responsible for implementing the specific project component.

The project design has provided for ‘two project technical committees’ one for Energy efficiency building codes and the other for energy efficient appliances. These technical committees are supposed to meet once every three months to consider the quarterly work plans. The technical committees were to have the responsibility of making management decisions for the project component in particular when guidance is required by the project manager.

The Project Steering Committee (PSC) plays a critical role in project monitoring and evaluation by quality assurance, using evaluations for performance improvement, accountability and learning, and ensuring that required resources are committed and providing overall direction to the project team. The PSCs considers and approves the quarterly plans and any deviations from the original plan. The project steering committee has been established and is chaired by the DGE to provide support and advice to the PMU and other committees as and when needed.

3.4 Main stakeholders

Table 5 provides the list of the main stakeholders of the project long with there respective roles

Table 5: Stakeholders of the project

Stakeholder	Roles and Responsibilities
Directorate General for Energy (DGE)- (National Implementing Partner)	<p>The DGE is the government agency responsible to elaborate and implement government policies in the field of industry, energy, mines, and geology. The DGE is the executing agency for the project and takes key responsibilities for monitoring, reporting, and verification of energy efficiency in buildings and for appliances.</p> <p>The Project Management Unit (PMU) is located in the DGE. DGE aligns the 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 is the key body to undertake the baseline data analysis and advance the adoption, implementation and enforcement of the national regulatory framework for energy efficiency in different sectors.</p>
Ministry of Tourism, Industry, and Energy (MTIE)	The MTIE is responsible for development of the government policies related to tourism, industry, and energy. The MTIE 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). MTIE will ensure that the project implementation logic is aligned with the policy orientation of the Energy Sector Demand Side Management that is been drafted.
The General Directorate for Industry and Commerce (DGIC)	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 Cabo 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.
Directorate General of Environment (DGA)	DGA is responsible for coordination with other agencies with respect to all matters pertaining to environment and for managing EIA. DGA 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.

Stakeholder	Roles and Responsibilities
DGI (Directorate General of Infrastructures) & General Inspection Services	<p>Within the Ministry of Infrastructures and Maritime Economy (MIEM), the 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.</p> <p>The public sector building practices should provide a reference for the market, showcasing good examples and demonstrating efficiency benefits. Therefore, DGI could become a relevant partner in integrating energy efficiency standards on public works' tender process and contract award criteria for public building.</p>
Institute of Meteorology and Geophysics (INMG)	The INMG is a National Institute under the Ministry of the Environment Housing and Land Use Planning (MAHOT), 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 and Planning	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	<p>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.</p> <p>DGI will be an important partner in obligation and incorporation of energy efficiency as the main criterion in all public buildings.</p>
Municipality	
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 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

Stakeholder	Roles and Responsibilities
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. IGQ 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)	INGT is responsible to develop and implement policies in land-use planning and management, urban development, cadastre, housing, cartography, geodesy 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	<p>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 its responsibility.</p> <p>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</p>
Electricity Sector Bodies	
ELECTRA	Electra is a limited company that produces and distributes electricity across the territory of Cabo Verde, with a current rate of 75% coverage, 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 - Aguas e Energia de Boavista	AEB, under a sub-contractor 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.
APP/APN	Aguas de Ponta Preta/ Aguas de Porto-Novo 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 (Tarrfal de Monte Trigo)
Economic Regulatory Agency (ARE)	An Economic Regulatory Agency (ARE) was created under the Decree-Law nº 26/2003, is an independent administrative authority that regulates the water, energy, transport sectors. Multi-sectoral agency sets regulations for energy and water sector, transportation. ARE gives technical support and advisory to the government and its collaboration will be essential to device incentives schemas and awareness raising campaigns.
Other Organizations	
Regional Centre for Renewable Energy and EE (ECREEE)	Provide relevant guidance on ECOWAS rules and regulation to ensure that regulatory framework and policies are in line with regional and international guidelines.

Stakeholder	Roles and Responsibilities
	<p>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.</p> <p>Additionally, synergies will be developed with the regional initiative for Energy efficiency in buildings.</p>
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 the 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 and private universities across the country have established Architecture and several Engineering schools to locally train professional in these areas. 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.
Luxembourg Development Agency - (LUXDEV)	LUXDEV oversees the bilateral development programs in the country and ensures the overall operational coordination. The agency has supported 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-to-day management of the institutions and the drafting of new curricula for new courses.
The European Union (EU)	The European Union has created SE4All (Sustainable Energy for all) 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.

Stakeholder	Roles and Responsibilities
	<p>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 resoluble 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.</p>
<p>Chamber of Commerce Industries and Services Sotavento (CCISS)</p> <p>Chamber Commerce, Industry and Services Barlovento (CCIb)</p>	<p>The Chambers of Commerce Industries and Services (CCISS) is an organization 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 raising among importers and retailers to achieve market transformation.</p>
<p>Civil Engineering Laboratory Cabo Verde (LEC) - Ministry of Infrastructure and Maritime Economy</p>	<p>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</p>
<p>Private Sector Partner(s)</p>	<p>Various Private sector partners will play the 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.</p>
<p>Civil society, consumer associations (ADECO) , association for social service and community intervention (ASSIC); and community organizations</p>	<p>Some local associations, such as the 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.</p>
<p>Media (Community radios, National TV and private radios and press)</p>	<p>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.</p>

4. FINDINGS: PROJECT STRATEGY

The findings are based on the review criteria and questions (see Annex B), so that a link can be made between what was asked and what was found. In this Chapter a review of the strategy of the Project, in terms of its design and results framework, has been presented. The strategy of the project was the result of consultations and background analysis during project design stage and relevance to Cabo Verde's development context.

4.1 Project design

Mid-term review questions (see Annex B)

- What is the problem being addressed by the project and are the underlying assumptions correct?
- Does the project strategy provide the most effective route towards expected/intended results?
- Were lessons from other relevant projects properly incorporated into the project design?
- How the project addresses priorities of Cabo Verde? Was the project concept in line with the national sector development priorities and plans of Cabo Verde?
- Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- To what extent relevant gender issues were raised in the project design.
- Are there major areas of concern? Recommend areas for improvement.
- Does the project adequately take into account the national realities, both in terms of institutional and policy framework in its design and implementation?
- Is the project country-driven?
- If the project progress is not good, what changes could have been made (if any) to the project design in order to improve the achievement of the project's expected results during rest of the project implementation period.

4.1.1 Problem being addressed and the strategy

The energy sector in Cabo Verde, has a high dependency on imported fossil fuels. The import bill is increasing with the increase in the demand for electricity. This represents a heavy burden on the national economy. The government has acknowledged the importance of reducing the dependence on imported fossil fuels. Energy efficiency has been identified by the Government of Cabo Verde 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 project, 'Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances', is aimed to address the problem of heavy burden on the national economy due to the need to import fossil fuel for generation of electricity. This is envisaged to be achieved by addressing the demand for electricity through improvement in energy efficiency in the household sector (through introduction of appliances with higher energy efficiency) and by constructing the buildings which are energy efficiency.

Implementation of the project is expected to support the alternative scenario from the baseline situation to reduce GHG emissions in the Cabo Verde's building sector by implementing mitigation measures from building and appliances. The implementation of the project is expected to pave the way for improved energy efficiency in the buildings and strengthen wide spread use of efficient appliances.

The goal of the project is "removing barriers to energy efficiency in Cabo Verdean built environment and for appliances ". The primary objective is to transform the market for energy efficiency in the country by introducing a new law on building codes and for domestic appliances by introducing a labelling programme, new import regulations, testing procedures, and certification leading to significant improvements in energy efficiency. The project is grouped into four (4) components each

consisting of a number of complementary activities designed to achieve the project goal. Listed below are the major components.

- 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

While component 1 and 2 of the project would create the required policy and regulatory framework for energy efficiency in the buildings and appliances respectively, component 3 of the project will demonstrate the benefits (by way of energy savings) due to implementation of the energy efficiency building code. Component 4 of the project is expected to have a multiplier impact on the results by way of replication (due to dissemination of the results of the earlier components of the project).

4.1.2 Relevance and country drivenness

The Government of Cabo Verde has committed itself towards reducing the green house gas emissions by 35% by the year 2020, and 30% improvement in energy efficiency by the year 2030. In 2013, the Government developed a national action plan, to assist with participation in the UN Secretary General's 'Sustainable Energy for All' initiative (SE4All). Under the action plan, energy efficiency has been identified as an important priority area for GHG emission reduction. Similarly, second National Communication to UNFCCC mentions energy efficiency and technological innovation as key to reduce dependence on use of fossil fuel, in line with one of the strategies mentioned in National Energy Policy of Cabo Verde.

The 'National Action Plan for the Environment' (PANAI), mentions energy efficiency and renewable energy as important tools to promote sustainable development in the country. Cabo Verde is a part of the ECOWAS¹¹ Treaty (The Economic Community of West African States Treaty). Within the ECOWAS Commission, the ECOWAS Department of Energy is responsible for providing the technical expertise in energy and for design and implementation of technical projects for the region decided by the ECOWAS President. 'Regional Centre for Renewable Energy and Energy Efficiency' (ECREEE) at Cabo Verde, provides relevant guidance on ECOWAS rules and regulation to ensure that regulatory framework and policies are in line with regional and international guidelines.

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.

4.2 Results framework / Log-frame

Mid-term review questions (see Annex B)

- How 'SMART', (Specific, Measurable, Attainable, Relevant, Time-bound), the midterm and end-of-project targets are.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?

¹¹ The ECOWAS members are fifteen (15) West African countries including Cabo Verde. ECREEE leads the initiative as the institutional structure, under the political umbrella of ECOWAS.

- Has the progress so far led to, or could in the future catalyse, beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc.) that should be included in the project results framework and monitored on an annual basis.
- Are the broader development and gender aspects of the project being monitored effectively.

The Results Framework / Log-frame of the project as given in the project document was presented in Chapter 3 of the report (Table 4). Also given in the Table were different Outputs (along with the list of activities to be performed) for each of the Outcome of the project.

The Project Document encompasses the required details. It addresses the challenges and barriers towards energy efficiency in the buildings and the appliances in the country. The project through its different components addresses the capacity strengthening needs into an appropriate list of expected outcomes along with the targeted outputs for each of the outcome of the project. The project objectives, different components of the project, the outcomes as mentioned in the Project Document are clear and practical, except for the issues with the target value of some of the indicators.

There are issues with the estimations of baselines and projected reductions in the energy and the consequent GHG emission reductions. The figures regarding the use of energy and the emissions of GHG as provided in the 'Project Document' are not consistent. For example, at one place (page 15) the project document mentions the GHG emissions in the country was 356 thousand tons of CO₂ in the year 2010, while the very next line mentions the GHG emissions due to use of fossil fuels as 0.43 million tons of CO₂ (430 thousand tons of CO₂) in the year 2011. The 'Project Document' mentions (section 2.5, Global Environment Benefits, page 73) mentions indirect energy savings of 1158180 MWh over a period of 10 years and the corresponding GHG emission reductions of 703.9 thousand tons of CO₂ using the emission factor of 0.49 tCO₂/MWh.

It seems there are computation/typo errors. The figures of the targets of GHG emission reductions provided in the log-frame don't match with those provided either in Section 2.5 of the 'Project Document' or those provided in Annex C of the 'Project Document'. It is important to note that the emissions of GHG in the country in the base year (2011) due to use of fossil fuels was 430 thousand tons of CO₂. Considering the ratio of 60% and 40% of fuel consumption for the transport sector and the electricity sector respectively, the emission of GHG due to power generation in the base year (2011) in the entire country works out to about 172 thousand tons of CO₂. Against this estimated GHG emissions in the base year (2011) the project has envisaged direct emission reduction of 297.8 thousand tons of CO₂ (as per log-frame) due to limited scale interventions in the building and appliances sectors. Clearly, this is not realistic.

Apart from the issues related to the projected GHG emission reduction targets, there are issues with some of the indicators used to monitor the progress and achievement of the project objectives, Outcomes and the results. The issues are highlighted in the following paragraphs.

- For the project objectives, when it comes to the indicators and the 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

¹² Fossil fuels are used for transport, for power generation and for cooking

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 (please see recommendation 1). Further, it is recommended that the scope for pilot projects for new buildings (Outcome 3 of the project) be restricted to the basic design of the buildings as per the newly approved EEBC (please see recommendation 2).

- ii. For the estimates in the energy savings in the buildings, historical consumption of energy in the buildings has been used in the Baseline and the historical growth in the consumption of energy in the buildings, has been used to project 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;
 - a. increase in the ownership of appliances in the buildings
 - b. increase in the usage of existing stock of appliances in the buildings
 - c. increase in the building stock due to construction of new buildings.

The EEBC code will only influence the variation in the energy consumption due to construction of new buildings. In future, any change in the energy consumption due to appliances (factors a and b) will get accounted for in the computation of energy reductions due to appliances minimum energy performance and labelling program (Output 2 of the project) as well. Thus, accounting for it in the Output 1 of the project would lead to double counting. Further, the intervention under the EEBC pertains to the orientation, design and construction material used in the building (and not the appliances used) with the objective of reducing the energy required for cooling / heating and lighting. Thus, any variation in the energy consumption due to use of appliances with higher energy efficiency should not be attributed to EEBC.

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 (point c above) 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 (a, b and c) above is equal, accordingly in the BAU scenario the incremental consumption of energy in the newly constructed buildings in Cabo Verde would be about 1500 MWh per annum. Thus, implementation of EEBC in Cabo Verde has the potential to reduce consequential (indirect) GHG emission¹³ of 7200 tons of CO₂ equivalent, over a period of 10 years. It is recommended (please see recommendation 3) 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 an assessment in this regard.

¹³ It is considered that in the BAU scenario, due to construction of new buildings, there is an increase of about 1500 MWh per annum in the demand for energy every year. Thus, in the first year of the project period, the demand would increase by 1500 MWh, while the demand in the second year the increase in the demand would be 3000 MWh, and so on. It is assumed that adoption of EEBC will lead to reduction in the energy demand in the new buildings by about 20%. Emission factor of 0.492 tons of CO₂/MWh as provided in the Project Document has been used. Time period of 10 years has been considered in accordance with the GEF methodology for computation of consequent GHG emissions. Accordingly, the GHG mitigation potential has been estimated as $0.492 \times (1500 + 3000 + 4500 + 6000 + 7500 + 9000 + 10500 + 12000 + 13500 + 15000) \times 20\% = 7232.4$ tons CO₂ (say 7200 tons of CO₂)

- iii. The assumption in the project design, that the minimum performance standards and labelling program (Component 2 of the project) for the appliances will be achieved and become effective within one year of the project implementation leading 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 (please see recommendation 4).
- iv. 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:
 - a. The life of the appliances has been considered as 5 years (replacement of 20% of the appliances every year is 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.). Thus, the order of error in the estimates of emission reductions in case of incandescent bulbs is of the order of 10 times.
 - b. In case of air-conditioners, average power consumption, in the baseline case has been considered as 3000 watts for every unit, which is 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). Thus the order of error in case of projected energy consumption and the GHG emissions of about 4 times.
 - c. 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). Thus, the order of error in case of projected energy consumption and the GHG emissions in case of refrigerators is 5 times.

In view of the above it is recommended (please see recommendation 5) 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 or the estimates of consecutive GHG emissions may be re-worked for more accurate assessment.

- v. Table 4 in the earlier chapter provided the log-frame of the project. As was mentioned before there are issues with some of the indicators used to monitor the progress and achievement of the project objectives, Outcomes and the results. Some of the issues with the indicators used are as follows:
 - a. Indicators 2c, 2d and indicator 2h are practically the same but the target values are much different.
 - b. For Indicator 2f, it is important to note that all the appliances in the country are presently imported, Cabo Verde has no testing facilities and there are no provisions to establish such facilities under the project. Thus, this indicator is not making much sense.

- c. In case of Indicator 2j, it is not clear how the values will be determined. This is considering that there is no provision of a baseline and end of project survey to determine the achievement.
- d. For indicator 4d, it is not clear how the values will be determined.

Except for the values of direct and consequent GHG emission targets and minor issues with some of the indicators mentioned above, the log-frame given in the project documents is quite robust and serves the purpose to effectively monitor the achievement of the project objectives. Other than what has been mentioned in the above paragraphs, the indicators for different outcomes and outputs of the project are comprehensive and meet the standard of 'SMART'¹⁴.

Based on the recommendations mentioned above the corresponding recommended changes in the log-frame of the project are provided in Table 6 below:

Table 6: Recommended changed in the Results Frame-work
(Proposed Revisions are marked in a different colour and Style)

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
Project Objective To remove barriers to energy efficiency in Cabo Verdean built environment and domestic appliance.	<i>Indicator A</i> Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO _{2e}	0	297.8	0
	<i>Indicator B</i> Annual Reduction of energy consumption in the buildings and appliances MWh	0	115818	0
	<i>Indicator C</i> Reduction of consecutive (indirect) GHG emissions due to EEBC over a period of 10 years post project implementation (tons of CO_{2e})			7200 ¹⁶
	<i>Indicator D</i> Reduction of consecutive (indirect) GHG emissions by use of energy efficient appliances over 10 years post project implementation (tons of CO_{2e})			110000 ¹⁷
Outcome 1 Policy, Institutional and Legislative Framework for energy efficient buildings are enabled	<i>Indicator 1-1</i> Direct energy savings in the buildings sector projects by EOP, MWh/yr. (energy and water efficiency)		4634	Indicator 1-2 (additional indicator) National Energy efficiency building code developed and implemented <i>(Indicator 1-1 relates more to the pilot</i>

¹⁴ SMART', (Specific, Measurable, Attainable, Relevant, Time-bound)

¹⁵ The numbering of indicators has been done at the MTR for easy reference

¹⁶ The project may either use this value or carry out a better estimate of the potential

¹⁷ The project may either use this value or carry out a better estimate of the potential

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
				<i>projects (Outcome 3 and is suggested to be removed from here)</i>
Output 1.1 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	<u>Indicator 1a</u> New building space compliant with new energy efficiency code by EOP, million m ²	to be determined		It is recommended to drop this indicator, as this Output of the project is not for pilot projects. Pilot projects (new buildings are covered Under Outcome 3)
	<u>Indicator 1b</u> Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)		4634	0
	<u>Indicator 1c</u> Number of trained professionals and government officials by EOP to conduct code compliance	Absence of trained officials	50	
Output 1.2 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.).	<u>Indicator 1d</u> Number of professionals trained to conduct energy audits	Limited professional skill for energy audit	50	
	<u>Indicator 1e</u> Number of buildings energy performance in the database	Absence of buildings energy use database	100	
	<u>Indicator 1f</u> Number of energy audits carried out annually	Limited energy audit reports	15	
Output 1. 3 MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings	<u>Indicator 1g</u> Number of professionals trained in the building sector for MRV	NA	25	
	<u>Indicator 1h</u> Number of buildings adopted MRV protocol	NA	30	
Output 1.4 Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism	<u>Indicator 1i</u> Number of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance Number of building permits approvals processed according to new EE code compliance mechanism	Municipalities are currently responsible to oversee the new construction Lack of inspecting and monitoring mechanisms of new construction	5	It is recommended to drop this indicator

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
	<i>Indicator 1j</i> Number of professionals and govt. staff trained to conduct energy efficiency code compliance	Limited capacity for compliance enforcement	60	
	<i>Indicator 1k</i> Number of verified energy efficiency code compliant buildings each year project implementation EOP	Technical code of buildings (2012) and contains few provisions on energy efficiency	25	It is recommended to drop this indicator
	<i>Indicator 1l</i> Number of accredited local authorities (at municipal level) to validate and verify mandatory energy efficiency code compliance by EOP	None	5	
Outcome 2: Energy-Efficiency improvements through Standards & Labelling for appliances	<i>Indicator 2-1</i> Direct energy savings in the appliances stock by EOP MWh/Yr. <i>Indicator 2-2</i> % Increase in sales of energy efficient appliances as a result of energy efficiency finance		111,184 20%	Revised additional Indicator 2-3 Standards and Labelling programs for imported appliances launched
Output 2.1 Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme	<i>Indicator 2a</i> Number 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	
	<i>Indicator 2b</i> Number 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	
	<i>Indicator 2c</i> % Increase in sales of energy efficient appliances with labelling and certification	Absence of data on sales of energy efficient appliances	30%	
Output 2.2 Regulations including import regulations for energy-efficiency standards for a first selection of appliances	<i>Indicator 2d</i> % Increase in import of energy efficient appliances due to developed new law and regulatory changes	Absence of data on appliances imported with improved efficiency	60%	30%

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
	<i>Indicator 2e</i> Number of trained energy efficiency standard compliance and enforcement officials	NA	60	
Output 2.3 Testing mechanism for selected appliances to be developed and established	<i>Indicator 2f</i> % Increase in testing of appliances as per new testing mechanism developed	No mechanism in place to test appliance efficiency	60%	It is recommended to drop this indicator. There are no test labs in the country. This activity can't be carried out
	<i>Indicator 2g</i> Number of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	Absence of trained officials	25	It is recommended to drop this indicator. There are no test labs in the country.
Output 2.4 National certification procedures to promote energy efficiency	<i>Indicator 2h</i> % Increase in energy efficient appliance sales through certification procedures.	No sales of energy efficient appliances	50%	30%
Output 2.5 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.	<i>Indicator 2i</i> Number 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	
	<i>Indicator 2j</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%	Provision of a end of project survey made to measure the achievement
	<i>Indicator 2k</i> % Increase in local retailers and distributors to market more efficient appliances	Market for energy efficient appliances is non existential	40%	
Output 2.6 Demand Side Management program, run by the national utility, built around a "turn-in or exchange" mechanism/modality	<i>Indicator 2l</i> Number of professionals and state officials trained on DSM programs by EOP	Lack of information on DSM programs	25	
	<i>Indicator 2m</i> Number of energy audits carried out annually	Few energy audit reports available	15	There is no relevance of this indicator here. Further this is a repeat of indicator 1f. Indicator 2m may be dropped
	<i>Indicator 2n</i> Number of pilot DSM programs launched	No mechanism for phasing out of inefficient appliance with some initiatives	2	

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
		to replace incandescent		
	<i>Indicator 2o</i> Number of satisfied users of building DSM program		25	There is no relevance of this indicator here. This Indicator may be dropped
Output 2.7 The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heater.	<i>Indicator 2p</i> Number 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	There are issues for monitoring the achievements against this indicator, as it would not be possible to segregate the results due to other initiatives This indicator may be dropped
	<i>Indicator 2q</i> % Increase in sales of energy efficient appliances as a result of energy efficiency finance	Absence of energy efficiency finance schemes	20%	
Outcome 3 Energy efficiency solutions in a selection of public buildings through selected pilot demonstration projects	<i>Indicator 3-1</i> Demonstration projects completed and energy efficiency best practices disseminated <i>Indicator 3-2</i> Basis layout and design of new buildings as per EEBC	0	5	6 3 This additional indicator is recommend to take care of the situation wherein the present set of demonstration is not reflecting actual implementation of EEBC
Output 3.1 Selection of at least four public buildings and two social housing programmes for pilot demonstration projects in energy efficiency investment	<i>Indicator 3a</i> Number of finalized and approved demonstration project designs (engineering and construction)	NA	6	3
	<i>Indicator 3b</i> Number of demo projects implemented each year	NA	2	It is recommend that this indicator be dropped
Output 3.2 Preparation of Basic layout and design of new buildings as per EEBC (engineering and structural design may be done on a later date)	<i>Indicator 3c</i> Basic layout and design of new building as per EEBC			3
Outcome 4 Additional investment mobilized in energy-efficiency as a result of the dissemination and	<i>Indicator 4-1</i> % Increase in sales of energy efficient appliances during the project implementation	0	30%	There are monitoring issues with indicator 4-1. In the absence of data regarding the number of EE

Objective/ Outcome or Output	Indicator ¹⁵	Baseline	Target as per Project Document	Proposed Revision/ Target
replication activities.	<i>Indicator 4-2</i> % increase in number of energy efficiency buildings during and after project implementation	0	30%	buildings in the baseline, it is not possible to compute the % increase.
Output 4.1 Elaboration of case study guides and disseminated among relevant audience	<i>Indicator 4a</i> Number of published comprehensive energy efficiency buildings user manuals and case study guides <i>Indicator 4b</i> Number of set of guidelines prepared on energy efficient buildings for developed and investors by EOP	User manual available on sustainable architecture	5 5	
Output 4.2 Public awareness raising campaign on standards and labels	<i>Indicator 4c</i> Number of awareness raising campaigns (websites, newsletters, media outreach activities)	Absence of campaigns on S&L of appliances	15	
	<i>Indicator 4d</i> % Increase in sales of energy efficient appliances during the project implementation	No data available	30%	There are monitoring issues with the indicator
Output 4.3 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	<i>Indicator 4e</i> Number of training courses conducted for key stakeholders each year	Limited trainings for energy efficiency techniques	4	
	<i>Indicator 4f</i> Number of vocational training /vocational training schools or courses/modules within university programs	NA	5	
Output 4.4 A thorough monitoring of the impacts of the new energy efficient requirement is performed.	<i>Indicator 4g</i> % Reduction in energy consumption due to new energy efficiency requirements	NA	30%	
Output 4.5 Lessons learned study prepared and disseminated	<i>Indicator 4h</i> Number of sets of knowledge sharing products developed by EOP	NA	4	

As the project will introduce the regulations for S&L of the select appliances and the EEBC, all the appliances to be imported in the country and the buildings to be constructed would be energy efficient. However, the achievement of the goals of energy efficiency and the reduction in the emission of GHG would very much depend on the level of enforcement/ compliance with the newly introduced regulations.

The development benefits of the project will be largely, in terms of making the energy more affordable and making the energy available to larger sections of the society. Although, energy efficiency does not provide additional benefits to women, the benefits of energy efficiency will be available to all the sections of the society including women. The energy efficiency program provides a host of co-benefits which includes, improvements in air-quality and the reduction of public expenditure on health. At the national level the energy efficiency programs improve the energy security and savings on the fuel import bill.

Most of the beneficial impacts of the project are likely to happen over a longer period of time, beyond the project implementation time frame. Thus, monitoring of such beneficial impacts during the project implementation period is neither practical nor feasible.

5. FINDINGS: PROGRESS TOWARDS RESULTS

This chapter of the report provides the findings of the Mid-Term Review regarding progress made towards achievement of the results of the project in terms of different outcomes and outputs.

CEO endorsement to the project happened on 05 June 2015. The start date of the project is 30 July 2015 (the date of signing of the project document), actual implementation of the project started almost immediately with the project inception meeting held in June 2015. At the time of MTR, the project is in its third year of implementation. Although, the project started immediately after signing of the project document, not much progress could be made in the initial two years of project implementation. The project had a slow start and there were not much activities during the first two years. During the first two years of project implementation there was no 'Project Steering Committee (PSC). PSC was established, in June 2018 after the intervention by the RTA. Although, after establishment of the PSC and focused efforts by UNDP CO and the project team the project is still to do a lot of catching up. The project implementation team has already taken the adaptive measures to do the catching up.

As mentioned in the previous chapter, the targets for direct and consecutive GHG emission reductions due to the project are very much on the higher side. It has been recommended that the target values for GHG emission reductions be changed. As these recommendations are still to be approved, they have not been considered while reviewing the progress towards achievements of the results. As per the guidelines and the procedures, the rating for the progress towards achievements needs to be done as per the approved (in this case the original indicators and targets provided in the 'Project Document') indicators and the corresponding targets.

During the MTR, review of progress towards results has been done in terms of indicators for different outcomes in the log-frame of the project as provided in the 'Project Document' (please see Table 6).

5.1 Progress towards attainment of outcomes and outputs

Mid-term review questions (see Annex B)

- Review the log-frame indicators against progress made towards the end-of-project targets using the 'Progress Towards Results Matrix', with progress indicators for outcomes/outputs, indicating baseline and target levels, as well as current level and/or reported in PIR linked with ratings for each outcome.

This section of the report provides an overview of the progress towards results of different Outcomes of the project. In the Tables below, the column with 'Level at PIR' is based on the second PIR (for the year 2018). Although, the Guidance for Conducting Mid-term Reviews of UNDP-Supported, GEF-Financed Projects specifies that the level at first PIR be reported, we have chosen to provide the values of the second PIR. This is considering that there was a delayed start of the project and there was no progress at the time of preparation of first PIR (for the year 2017).

5.1.1 Progress towards results – Outcome 1

The Outcome 1 of the project pertains to development of a policy, institutional, and legislative framework to support energy efficiency in buildings in Cabo Verde, through the introduction of an energy efficient building code. As per the 'Project Document', the new building code will aim at introducing the concepts like energy audits, MEPS for buildings with pilot actions (under Outcome 3) on public buildings. The process for obtaining a construction permit is to be modified to take into account, energy efficiency specification as well as water usage concerns. Also, under this Outcome of the project, activities for the development of an inventory and information system for energy efficiency in all new buildings is envisaged.

As per the project design, the indicator to monitor the achievement of results for Outcome 1 is the direct energy savings in the buildings. This is not an appropriate indicator for the Outcome 1 of the project, as the energy savings would largely happen over a period of time after implementation of the project. It was recommended to introduce an additional indicator (please see Table 6) for Outcome 1 of the project. For monitoring the achievements of different aspects of Outcome 1, the log-frame has provided the indicators at the Output level as well.

Implementation of all the activities for achievement of the results for Outcome 1 are being carried out by the consulting firm¹⁸, appointed for the purpose. The arrangement with the consulting firm, is in line with the provisions made in the 'Project Document' for implementation of the project (please see Figure 1 in Section 3.1).

Based on the work done by the consulting firm, Table 7 provides an overview of the progress towards achievement of results for Outcome 1 of the project, against the set of indicators and the targets. Ratings for progress towards results in terms of the indicators for Outcome 1, are also provided in the Table, along with the justification for the ratings.

**Table 7: Progress towards results: Outcome 1:
Policy, Institutional and Legislative Framework for energy efficient buildings are enabled**

Indicator	Baseline Level ¹⁹	Project Target ²⁰	Revised Target ²¹ (if applicable)	Level at PIR ²²	Status at MTR ²³	Rating at MTR ²⁴
<i>Indicator 1-1</i> Direct energy savings in the buildings sector projects by EOP, MWh/yr. (energy and water efficiency)	0	4634	Not applicable	The EE Code in buildings elaborated is applicability only for new buildings also at this stage it does not include residential buildings. Although, the code only applies to new non-residential buildings, it was decided implement some demonstration projects in existing public buildings in order to demonstrate potential of reducing energy consumption in existing building. The process of implementing EE projects in new buildings has already begun (National Institute of Public Health, Praia; Ambulatory Consultation Center of Mindelo; City Hall of municipality of Tarrafal of São Nicolau Island; new tourist resort in Tarrafal, Santiago Island).	The project is implementing some of the EE measures in some of the existing public buildings. There is no visibility regarding implementation of the EEBC in new buildings	Unsatisfactory The EE measures are largely confined to replacement of some of the old (out of life) air conditioners and lamps. The efforts to reduce the energy bill also includes provision of solar PV in some of the cases. Clearly this is not the stated objective of this outcome of the project
<i>Revised additional</i>	No EEBC	EEBC in place		Draft of the EEBC has been prepared. The EE Code in	The draft EEBC code is	Satisfactory

¹⁸ PWC India

¹⁹ As per Project Document

²⁰ As per Project Document

²¹ Recommended Revision at the time of MTR

²² As reported in PIR for the year 2018 (Self Assessment)

²³ Indicator Assessment Key:

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
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²⁴ HS= Highly satisfactory, S= Satisfactory, MS= Moderately Satisfactory, MU= Marginally Unsatisfactory, U= Unsatisfactory, HU= Highly Unsatisfactory

Indicator	Baseline Level ¹⁹	Project Target ²⁰	Revised Target ²¹ (if applicable)	Level at PIR ²²	Status at MTR ²³	Rating at MTR ²⁴
<u><i>Indicator 1-2</i></u> National Energy efficiency building code developed and implemented				buildings has applicability only for new buildings and at this stage does not include residential buildings. Therefore, the code covers commercial and industrial buildings, or buildings classified as Special Low Voltage and Medium Voltage. Integration of the EE code in buildings in Cabo Verde's technical code of construction is being finalized with the National Institute of Territorial Management.	under consideration by the government for approval The proposed legal framework for energy efficiency (EE) has been finalized.	The EEBC code is likely to be approved by the end of the project. However, the code will be applicable only for the commercial and public buildings, thereby significantly reducing the scale of desired impacts and results Institutional and legislative framework for implementation of EEBC is likely to be in place by EOP

The project design has provided a set of Outputs along with the matching set of activities for achieving Outcome 1 of the project. The project document has also provided an elaborate set of indicators to monitor and determine the achievement for each of the Outputs for Outcome 1. Different Outputs for Outcome 1, as per Project Documents are;

- Output 1.1: 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
- Output 1.2: 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.).
- Output 1. 3: MRV Protocol to measure energy savings, water usage, and emission reductions in public buildings
- Output 1.4: Amendments to construction permit regulations to include mandatory requirements for minimum energy performance standards and including robust enforcement mechanism

Table 8 provides the progress towards results for different Outputs of Outcome 1 of the project.

Table 8: Progress towards results: Outputs of Outcome 1

Output	Indicator	End of Project Target	Revised Target at MTR (if applicable)	Level at PIR	Status at MTR
Output 1.1					
	<i>Indicator 1a</i> New building space compliant with new energy efficiency code by EOP, million m ²	to be determined	It is recommended to drop this indicator, as this Output of the project is not for pilot projects. Pilot	Not Reported	No new buildings has been build or planned

Output	Indicator	End of Project Target	Revised Target at MTR (if applicable)	Level at PIR	Status at MTR
			projects (new buildings are covered Under Outcome 3)		
	<i>Indicator 1b</i> Direct energy savings in the projects by EOP, MWh/yr. (energy and water efficiency)	4634	0	PIR has reported direct energy savings of 0.31 tons of CO2 due to provision of solar PV systems to some of the households.	There is no direct energy savings. The reported energy savings due to solar PV to households is not a EE measure. No direct energy savings during rest of the project is expected.
	<i>Indicator 1c</i> Number of trained professionals and government officials by EOP to conduct code compliance	50			Planned activity
Output 1.2					
	<i>Indicator 1d</i> Number of professionals trained to conduct energy audits	50			Planned activity
	<i>Indicator 1e</i> Number of buildings energy performance in the database	100			Planned activity
	<i>Indicator 1f</i> Number of energy audits carried out annually	15			Four energy audits carried out
Output 1.3					
	<i>Indicator 1g</i> Number of professionals trained in the building sector for MRV	25			Planned activity
	<i>Indicator 1h</i> Number of buildings adopted MRV protocol	30			Protocol for measurement has been developed
Output 1.4					
	<i>Indicator 1i</i> Number of municipalities carrying out mandatory enforcement of the new energy efficiency code compliance Number of building permits approvals processed according to new EE code compliance mechanism	5	It is recommended to drop this indicator		Training of the officials carried out
	<i>Indicator 1j</i> Number of professionals and govt. staff trained to conduct energy efficiency code compliance	60	This is the same as indicator 1c. It may be dropped from here		Planned Activity
	<i>Indicator 1k</i> Number of verified	25	It is recommended		

Output	Indicator	End of Project Target	Revised Target at MTR (if applicable)	Level at PIR	Status at MTR
	energy efficiency code compliant buildings each year project implementation EOP		to drop this indicator		
	<i>Indicator II</i> Number of accredited local authorities (at municipal level) to validate and verify mandatory energy efficiency code compliance by EOP	5			Planned Activity

The EEBC code is likely to be approved by the end of the project. As per the present draft of the EEBC being considered for approval, the EEBC will be applicable only for the commercial and public buildings only, thereby significantly reducing the scale of desired impacts and results. Also, the code would be applicable only for new buildings, and there is no provision in the code to support improvement of EE in the existing building. The institutional and legislative framework for implementation of EEBC is also likely to be in place by EOP. **In view of the likely reduced impacts of the EEBC the progress towards results for Outcome 1 is rated as Moderately Satisfactory.**

As can be seen, the only activity within different activities for Outcome 1, where the progress is satisfactory is the development and implementation of the EEBC. Implementation of all other activities and achievement of the corresponding outcomes is much delayed. One of the reasons for this is the delay in the appointment of the consulting firm, to carry out the activities under Outcome 1 of the project. The remaining activities under this Outcome 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 (please see recommendation 7 as well)

5.1.2 Progress towards results – Outcome 2

Outcome 2 of the project is focused on introducing a national framework for Standard & Labelling (S&L) of domestic appliances. Under this Outcome, the project is to develop regulations for adoption of minimum energy performance standards along with the labelling for the appliances as regards the level of energy efficiency. The appliances covered under the program are air-conditioners, domestic refrigerators, lighting products and electric storage water heaters. Later on (during implementation of the project) washing machines were also added to the list. The project also envisages development and adoption of national certification procedures for the appliances. The S&L programme in the country is to develop strategies to associate and align with the normative European Convergence process and ECOWAS orientations.

The Outcome 2 of the project also has the provision for a study of a testing lab for the appliances, in accordance with testing and certification mechanism, which are to be developed. There are provisions for training on the new framework (standards and labels) for the key decision makers and other stakeholders (chamber of commerce, importer, retailers, and national administration).

Implementation of the activities for achievement of the results for Outcome 2 are being carried out by the consulting firm²⁵, appointed for the purpose. This arrangement is in line with the provisions made in the 'Project Document' for implementation of the project (please see figure 1 in Section 3.1).

²⁵ Gesto Energy Consulting, Portugal

Based on the work done by the consulting firm, Table 9 provides an overview of the progress towards achievement of results for Outcome 2 of the project, against the set of indicators and the targets. Ratings for the progress towards results in terms of the indicator, for Outcome 2 is also provided in the Table, along with the justification for the ratings.

**Table 9: Progress towards results: Outcome 2:
Energy-Efficiency improvements through Standards & Labelling for appliances**

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
<i>Indicator 2-1</i> Direct energy savings in the appliances stock by EOP MWh/Yr.		111,184		Not reported	No progress, as S&L program is yet be introduced in the country. Introduction of the program at best can happen towards the end of the project implementation period. Thus no direct energy savings due to S&L program are expected	Unsatisfactory No direct Energy savings are likely
<i>Indicator 2-2</i> % Increase in sales of energy efficient appliances as a result of energy efficiency finance		20%		Not reported	No progress, as schemes for financing of EE appliances are yet be introduced in the country. Introduction of the financing program at best can happen towards the end of the project implementation period. Thus no increase in the sales of EE appliances is expected by the end of the project.	Unsatisfactory EE finance is not in place, thus no increase in sales of EE appliances due EE finance is expected
<i>Revised additional Indicator 2-3</i> Standards and Labelling programs for imported appliances launched	No Standards and Labelling program for appliances in place		Standards and Labelling program launched	The National Labeling and Standard Program for Electrical Equipment has been finalized and is in the process of validation by the energy ministry.	The S&L Program for the six appliances (Air Conditioners, TV, Refrigerators & Freezers, Water Heaters, Lamps, Washing Machines) has been finalized. The documents prepared includes the first draft of the standards along with the legal documents for implementation. The documents are presently under discussions with the government authorities.	Satisfactory The Standards and Labelling Program for appliances is likely to be in place by EOP

The project design has provided a set of Outputs along with the matching set of activities, for achieving Outcome 2 of the project. The project document has also provided an elaborate set of indicators to monitor and determine the achievement for each of the Outputs for Outcome 2. Different Outputs for Outcome 2 as per Project Documents are;

- Output 2.1: Labelling programme for appliances imported into Cabo Verde in line with ECOWAS labelling programme
- Output 2.2: Regulations including import regulations for energy-efficiency standards for a first selection of appliances
- Output 2.3: Testing mechanism for selected appliances to be developed and established
- Output 2.4: National certification procedures to promote energy efficiency
- Output 2.5: 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.
- Output 2.6: Demand Side Management program, run by the national utility, built around a "turn-in or exchange" mechanism/modality
- Output 2.7: The most relevant financial incentive is identified & introduced in a pilot programme for the scale up of energy efficient refrigerators, air conditioners and water heater.

Table 10 provides the progress towards results for different Outputs of Outcome 2 of the project.

Table 10: Progress towards results: Outputs of Outcome 2

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
Output 2.1					
	<i>Indicator 2a</i> Number of verification and enforcement procedures developed in line with ECOWAS labelling program	1		Legal documents for implementation of the S&L documents has been prepared.	Draft documents has been prepared and are being deliberated upon by the stakeholders and the government authorities.
	<i>Indicator 2b</i> Number of manufacturers, retailers and consumers attend educational workshop on energy efficiency labels on appliances	50		Not reported	Activity planned for the year 2019
	<i>Indicator 2c</i> % Increase in sales of energy efficient appliances with labelling and certification	30%		Not reported	No achievement The supporting activities to achieve this are yet to be carried out. The activities are planned for the year 2019
Output 2.2					
	<i>Indicator 2d</i> % Increase in import of energy efficient appliances due to developed new law and regulatory changes	60%	30% This indicator is the same as indicator 2c	Not reported	This indicator is the same as indicator 2c
	<i>Indicator 2e</i> Number of trained energy efficiency standard compliance and enforcement officials	60		Not reported	Training for the government officials is planned for the year 2019
Output 2.3					

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
	<i>Indicator 2f</i> % Increase in testing of appliances as per new testing mechanism developed	60%	It is recommended to drop this indicator	Not reported	There are no test labs in the country. This activity can't be carried out
	<i>Indicator 2g</i> Number of officials trained to conduct and adopt periodic testing and reporting of selected appliances (as per international testing procedures)	25	It is recommended to drop this indicator	Not reported	There are no test labs in the country. This activity can't be carried out
Output 2.4					
	<i>Indicator 2h</i> % Increase in energy efficient appliance sales through certification procedures.	50%	30% In line with the indicators 2c and 2d, it is recommend to revise the value of the target	0	The certification procedures are yet to come in force and are expected to be in place only be the end of the project
Output 2.5					
	<i>Indicator 2i</i> Number of officials (manufactures, retailers, customs officials) trained to comply with new energy efficient appliance law/regulation	25		Not reported	Training for stakeholders is planned for the year 2019
	<i>Indicator 2j</i> % Increase in consumers and retailers understanding of trade-off between higher purchase cost and lower running cost of energy efficient appliances	40%	Provision of a end of project survey made to made to measure the achievement	Not reported	No achievement The supporting activities to achieve this are yet to be carried out. The activities are planned for the year 2019
	<i>Indicator 2k</i> % Increase in local retailers and distributors to market more efficient appliances	40%	Provision of an end of project survey made to made to measure the achievement	Not reported	No achievement The supporting activities to achieve this are yet to completed. More activities are planned for the year 2019. Monitoring of this indicator would need an end of the project survey
Output 2.6					
	<i>Indicator 2l</i> Number of professionals and state officials trained on DSM programs by EOP	25		Not reported	Training of the professional is planned for the year 2019
	<i>Indicator 2m</i> Number of energy audits carried out annually	15	There is no relevance of this indicator here. Further this is a repeat of indicator 1f. Indicator 2m	Not reported	

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
			may be dropped		
	<u>Indicator 2n</u> Number of pilot DSM programs launched	2		Not reported	Details of DSM project for replacement of about 6500 lamps are being worked out with the government agencies. TA for another DSM project is being worked out
	<u>Indicator 2o</u> Number of satisfied users of building DSM program	25	There is no relevance of this indicator here. This Indicator may be dropped	Not reported	
Output 2.7					
	<u>Indicator 2p</u> Number of applicable project financing schemes on energy efficient appliances identified, designed and launched during project implementation	2		Not reported	The schemes are being worked out
	<u>Indicator 2q</u> % Increase in sales of energy efficient appliances as a result of energy efficiency finance	20%	There are issues for monitoring the achievements against this indicator, as it would not be possible to segregate the results due to other initiatives This indicator may be dropped	0	No achievement The schemes for financing of EE appliances are yet to be worked out. There are issues for monitoring the achievements against this indicator, as it would not be possible to segregate the results due to other initiatives

As can be seen from the Table the only achievement for Outcome 2, till the time of MRT is the preparation of the draft of the S&L program. Most of the enabling activities, like training of different stakeholders, the financing schemes, awareness creation, demand side management schemes etc. are still to be initiated. Thus, in order to achieve the objectives a lot of catching up needs to be done. However, **when viewed purely in terms of the indicators for Outcome 2, the progress towards results is Satisfactory.**

5.1.3 Progress towards results – Outcome 3

Outcome 3 of the project is targeted to create a demonstration regarding the benefits of energy efficient design of the buildings. Under this Outcome of the project, it is envisaged that pilot projects with energy efficiency in buildings would be implemented (4 public buildings and 2 social housing programmes), showcasing best practices related to energy efficiency in buildings. At the project design stage the pilots for the new buildings, which were to be supported were identified. The demonstration projects were to significantly comply with the technical sections of the new energy

efficiency building code, developed under Outcome 1 of the project. It is envisaged that demonstration projects will facilitate creation of more energy efficient buildings in the country.

This component of the project is also expected to support training of relevant building stakeholders (architects, engineers, designers, developers, financial institutions) on different aspects of energy efficient building design and the corresponding benefits. The Outcome 3 of the project is also expected to lead to generation of case studies (to be prepared under Outcome 4), thereby facilitating the replication regarding adoption of EEBC in the country.

Somehow, the project has not been able to implement the new buildings pilots as was envisaged in the 'Project Document'. The 'Project Document' has specified selection of either the new buildings or the retrofits in the existing buildings for the pilot projects. However, it is important to keep in mind, that there are only limited options (replacement of appliances, replacement of lamps etc.) for doing the retrofits in the existing buildings to improve the energy efficiency. In this regard it is also important to note that any possible improvement of the energy performance of the buildings due to replacement of lamps and appliances is already being taken care, by Outcome 2 of the project.

To take care of the situation, wherein the present set of pilot projects is not demonstrating the implementation of EEBC in the country, an additional indicator along with a matching Output has been recommended (please see Indicator 3-2 and Output 3.2 in Table 6).

Different activities for achievement of results of Outcome 3 and its different Outputs are being carried out by the consulting firm²⁶ appointed for the purpose. Specifically, the consulting firm is responsible for providing assistance in selection and implementation of demonstration projects for energy efficiency investment; developing training and certification programs for building stakeholders and develop monitoring and reporting system of energy performance/water usage for the demonstration projects.

Based on the work done by the consulting firm, Table 11 provides an overview of the progress towards achievement of results for Outcome 3 of the project, against the indicator and the target. Ratings for progress towards results in terms of the indicator for the Outcome is also provided in the Table, along with the justification for the rating.

**Table 11: Progress towards results: Outcome 3:
Energy efficiency solutions in a selection of public buildings through pilot demonstration projects**

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
Indicator 3 Demonstration projects completed and energy efficiency best practices disseminated		6		The process of implementing EE projects in new buildings has already begun (National Institute of Public Health, Praia; Ambulatory Consultation Center of Mindelo; City Hall of municipality of Tarrafal of	<p>The project is implementing EE measures in some of the existing public buildings.</p> <p>There is no visibility regarding implementation of the EEBC in new buildings</p> <p>Energy simulation exercise has been conducted for some of the existing public buildings to determine the energy</p>	<p>Moderately Satisfactory</p> <p>The EE measures Includes replacement of air conditioners and lamps. The efforts to reduce the energy bill also include provision of solar PV to part meet the demand of electricity.</p> <p>It is proposed that the results of the energy simulation and the theoretically determined energy</p>

²⁶ PWC, India

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
				São Nicolau Island; new tourist resort in Tarrafal, Santiago Island).	saving potential, in case these would have been designed and built in accordance with the proposed EEBC.	savings potential would be used to prepare the case studies (best practices) and disseminated. Whereas, what is desired as per the project design is the real case studies from the pilot projects.
<u>Revised Additional Indicator 3-2</u> Basis layout and design of new buildings as per EEBC	0		3	NA	Yet to be initiated	NA Activities for the proposed additional indicator are yet to be initiated

The project design has provided an Output along with the matching set of activities for achieving Outcome 3 of the project. The project document has also provided a set of indicators to monitor and determine the achievement for Output for Outcome 3. The Output for Outcome 3 (as per Project Document) is the selection of at least 4 public buildings and 2 social housing programmes for pilot demonstration projects in energy efficiency investment. To take care of the situation wherein, the demonstration pilot project implemented / planned is not reflecting implementation of EEBC, an additional Output has been recommended (please see Output 3.2 in Table 6). This additional Output is, the preparation of basic layout and design of new buildings as per EEBC (engineering and structural design may be done on a later date). Provision of this additional Output will also meet the objective of supporting the training of relevant building stakeholders (architects, engineers, designers, developers) on different aspects of energy efficient building design.

Table 12 provides the progress towards achievement of the results for the Output of Outcome 1 of the project.

Table 12: Progress towards results: Outputs of Outcome 3

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
Output 3.1					
	<u>Indicator3a</u> Number of finalized and approved demonstration project designs (engineering and construction)	6	6	EEBC is applicable only for new buildings. However, it was decided to move forward with some demonstration projects in existing public buildings in order to demonstrate EE's potential in reducing energy consumption in existing building typologies. EE projects are being implemented, in public buildings that will allow significant energy savings: namely, the	Pilot EE projects in 3 government buildings are being implemented. The measures to reduce the energy bill includes replacement of lights, replacement of appliances (mainly the ACs) and provision of solar PV. Solar PV home systems has been provided in 140 houses belonging to the economically weaker sections of the society. Provision of more such solar PV home systems is planned

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
				National Directorate for the Environment; Ministry of Infrastructure, Housing and Territory Planning and Civil Engineering Laboratory. The process of implementing EE projects in new buildings has already begun: namely, the National Institute of Public Health in the city of Praia; Ambulatory Consultation Center of Mindelo; City Hall of municipality of Tarrafal of São Nicolau Island; new tourist resort in Tarrafal of Santiago Island.	Energy simulation exercise has been carried out for three existing government buildings to determine the extent of energy savings which would have been achieved, if these buildings were designed in accordance with provisions in EEBC. More such energy simulation exercises are planned. It is proposed that the results of the EE simulation be used for the case studies (under Outcome 4).
	<i>Indicator 3b</i> Number of demo projects implemented each year		It is recommended that this indicator be dropped		
Output 3.2					
	<i>Indicator 3c</i> Basic layout and design of new building as per EEBC				As this is an additional Output recommended at MTR, the work against this Output is yet to be initiated

Against the intended action of demonstrating the results of EEBC, by implementing it in some of the new buildings, the project could carry out EE measures in some of the existing buildings. As retrofiring in the existing buildings provides only limited options (replacement of appliances, replacement of lamps etc.) for improving the energy efficiency there is hardly any demonstration of the benefits of EEBC. Further, the improvement of the energy performance of the buildings due to replacement of lamps and appliances is already being taken care by Outcome 2 of the project.

The retrofit measures in the old buildings, being carried out includes replacement of lamps, replacement of air conditioners and provision of solar PV. The air conditioners being replaced are already at the end of their life. Although, provision of solar PV is good, it certainly can't be considered as an EE measure. For the case studies the project is proposing, that the results of the energy simulation and the theoretically determined energy savings be used to prepare the case studies (best practices) and disseminated. Whereas, what is desired, as per the project design is the real case studies from the pilot projects. **In view of this the progress towards results for Outcome 3 of the project is rated as Moderately Satisfactory.**

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 to take care of this situation it is recommended (please see recommendation 8) to provide for an additional Output and the indicator (please see indicator 3-1 and Output 3.2 in Table 11 and Table 12 respectively). It would be possible to achieve these only in case an extension of one year is granted for implementation of the project.

5.1.4 Progress towards results - Outcome 4

The aim of Outcome 4 of the project is dissemination of the results of the project, so that the replication of the activities can take place. Different activities under this Outcome of the project includes preparation of case studies (for the good results from Outcomes 1, 2 and 3), a public awareness campaign, and a lessons learned study. The activities under Outcome 4 of the project are to focus on energy efficiency, as well as on performance on the water.

Implementation of the parts of this Outcome, pertaining to the appliances is being supported by the consulting firm (GESTO). Implementation of the parts of the Outcome, pertaining to EE in the buildings is being supported by the consulting firm (PWC). Apart from the consulting firms, the PMU has also carried out some of the activities at its own for achieving the results of the Outcome 4 of the project.

Based on the work done by the consulting firm, Table 13 below provides an overview of the progress towards achievement of results for Outcome 4 of the project against the set of indicators and the targets. Ratings for progress of results in terms of the indicators for Outcome 4 is also provided in the Table, along with the justification for the ratings.

**Table 13: Progress towards results: Outcome 4:
Additional investment mobilized in energy-efficiency as a result of the dissemination and replication activities.**

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
<u>Indicator 4-1</u> % Increase in sales of energy efficient appliances during the project implementation		30%	There are monitoring issues with the indicator	The contracted firms will work directly on this component during the 2nd semester and over the next year (2019).		Moderately Satisfactory The activities for different Outputs of the project would get implemented towards the end of the project. The increase in the sales of EE appliances will happen after the implementation timelines of the project. The impacts of the efforts would get realized, although with a slight shift in the timelines.
<u>Indicator 4-2</u> % increase in number of energy efficiency buildings during and after project implementation		30%	There are monitoring issues with the indicator	The contracted firms will work directly on this component during the 2nd semester and over the next year (2019).		Un-satisfactory There are monitoring issues with this indicator. In the absence of any data regarding the number of EE buildings in the baseline, it is not possible to compute the % increase. Increase in the number of EE buildings would be minimal as the EEBC would be applicable only for commercial buildings. Also, replication of the activity of retrofitting the existing buildings with EE measures is not likely to be significant.

The project design has provided a set of Outputs along with the matching set of activities for achieving Outcome 4 of the project. The project document has also provided an elaborate set of indicators to monitor and determine the achievement for each of the Output for Outcome 4. Different Outputs for Outcome 4 as per Project Documents are;

- Output 4.1: Elaboration of case study guides and disseminated among relevant audience
- Output 4.2: Public awareness raising campaign on standards and labels
- Output 4.3: 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
- Output 4.4: A thorough monitoring of the impacts of the new energy efficient requirement is performed.
- Output 4.5: Develop framework to regularly update the legislation in order to tighten energy efficiency to transform further the building practices
- Output 4.6: Lessons learned study prepared and disseminated

Implementation of the activities for Output 4.2 and Output 4.4 pertains to the EE in appliances and were to be supported by the consulting firm (GESTO), which is also responsible for implementation of Outcome 2 of the project. Implementation of the activities for Output 4.1, Output 4.3, Output 4.5 and Output 4.6 (Lessons Learned study prepared and disseminated) pertains to EE in buildings and are to be supported by the consulting firm (PWC), which is also responsible for implementation of Outcome 2 and Outcome 3 of the project.

Apart from the consulting firms, the PMU has carried a couple of activities at its own for achieving the results of the Outcome 4 of the project. Such activities include;

- Implementation of an education and awareness program in the communities for the benefits of EE of appliances
- Participation in seminars on renewable energy and energy efficiency
- Implementation of an education and awareness program for employees of private companies on energy efficiency
- Participation in the workshop to commemorate the Cape Verdean engineer's day.
- Participation in conferences cycles on sustainable construction conducted by Jean Piaget University of Cabo Verde
- Presentation of EEBC to municipal leaders in Cabo Verde
- Participation in the International Workshop on Renewable Energies and Energy Efficiency in the tourism sector held in the island of Sal.
- Lectures and workshop commemorating the international day of energy

Based on the work done by the consulting firms and the PMU, Table 14 provides the details of the progress towards achievement of results for different Outputs of Outcome 4 of the project.

Table 14: Progress towards results: Outputs of Outcome 4

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
Output 4.1					
	<i>Indicator 4a</i> Number of published comprehensive energy efficiency buildings user manuals and case study guides	5		Not reported	Case studies for the building energy simulations done on some of the existing building are being prepared.
	<i>Indicator 4b</i> Number of set of guidelines prepared on energy efficient buildings for developed and investors by EOP	5		Not reported	However, it is not what envisaged at the time of project design. Also such case studies will have only limited impact
Output 4.2					
	<i>Indicator 4c</i> Number of awareness raising campaigns (websites, newsletters, media outreach activities)	15		Not reported	Project specific website (www.PEEEE.CV) has been created. Which provides information about the project and the activities being carried

Output	Indicator	End of Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR
					out. The project has also created a Facebook page.
	<i>Indicator 4d</i> % Increase in sales of energy efficient appliances during the project implementation	30%		Not reported	The activities to achieve the results would get implemented towards the end of the project. The increase in the sales of EE appliances will thus happen after the implementation timelines of the project.
Output 4.3					
	<i>Indicator 4e</i> Number of training courses conducted for key stakeholders each year	4		Not reported	Some of the training sessions for architects, engineers, government officials on building EE has been conducted by the consulting firm (PWC). More such sessions are planned. Training of stakeholders on appliances EE is also planned by the consulting firm (GESTO)
	<i>Indicator 4f</i> Number of vocational training /vocational training schools or courses/units/modules within university programs	5		Not reported	The activities are yet to be initiated
Output 4.4					
	<i>Indicator 4g</i> % Reduction in energy consumption due to new energy efficiency requirements	30	There are monitoring issues with the indicator	Not reported	The activities to achieve the results would get implemented towards the end of the project. The increase in the sales of EE appliances will thus happen after the implementation timelines of the project.
Output 4.5					
	<i>Indicator 4h</i> Number of sets of knowledge sharing products developed by EOP	4		Not reported	The activities are yet to be initiated

As far as the EEBC code is concerned, it is likely to be approved by the end of the project, but it will be applicable only for the commercial and public buildings, thereby significantly reducing the scale of desired impacts and results. Thus, the outreach, information dissemination etc. would have only limited results. Also, due to the lacking in the achievement of results for Outcome 3, the effectiveness of the dissemination of results (with the objective of replication) would suffer.

For the EE in appliances part of the outreach and awareness creation efforts, the results would be achieved only after the implementation of the project (and not by the end of the project). This is due to the fact that the implementation of the activities is expected to be completed by the end of the project implementation timelines.

In view of the reduced impacts of the outreach, dissemination and awareness creation efforts, the progress towards results for Outcome 4 is rated as Marginally Unsatisfactory.

5.1.5 Progress towards results – Project Objectives

In the above paragraphs, progress towards achievement for different outputs and outcomes of the project were presented. In view of the progress made towards achievement of Targets of different

outputs and outcomes of the project, an assessment regarding progress made towards achievement of the objectives of the project is presented in this part of the report. The progress towards achievement of the project objectives has been done both in terms of the indicators and Targets for project objectives as provided in the log-frame and in terms of the progress towards achievement of the results for different Outcomes of the project as discussed in the above paragraphs. Table 15 provides an overview of progress towards achievement of the project results.

**Table 15: Progress towards results: Project Objectives:
Removal of barriers to energy efficiency in Cabo Verdean built environment and domestic appliance**

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
<u>Indicator A</u> Cumulative GHG emissions reduced from building sector and through domestic appliances by end-of project (EOP), ktCO ₂ e	0	297.8	0 This target is recommended to be revised as it is over ambitious to consider that it would be possible to implement the pilot projects within the implementation timelines of the project	The EE Code in buildings elaborated is applicability only for new buildings also at this stage it does not include residential buildings. Although, the code only applies to new non-residential buildings, it was decided to implement some demonstration projects in existing public buildings in order to demonstrate potential of reducing energy consumption in existing building. PIR has reported direct energy savings of 0.31 tons of CO ₂ due to provision of solar PV systems to some of the households.	The project is implementing some of the EE measures in some of the existing public buildings. There is no visibility regarding implementation of the EEBC in new buildings There is no direct energy savings. The reported energy savings due to solar PV to households is not a EE measure. No direct energy savings during rest of the project is expected.	Un-satisfactory Although it has been recommended to revise / remove this Indicator, the rating has been done in terms of the indicator and the targets provided in the present version of the log-frame. This is as per the specified procedures
<u>Indicator B</u> Annual Reduction of energy consumption in the buildings and appliances MWh	0	115818	0 This target is recommended to be revised as it is over ambitious to consider that it would be possible to implement S&L program, within the implementation timelines of the	Not reported for appliances. Reduction of 0.62 MWh due to solar PV in couple of households	No progress	Un-satisfactory Although it has been recommended to revise / remove this Indicator, the rating has been done in terms of the indicator and the targets provided in the present version of

Indicator	Baseline Level	Project Target	Revised Target (if applicable)	Level at PIR	Status at MTR	Rating at MTR
			project			the log-frame. This is as per the specified procedures
<u>Recommended additional Indicator C</u> Reduction of consecutive (indirect) GHG emissions due to EEBC over a period of 10 years post project implementation (tons of CO ₂ e)			7200 ²⁷ The figures of consequent (indirect) emissions due to EEBC given in the project document have computation errors, due to which this revision is suggested			Un-satisfactory Version of EEBC being considered for approval will be applicable for the new commercial buildings. There is no provision for retrofitting of EE in the old buildings. Thus, the potential for reduction in GHG due to EEBC will remain untapped to a large extent.
<u>Recommended additional indicator D</u> Reduction of consecutive (indirect) GHG emissions by use of energy efficient appliances over 10 years post project implementation (tons of CO ₂ e)			110000 ²⁸ The figures of consequent (indirect) emissions due to S&L program given in the project document have computation errors, due to which this revision is suggested			Satisfactory The activities for different Outputs of the project would get implemented towards the end of the project. The increase in the sales of EE appliances will happen after the implementation timelines of the project. The impacts of the efforts would get realized, although with a slight shift in the timelines.

Considering the expectations regarding direct and indirect GHG emission reductions and the fact that the progress towards achievement of results for the four outcomes of the project is not good, **the progress towards achievement of results for the project objective is rated as Moderately Satisfactory.**

5.2 Global environmental and other impacts

Mid-term review questions (see Annex B)

- Results in terms of contribution to sustainable development benefits, as well as global environmental benefits (direct and indirect emission reduction)
- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed at the time of mid-

²⁷ The project may either use this value or carry out a better estimate of the potential

²⁸ The project may either use this value or carry out a better estimate of the potential

term review

- What is the status and issues with implementation of Energy Efficiency in buildings and appliances in Cabo Verde?
- What are the remaining barriers to achieving the project objective in the remainder of the project?
- What are the aspects of the project that have already been successful and what are the ways in which the project can further expand these benefits?

5.2.1 GHG emission reduction estimates

The project document has projected global environmental benefits (in terms of reduction in the emission of GHG) as 2015- 2019 (Project - Direct) 297.8ktCO₂e and 2019 – 2025 (Post Project - Consequent) emission reductions of 703.9ktCO₂e. However, Annex C of the 'Project Document' has mentioned a different set of figures as follows:

GHG emission reduction (as per Annex C of Project Document)

Due to S&L of Appliances programme

Direct Emissions Reductions =	272.4 ktCO ₂ e
Indirect Bottom up Reductions =	817.2 ktCO ₂ e
Indirect Top down reductions =	655.7 ktCO ₂ e

Due to EEBC for Buildings

Direct Emissions Reductions =	32.35 ktCO ₂ e
Indirect Bottom up Reductions =	50.72 ktCO ₂ e
Indirect Top down reductions =	31.3 ktCO ₂ e

Project (Appliances + Buildings)

Direct Emissions Reductions = 272.4 + 32.35 =	304.75 ktCO ₂ e
Indirect Bottom up Reductions = 817.2 + 50.72 =	867.92 ktCO ₂ e
Indirect Top down reductions = 655.7 + 31.3 =	687.0 ktCO ₂ e

Direct GHG emission reductions have been considered to be those which will happen due to reduction in the energy consumption during implementation of the project, while indirect (consequent) emission reductions are those which will happen over a period of 10 years, after implementation of the project. This is in line with the definition of direct GHG emission reductions as per GEF guidelines.

As was mentioned earlier, there are issues with the projected GHG emissions due to the project. Some of the issues are;

- 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 (please see recommendation xx as well). Further, 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 (please see recommendation 2).

- For the estimates in the energy savings in the buildings, historical consumption of energy in the buildings has been used in the Baseline and the historical growth in the consumption of energy in the buildings has been used to project 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)'. The draft EEBC being put of approval, 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;
 - a. increase in the ownership of appliances in the buildings
 - b. increase in the usage of existing stock of appliances in the buildings
 - c. increase in the building stock due to construction of new buildings.

The EEBC code will only influence the variation in the energy consumption due to construction of new buildings. In future, any change in the energy consumption due to appliances will get accounted for in the computation of energy reductions due to appliances minimum energy performance and labelling program (Output 2 of the project) as well. Thus, accounting for it in the Output 1 of the project would lead to double counting. Further, the intervention under the EEBC largely pertains to the orientation, design and construction material used in the building with the objective of reducing the energy required for cooling / heating and lighting.

- The assumption in the project design, that the minimum performance standards and labelling program (Component 2 of the project) for the appliances will be achieved and become effective within one year of the project implementation timelines and 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.
- 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:
 - a. The life of the appliances has been considered as 5 years (replacement of 20% of the appliances every year is 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 taken as five years. In case of incandescent bulbs, the life is only about 6 to 9 months (about 1000 hrs.).
 - b. In case of air-conditioners, average power consumption, in the baseline case has been considered as 3000 watts for every unit, which is 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).
 - c. In case of refrigerators as well, while computing the energy consumption, the estimated connected load 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).

In view of the above it is recommended the GHG emission reduction targets for the project may either be revised to the following figures or may be re-worked and accordingly revised by the project.

Recommendations Regarding Log-frame Targets for GHG Emission Reductions

Direct GHG emissions due to EEBC	0 ktCO ₂ e
Direct GHG emissions due to S&L program	0 ktCO ₂ e
Consecutive (indirect) GHG emissions due to EEBC	7,200 ktCO ₂ e
Consecutive (indirect) GHG emissions due to S&L program	110,000 ktCO ₂ e

The recommendations regarding the consequent reductions in the emissions of GHG due to the project indicates the potential for the reductions, actual reductions in the emissions of GHG would depend on the achievements of the project.

At the time of MTR, the assessment regarding the likely achievement of consequent GHG emissions, is that the actual GHG emission reductions would be much less than the potential. In case of buildings, the actual consequent reductions in the emission of GHG would be much less than the recommended target, despite the fact that EEBC is likely to be in place by the end of the project. This is so, as the EEBC being considered for approval will be applicable for the new commercial buildings only. The code would not be applicable for residential buildings (both new and old) and for the old commercial buildings. There is no provision in the code for EE retrofitting in the old buildings. Thus, the potential for reduction in GHG due to EEBC will remain untapped to a large extent.

In case of appliances the emission reductions would happen, firstly, due to enforcement of minimum energy performance of the appliances and secondly due to increased preference by the buyers to go beyond the enforced minimum energy performance levels. To facilitate increased preference of the buyers to go for the appliances which are beyond the minimum energy performance levels, the EE labelling of the appliances and the awareness creation regarding the benefits of EE appliances would play a role. Also, the preference for higher EE appliances by the end users, would be facilitated by the financing schemes for EE appliances. Assessment at the time of MTR is that, while the S&L program is likely to be in place by the end of the project, the desired level of impact of the awareness creation and the financing schemes may not be achieved. Thus, the complete potential of consequent GHG emissions due to S&L program may not get realised. The activities for different Outputs of the project would get implemented towards the end of the project. The increase in the sales of EE appliances will happen after the implementation timelines of the project. Thus, the impacts of the efforts would get realized to some extent with a slight shift in the timelines.

5.2.2 Other impacts

Cabo Verde is a small island developing country, which is largely dependent of imported fossil fuels for its energy needs, thereby having a significant impact on the national budget. EE is one of the ways to address the impact of imports of fossil fuels.

All the appliances in the country are presently imported. Given the relatively small size of the market the situation is not likely to change in future. Also given the size of the market, it may not be feasible to have the testing facilities for appliances (to check the compliance with the S&L program) in the country. Thus, the enforcement of the S&L program would largely depend on the manufacturers certificate regarding the energy consumption levels. The labelling of the appliances in terms of EE may be done by the local importers or this can be done by the manufacturers of the appliances before the despatch of the appliances. It is important to fix the responsibilities in case of variations in the actual energy performance level and the performance level indicated on the EE label. In case labelling is done by the manufacturer before the despatch of the appliances, it would be easier to determine as and when a variation in the performance (from the labelled level) happens, as this can be aligned to

such defaults in the the country from which the appliance has been supplied. For this it is important to align the labels and the systems with those which are followed internationally. In case of Cabo Verde, the S&L program is being aligned with that is being followed in EU countries. However, this may put the suppliers of appliances from other regions at slight disadvantage.

Given the climatic conditions in most of the islands of the country, 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&L program, thereby leading to double counting of the benefits of EE measures under the project. 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 (please see recommendation 9).

Apart from the global benefits of reductions in the emission of GHGs, the project would lead to local environment benefits like reduction in the emission of particulate matter, NO_x, SO_x and heavy metals associated with the burning of the fossil fuels.

6. FINDINGS: PROJECT IMPLEMENTATION AND ADAPTIVE MANAGEMENT

This Chapter describes the appropriateness and functioning of project management and administration, work planning and monitoring and evaluation. The second section reviews relations with stakeholders, while the Chapter ends with an overview of planned and realised budget expenditures and co-financing.

6.1 Management

Mid-term review questions (see Annex B)

- Appropriateness of the institutional arrangement and whether there was adequate commitment to the project?
- Review overall effectiveness of project management as outlined in the Project Document.
- Have changes been made and are they effective?
- Are responsibilities and reporting lines clear?
- Is decision- making transparent and undertaken in a timely manner?
- Recommend areas for improvement; Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement

The project design has provided for a structured management arrangement. The project is being implemented under NIM with the DGE as the responsible agency for the achievement of the project results as the implementing partner (national implementing partner). UNDP and DGE put together forms a project management board.

The implementation of the project on a regular basis is done by the project management unit (PMU). The PMU reports to the national project director (NPD), designated by the DGE. The NPD is responsible for overall strategic guidance to the project management, including approval to the annual work plan and achievement of planned results, use of UNDP transferred funds through effective management and well established project review and oversight mechanisms. The NPD also ensure coordination with various ministries and agencies, provide guidance to the project team to coordinate with UNDP, and to look after the administrative for implementation of the project.

The project has a full time national project manager (NPM), who coordinate the activities undertaken by the project management unit, and coordinate the timely implementation of the project components. A full-time Project Assistant supports the national project manager (NPM).

Service provider agencies (consulting firms) one each for building and appliances has been hired to carry out different activities under different outcomes and outputs of the project. The Project Steering Committee (PSC) is in place (although there were significant initial delays to formulate and put it in place) plays a critical role in project monitoring and evaluation by quality assurance, using evaluations for performance improvement, accountability and learning, and ensuring that required resources are committed and providing overall direction to the project team.

In the present working and management arrangement 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 (please see recommendation 10) to have an international technical advisor to support implementation of the project. The technical advisor will also support the M&V activities to the required level.

The PSCs considers and approves the quarterly plans and any deviations from the original plan. The project steering committee has been established and is chaired by the DGE to provide support and advice to the PMU and other committees as and when needed.

Project implementation has responded to changing conditions and risks, and taken advantage of opportunities for partnerships and actions that support the overall project objective. Management arrangements are in place in terms of a project team comprising of a National Project Director, a Project Manager and a Project Staff. A Steering Committee is in place and provides guidance to the Management team for the project. The present implementation arrangement lacks the required technical inputs. Accordingly, the **management of the project is rated as Marginally Satisfactory**. With the recommended appointment of the ‘Technical Advisor’, the situation is likely to change.

6.2 Work planning

Mid-term review questions (see Annex B)

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved
- Are work-planning processes result-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project’s results framework/log frame as a management tool and review any changes made to it since project start.

The project had a slow start due to delayed formation of the SC and delayed hiring of the two consulting firms for execution of the activities. There was no proper work plan for the first two years of project execution (2015 and 2016). The work planning from the year 2017 onwards is being done properly. The work plan for the year 2019 is already in place.

From 2017 the work planning is being done as per the provisions in the project design document. In accordance with the requirements, the work plans are prepared by the Project Manager, reviewed by the National Project Director and approved by the Steering Committee after deliberations. Work planning is carried out keeping in mind the log-frame in terms of timelines and the targets. Work planning is rated as **Satisfactory**.

6.3 Reporting

Mid-term review questions (see Annex B)

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalised by partners.

A key reporting requirement, the inception report, was prepared after the inception workshop of the project in June 2015. However, the inception report did cover the important aspects like The agreed work plans and other arrangements. The inception report did not suggest any modification in the Project design, the Log-frame and the work plan given in the Project Document.

No PIR for the project was prepared for the year 2015s PIRs for the project were prepared for the years 2017 and 2018. Although, the PIRs of the years 2017 and 2018 were prepared, the contents of the reports were not as per the requirements. While reporting the progress towards implementation the PIRs did not use the indicators provided in the log-frame (project document).

From the year 2018 onwards, the quarterly progress reports are being prepared and shared in accordance with UNDP / GEF requirements. The reporting aspect of the project management has been rated as **Moderately Satisfactory**.

6.4 Communications

Mid-term review questions (see Annex B)

- Review internal project communication with stakeholders: Is communication regular and effective?
- Are there any key stakeholders left out of communication?
- Are there feedback mechanisms when communication is received?
- Does the communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?).

The project team has established formal and informal communication channels for internal and external communication. Beside the 'Project Steering Committee', the project used many other effective ways of communication, internally or externally. The means of communication used by the project includes;

- Facebook page of the project
- Project specific website
- Technical committees (one for appliances and the other for Buildings)
- Frequent bi-lateral meetings with the national stakeholders
- Electronically communications (phone calls, emails) with the national

The project management team mentioned that, more outreach and awareness creation activities are being planned. The communications aspect of the project management has been rated as **Satisfactory**.

6.5 M&E systems

Mid-term review questions (see Annex B)

- *M&E*: Review the monitoring tools currently being used: Do they provide the necessary information?
- Do they involve key partners?
- Are they aligned or mainstreamed with national systems?
- Do they use existing information? Are they efficient? Are they cost-effective?
- Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?

In line with the standard practice for GEF projects, provisions were made in the project design for mid-term review and a terminal evaluation. The main M&E activities planned at the design stage meet GEF and UNDP requirements and standard practices.

Although, quarterly progress reports were not prepared earlier, they are being produced regularly from 'Quarter One' 2018 onwards. Financial monitoring and evaluation of the project is being carried out using the ATLAS tool of UNDP, which generates reports such as the CDR to gauge the level of delivery on different outcomes of the project. As the details of co-financing are not captured and reported anywhere. It is suggested that the co-financing aspect of the project be monitored and reported regularly.

The project had a delayed start, accordingly the MTR of the project is being carried out with a delay in the timelines mentioned in the project design. The monitoring and evaluation budget provisions in the are adequate. The Monitoring and Evaluation aspects of project management are considered **Satisfactory**.

6.6 Stakeholder engagement

Mid-term review questions (see Annex B)

- *Project management:* Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- *Participation and country driven processes:* Do local and national Government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- *Participation and public awareness:* To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

The main formal platform for engaging the stakeholders is the Steering Committee (SC). As was mentioned in section 6.1.4, the project in addition to the engagement of the government stakeholders as PSC level, managed to bring on-board many other beneficiaries and decision-makers by way of two separate technical committees, one for EE in buildings and the other for S&L program.

The project also built ties the other institutional stakeholders like institution of architects and engineers etc. The PSC has representatives from different ministries and departments. Stakeholder engagement at an aggregate level has been rated as **Satisfactory**.

6.7 Budget and co-financing

Mid-term review questions (see Annex B)

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

The project budget and sources of funds²⁹ for the project document are summarised in Table 16 below:

Table 16: Project Budget and Sources of Funds (as per Project Document) (figures in USD)

	Amount	Amount	Amount	Amount	Total ³⁰
	Year 1	Year 2	Year 3	Year 4	
GEF	488100	551443	441933	436934	1918410
UNDP (Co-finance, In Cash)	50000	50000	50000	45000	195000
M & E Budget (UNDP Co-finance, In Cash)	36000		30000	39000	105000
MTIE (Co-finance -In –Kind)	75000	70000	70000	56604	271604
Total	649100	671433	591933	577538	2490014

²⁹ As per project Document

³⁰ The figure if different from that provided in Section IV of the project document and there seems to be typo/computation error.

As can be seen from the Table, there was significant co-financing which was committed by UNDP and MTIE. MTIE committed to provided in kind support. The cost-effectiveness of the GEF funding is viewed in terms of direct and consequent GHG emission reductions and in terms of quantum of co-financing leveraged. With a GEF contribution of about USD 1.92 million, the project had the potential to lead to consequent GHG emission reduction of about 117,000 tonnes of CO₂. This works out to about USD 16 per ton of CO₂, which is on a higher side.

Due to delayed start of the project the budget utilization and the co-financing at the time of MTR is low. Budget utilization of the project is expected to pick up during the rest of implementation period. Budget utilization of the project is rated as **Marginally Satisfactory**.

Based on the ratings above for the different aspects, Implementation and Adaptive Management has been rated as **Satisfactory**.

7. FINDINGS: SUSTAINABILITY

Mid-term review questions (see Annex B)

- Whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date? If not, explain why.
- *Financial*: What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?
- *Socioeconomic*: Are there any social or political risks that may jeopardise sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by Governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the long-term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?
- *Institutional*: Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits?
- *Environmental*: Are there any environmental risks that may jeopardise sustenance of project outcomes?

7.1 Project risks

Key indicators of the project success (impact indicators) include, introduction of new law with EEBC and corresponding amendments to policies, regulatory and institutional framework; launching of a mandatory S&L program for appliances; higher uptake of EE (beyond minimum energy performance levels) appliances due to increased awareness regarding benefits; direct impacts of demonstration buildings thereby facilitating the replication.

At the design stage, a thorough risk analysis was carried out and appropriate risk mitigation strategies were worked out for each of these key indicators of project success. These included the internal risks as well as the external risks.

Internal risks are project-inherent (can be controlled by the project management), while external risks are of policy-economy-international nature. Some of the risks identified at the project design stage are related to the 'barriers' thus some of the 'risks' the project may face would lower the possibility of removing the corresponding barrier. One of the risks project design identified is the lack of trained human resources in Cabo Verde. To address this, in the project design adequate provisions to train human resources, were made. One of the components of the project pertaining to demonstration of application of EEBC in new buildings is not being implemented as designed. Thus, the barrier of lack of demonstration of EEBC would still remain.

It is expected that a new law EEBC would be in place by the EOP. Also, it is expected that by the end of the project S&L program along with the frame work to enforce it would be in place. However, the barrier of lack of awareness about the benefits of EE appliances may not get addressed adequately. Thus, the benefits of EE in appliance would get realized only up to the extent of specified minimum energy performance levels.

In case of this project, the assumptions are centered on the continued commitment from both the government and the private sector; stakeholders and other participants clearly understand the roadmap and implementation plan prepared by the Government; experiences from the demonstration projects are communicated well to raise awareness about energy efficiency. Most of these assumptions remain valid at the time of MTR except for the communication of good results from the demonstration project, as implementation of the demonstration projects is lacking. No additional risks were identified in the PIRs.

7.2 Financial risks to sustainability

Two important desired achievement of the project are the legislation and regulations for EEBC and S&L program for the appliances. Both of these results are likely to be achieved by the end of the project. The project is also expected to put in place, by the end of the project the mechanism to enforce and implement the newly introduced laws. There would not be any financial requirements for implementation of the laws (except a minor increase in the staff required for enforcement of the law. However, considering that energy efficient counterparts of the appliances may be comparatively costlier, the buyers may not go for appliances which are more efficient then the specified minimum energy performance levels. From the view point of the **financial risks to sustainability, the sustainability of the project is assessed to be likely.**

7.3 Socio-economic risk to sustainability

The project doesn't have impacts that could affect women's and men's ability to use, develop and protect natural resources and other natural capital assets. There are no activities under the project that could lead to natural resources degradation or depletion. The project has no affect on land ownership patterns. The project also has no impact on the income levels or employment opportunities for any group of community. There are no activities or impacts that may affect the environmental and social sustainability of the project. **From the view point of socio-economic risk, the sustainability of the project is assessed to be likely.**

7.4 Institutional framework and governance risks to sustainability

The institutional framework for implementation of renewable energy projects at Cabo Verde is largely embedded to two different institutions, namely MEPU and CEB, while for provision of fiscal incentives MOFED becomes involved. It was identified at the project design stage that there is some overlap in the respective jurisdictions, roles and responsibilities of MEPU and CEB. The project intended to correct this situation by developing an overarching strategy document on grid-connected PV electricity generation and sharpening the focus of the respective roles and responsibilities of MEPU and CEB (Outcome 1). However, due to delay of the project, this aspect has not been prioritized. This continues to pose institutional framework and governance risks to the sustainability of the project.

Considering that the Government of Cabo Verde is committed to promotion of renewable sources of energy and that this showcases the commitment of Cabo Verde to addressing the global problem of climate change, it is expected that in case such issues do come up they will be taken care at the highest level in the Government and will be resolved. From the view point of institutional framework and governance risks, the sustainability of the project is **Moderately Likely.**

7.5 Environmental risks to sustainability

There are practically no negative environmental impacts of the project. The project will lead to reduction in the emissions of GHG due to EE measures. The project will have local environmental benefits associated with the reduction in the consumption of fossil fuels. Such environmental benefits include reduction in the emission of local pollutants like NO_x, SO_x, Particulate matters and heavy metals (mercury, lead etc.). From the view point of environmental risk, sustainability of the project is **Likely.**

Overall sustainability of the project results is assessed to be likely.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

Mid-term review questions (see Annex B)

- Identify remaining barriers to achieving the project objective in the remainder of the project, and by reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits
- MTR Ratings & Achievement Summary Table will be provided, summarising the ratings on a) results, b) implementation and adaptive management, c) sustainability with a short description of the rating's justification

8.1.1 Summary of main findings and ratings

The following Table provides a summary of the ratings for;

- a) Progress towards Results
- b) Project Objectives
- c) Implementation and Adaptive Management
- d) Sustainability

Table 17: Mid-term review ratings and achievements summary

Main criteria	Rating ³¹	Explanation
Project Strategy	NA	<p>The energy sector in Cabo Verde, has a high dependency on imported fossil fuels. The government acknowledges the importance of reducing the dependence on imported fossil fuels and 'Energy Efficiency' has been identified as the key way to do so. Energy efficiency is also recognised by the government as a way to reduce the emissions of GHG.</p> <p>The project, 'Removing barriers to energy efficiency in the Cabo Verdean built environment and for appliances', is aimed to introducing EE measures in two large energy consuming sectors, namely the buildings and the appliances in the households. For the buildings the project plans to introduce 'Energy Efficiency Building Code' leading to reduction in the demand for energy due to improvements in the building design. In case of appliances the project plans to introduce minimum energy performance levels and the EE rating system, thereby giving the options to the buyers to buy appliances with higher EE.</p> <p>Apart from introducing the new EE laws for the buildings and appliances the project plans to remove the barriers towards uptake of the EE measures, thereby facilitating the implementation of the newly introduced rules. The proposed project is grouped into four Components / Outcomes, each consisting of a number of complementary activities designed to achieve the project goal.</p>
Progress towards results		
Project Objective	MS	<p>The stated objective of the project is 'Removal of barriers to energy efficiency in Cabo Verdean built environment and domestic appliance. Accordingly, the project design has components / activities which are specific either to the EE in buildings (EEBC) or to EE in appliances (S&L program)</p>

³¹ HS: Highly Satisfactory, S: Satisfactory, MS: Marginally Satisfactory, MU: Marginally Unsatisfactory, U: Unsatisfactory, HU: Highly Unsatisfactory, L: Likely, ML: Moderately Likely, MU: Moderately Unlikely, U: Unlikely

		<p>It is expected that by the end of the project, EEBC would be in place along with the requisite mechanism for its enforcement. However, the draft of the EEBC being considered for approval, is applicable for the new commercial buildings. It is not applicable for retrofitting of EE in the old buildings. Also it is not applicable for residential buildings. Thus, the potential for reducing the energy consumption due to EE measures in the buildings and the consequent reduction in the emission of GHG will remain untapped to a large extent, unless EEBC is made applicable for all types of buildings and provision in the EEBC is made for retrofitting of the important (large energy consuming) buildings with EE measures.</p> <p>For the EE in the appliances, it is expected that the S&L program would be in place by the end of the project. Also, the requisite infrastructure to implement the program is likely to be in place. The standards and EE labelling of the appliances has two parts, one part pertains to minimum energy performance level of the appliances in the country and the second part (EE labels) give is opportunity to the buyers of the appliances to go beyond the specified minimum energy performance levels. With the S&L program in place, it will be possible to attain the minimum energy performance level in the appliances. However, the EE in the appliance beyond the specified minimum performance level would be achieved only in case of a mass awareness creation amongst the buyers regarding the benefits of EE appliance.</p> <p>The activities for different Outputs of the project would get implemented towards the end of the project. The impacts of the efforts in terms of reduction in energy consumption and GHG emissions reductions would get realized only after the implementation of the project. There would not be any direct GHG emission reductions due to the project.</p>
- Outcome 1	MS	<p>The component of the project pertains to development of a policy, institutional, and legislative framework to support energy efficiency in buildings in Cabo Verde, through the introduction of an energy efficient building code (EEBC). As per project design, the new building code was also to introducing the concepts like energy audits, MEPS for buildings with a pilot action (under Outcome 3) on public buildings.</p> <p>At the time of MTR, the only activity within different activities for Outcome 1, where the progress is satisfactory is the development and implementation of the EEBC. Implementation of all other activities and achievement of the corresponding outcomes is much delayed. Rest of the activities under Outcome would get implemented only in case an extension for the implementation of the project is granted.</p> <p>Although, the EEBC code is likely to be approved by the end of the project, but it will be applicable only for the new commercial and public buildings, thereby significantly reducing the scale of impacts and results.</p>
- Outcome 2	S	<p>Outcome 2 of the project is focused on introducing a national framework for Standard & Labelling (S&L) of domestic appliances. Under this Outcome, the project is to develop regulations for adoption of minimum energy performance standards along with the labelling for the appliances as regards the level of energy efficiency. The appliances covered under the program are air-conditioners, domestic refrigerators, lighting products and electric storage water heaters. Later on (during implementation of the project washing machines were also added to the list). The project also envisages development and adoption of national certification procedures for the appliances.</p>

		<p>There are provisions for training on the new framework (standards and labels) for the key decision makers and other stakeholders (chamber of commerce, importer, retailers, and national administration).</p> <p>The only significant achievement for Outcome 2, at the time of MRT is the preparation of the draft of the standards and labelling program. The enabling activities like training of different stakeholders, the financing schemes, awareness creation, demand side management schemes etc. are being planned. Thus, in order to achieve the objectives a bit of catching up needs to be done. However, when viewed in terms of the indicators for Outcome 2, the progress towards results is Satisfactory.</p>
- Outcome 3	MS	<p>This component of the project is targeted to create demonstration regarding the benefits of energy efficient design of the buildings. It is envisaged that pilot projects with energy efficiency in buildings would be implemented (4 public buildings and 2 social housing programmes), showcasing best practices related to energy efficiency in buildings. The demonstration projects were to significantly comply with the technical sections of the new energy efficiency building code, developed under Outcome 1 of the project. It is envisaged that demonstration projects will facilitate creation of more energy efficient buildings in the country.</p> <p>This component of the project is also expected to support training of relevant building stakeholders (architects, engineers, designers, developers, financial institutions) on different aspects of energy efficient building design and the corresponding benefits. The Outcome 3 of the project is also expected to lead to generation of case studies (to be prepared under Outcome 4), thereby facilitating the replication regarding adoption of EEBC in the country.</p> <p>Somehow, the project has not been able to identify and implement the pilot projects for new buildings. The 'Project Document' has specified selection of either the new buildings or the retrofits in the existing buildings for the pilot projects. Against the intended action of demonstrating the results of EEBC by implementing it in some of the new buildings, the project could carry out EE measures in some of the existing buildings, wherein the action carried out included replacement of air conditioners, replacement of lamps, provision of solar PV. As retrofitting in the existing buildings provides only limited options (replacement of appliances, provision of insulation, replacement of lamps etc.) for improving the energy efficiency there is hardly any demonstration of the benefits of EEBC. Further, the improvement of the energy performance of the buildings due to replacement of lamps and appliances is already being taken care of by Outcome 2 of the project. Some of the air conditioners being replaced are already at the end of their life. Although, provision of solar PV is good, it certainly can't be considered as an EE measure.</p> <p>For the case studies the project is proposing, that the results of the energy simulation and the theoretically determined energy savings potential be used to prepare the case studies (best practices) and disseminated. Whereas, what is desired as per the project design is the real case studies from the pilot projects.</p>
- Outcome 4	MU	<p>The objective of this Outcome of the project is dissemination of the results of the project, so that the replication of the activities can take place. Different activities under this Outcome of the project includes preparation of case studies (for the good results from Outcome 1,2 and 3), a public awareness campaign, and a lessons learned study.</p> <p>As far as the EEBC code is concerned, it is likely to be approved by the end of the project, but it will be applicable only for the commercial and public</p>

		<p>buildings, thereby significantly reducing the scale of desired impacts and results. Thus, the outreach, information dissemination etc. would have only limited results. Also, due to the lacking in the achievement of results for Outcome 3, the effectiveness of the dissemination of results (with the objective of replication) would suffer.</p> <p>For the EE in appliances part of the outreach and awareness creation efforts, the results would be achieved only after the implementation of the project (and not by the end of the project). This is due to the fact that the implementation of the activities is expected to completed by the end of the project implementation timelines.</p>
Implementation and adaptive management	MS	<p>The project is being implemented under NIM with the DGE as the responsible agency for the achievement of the project results as the implementing partner (national implementing partner). The implementation of the project on a regular basis is done by the project management unit (PMU). The project has a full time national project manager (NPM). Service provider agencies (consulting firms) one each for building and appliances has been hired to carry out different activities under different outcomes and outputs of the project. The Project Steering Committee (PSC) is in place (although there were significant initial delays to formulate and put it in place) plays a critical role in project monitoring and evaluation by quality assurance, using evaluations for performance improvement, accountability and learning, and ensuring that required resources are committed and providing overall direction to the project team.</p> <p>In the present working and management arrangement 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.</p> <p>Project implementation has responded to changing conditions and risks, and taken advantage of opportunities for partnerships and actions that support the overall project objective. Management arrangements are in place in terms of a project team comprising of a National Project Director, a Project Manager and a Project Staff. A Steering Committee is in place and provides guidance to the Management team for the project. The present implementation arrangement lacks the required technical inputs.</p> <p>The project had a slow start due to delayed formation of the SC and delayed hiring of the two consulting firms for execution of the activities. There was no proper work plan for the first two years of project execution (2015 and 2016). The work planning from the year 2017 onwards is being done properly. The work plan for the year 2019 is already in place.</p> <p>A key reporting requirement, the inception report, was prepared after the inception workshop of the project in June 2015. However, the inception report did cover the important aspects like, the agreed work plans and other arrangements.</p> <p>No PIR for the project was prepared for the year 2015s PIRs for the project were prepared for the years 2017 and 2018. Although, the PIRs of the years 2017 and 2018 were prepared, the contents of the reports are not as per the requirements. While reporting the progress towards implementation the PIRs did not use the indicators provided in the log-frame (project document).</p> <p>Accordingly, the management of the project is rated as Marginally Satisfactory. With the recommended appointment of the 'Technical Advisor',</p>

		the situation is likely to change.
Sustainability	L	<p>At an aggregate level, technical risks to sustainability of the project are considered low. The financial sustainability of the project is assessed to be likely. At this mid-point in project implementation, socioeconomic sustainability is considered as likely. From the view point of institutional framework and governance risks, the sustainability of the project is Moderately Likely. From the view point of environmental risk, sustainability of the project is Likely.</p> <p>At an aggregate level the sustainability of the project is assessed as Likely</p>

8.1.2 Conclusions

The government of Cabo Verde acknowledges the importance of reducing its dependence on imported fossil fuels. Energy efficiency has been identified as a key area in which important cost savings can be made. Accordingly, Cabo Verde- National Energy Policy, 2008 sets out objectives to decrease the dependence on fossil fuel based energy sector. The policy aims for energy conservation, energy efficiency and strengthening of legal framework within the energy sector. Being the major end user of electricity, household appliances and buildings are the priority areas for energy efficiency and conservation related initiatives. There are a number of challenges and barriers to promote energy efficiency / conservation in buildings and appliances in the country. The present GEF project is targeted towards removal of such barriers. The project has specific components targeted at the EE in buildings and those targeted at EE for appliances, with very little interrelation between the activities to be carried out for EE in buildings and those to be carried out for EE in appliances. Thus, there is no synergy in combining the two aspects in a single project, except probably for the fact that given the size of the country, individually these components would have been quite small in terms of energy savings to justify a project.

The project, 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 the appliances. While, for the buildings the proposal is to introduce mandatory EEBC, for the appliances the proposal is to introduce a S&L program. The S&L program on one hand will ensure minimum energy performance level of the appliances, on the other hand it will promote adoption of appliances, with the EE levels beyond the minimum energy performance levels.

At the time of MTR, the progress made towards project implementation and achievement of results is not very encouraging. This is despite the fact that both EEBC and the S&L programs are likely to be in place by the end of the project. In case of EEBC, although the code is likely to be approved by the end of the project, but it will be applicable only for the new commercial and public buildings. The draft of the EEBC which has been put forward for approval is not applicable for residential buildings and for EE retrofitting in the existing buildings, thereby significantly reducing the scale of impacts and results. In case of S&L program, although the program is expected to be in place by the end of the project, the impacts are likely to be quite less. This is considering that the only significant achievement at the time of MRT is the preparation of the draft of the standards and labelling program. The enabling activities like training of different stakeholders, the financing schemes, awareness creation, demand side management schemes etc. are yet to be implemented.

Some of the reasons for such a situation includes, problems with the project design; delayed start of the project due to delayed hiring of the consulting firms responsible for implementation of the project activities. Some of the recommendations being made that the time of this MTR are expected to improve the situation and the results by the end of project.

8.2 Recommendations

Mid-term review questions (see Annex B)

- Corrective actions for the design, implementation, monitoring and review of the project
- Actions to follow- up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives

Recommendation 1:

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.

Recommendation 2:

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.

Recommendation 3:

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.

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. 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.

Recommendation 4:

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.

Recommendation 5:

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:

- 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).
- 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).
- 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).

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.

Recommendation 6:

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 6.

Recommendation 7:

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.

Recommendation 8:

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 to take care of this situation it is recommended to provide for an additional Output and the indicator (please see Table 6). It would be possible to achieve these only in case an extension of one year is granted for implementation of the project.

Recommendation 9:

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&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.

Recommendation 10:

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&V activities to the required level.

ANNEX A. TERMS OF REFERENCE

Mid-Term Review (MTR) for Project: Cabo Verde Appliances & Building Energy-Efficiency Project - CABEEP (PIMS 4996)

Terms of Reference

Application Deadline: 8th November 2018, 04.30 pm, Cabo Verde time **Category:** Energy and Environment **Type of Contract:** Individual Contract **Assignment Type:** International Consultant

Languages Required: English **Starting Date:** 19th November 2018 **Duration of Initial Contract:** 30 Working days **Expected Duration of Assignment:** 40 days

1. INTRODUCTION

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the Medium sized project titled Cabo Verde Appliances & Building Energy-Efficiency Project - CABEEP (PIMS4996) implemented through the National Directorate for Environment (DGA), Directorate General of Energy (Ministry of Industry, Commerce and Energy), Cabo Verde, which is to be undertaken in Year 2018. The project started on the July 30, 2015 and is in its second year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects http://web.undp.org/evaluation/documents/guidance/GEF/midterm/Guidance_Midterm%20Review%20_EN_2014.pdf).

2. PROJECT BACKGROUND INFORMATION

Cabo Verde have many challenges to promote energy efficiency in buildings and appliances. Indeed to reduce the barriers and bottlenecks, the United Nations Development Programme (UNDP) and Global Environment Fund (GEF) are supporting the Directorate National of Energy, Industry and Commerce (DNEIC) on the implementation of “Cabo Verde Appliances & Building Energy-Efficiency Project (CABEEP)”.

The project aim is to enable and facilitate market transformation leading to substantial energy savings and greenhouse gas reductions. 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. This is achieved through activities designed to support and strengthen the legal, regulatory and institutional frameworks, enhance the existing capacity, and raise awareness.

The project will propose a new law on building energy codes and introducing standards and labelling programme for imported domestic appliances thus resulting in significant energy savings. The proposed 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:

- 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 solution in a selection of public buildings through selected pilot demonstration projects Replication and dissemination of lessons learnt and best practices

3. OBJECTIVES OF THE MTR

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project's strategy, its risks to sustainability.

4. MTR APPROACH & METHODOLOGY

The MTR must provide evidence based information that is credible, reliable and useful. The MTR team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review). The MTR team will review the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTR field mission begins.

The MTR team is expected to follow a collaborative and participatory approach ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to Energy departments, executing agencies, senior officials and task team/ component leaders, key experts and consultants in the subject area, Project Steering Committee, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR team is expected to conduct field missions to in Praia, including the following project sites in Santiago Island.

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

5. DETAILED SCOPE OF THE MTR

The MTR team will assess the following four categories of project progress. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for extended descriptions.

i. Project Strategy

Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
- Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly

incorporated into the project design?

- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement. Results Framework/Log-frame:
- Undertake a critical analysis of the project's log-frame indicators and targets, assess how "SMART" the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc.) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART 'development' indicators, including sex-disaggregated indicators and indicators that capture development benefits.

ii. Progress Towards Results

Progress Towards Outcomes Analysis: Review the log-frame indicators against progress made towards the end-of-project targets using the

Progress Towards Results Matrix and following the *Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; color code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved" (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicator	Baseline Level	Level in 1st PIR (self-reported)	Midterm Target	End-of-project Target	Midterm Level & Assessment	Achievement Rating	Justification for Rating
Objective:	Indicator (if applicable):							
Outcome 1:	Indicator 1:							
	Indicator 2:							
Outcome 2:	Indicator 3:							
	Indicator 4:							
	Etc.							
Etc.								

Indicator Assessment Key

In addition to the progress towards outcomes analysis:

- Compare and analyze the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Review.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

iii. Project Implementation and Adaptive Management

Management Arrangements:

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement. Work Planning:
- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ log-frame as a management tool and review any changes made to it since project start. Finance and co-finance: ³ Populate with data from the Log-frame and scorecards. Populate with data from the Project Document. If available Color code, this column only. Use the 6 point Progress Towards Results Rating

Scale: HS, S, MS, MU, U, HU

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
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- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans? Project-level Monitoring and Evaluation Systems:
- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being

allocated effectively?

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners. Communications:
- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)

For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

iv. Sustainability

Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.

In addition, assess the following risks to sustainability:

- Financial risks to sustainability: What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?
- Socio-economic risks to sustainability: Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key

stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

- Institutional Framework and Governance risks to sustainability: Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.
- Environmental risks to sustainability: Are there any environmental risks that may jeopardize sustenance of project outcomes?

Conclusions & Recommendations

The MTR team will include a section of the report setting out the MTR's evidence-based conclusions, in light of the findings.

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR team should make no more than 15 recommendations total. Alternatively, MTR conclusions may be integrated into the body of the report. UNDP-GEF MTR ToR International Consultant Cabo Verde Appliances & Building Energy-Efficiency Project

The MTR team will include its ratings of the project's results and brief descriptions of the associated achievements in a *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTR Ratings & Achievement Summary Table for Cabo Verde Appliances & Building Energy-Efficiency Project - CABEEP

Measure	MTR Rating	Achievement Description
Project Strategy	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
Project Implementation & Adaptive Management		
Sustainability		

6. TIMEFRAME

The total duration of the MTR will be approximately 30 days over a time period of 7 weeks starting 12 November 2018, and shall not exceed five months from when the consultant(s) are hired. The tentative MTR timeframe is as follows:

TIMEFRAME	ACTIVITY
8 November 2018	Application closes
15 November 2018	Select MTR Team
19 November 2018(date)	Prep the MTR Team (handover of Project Documents)
20 to 22 November (3 days)	Document review and preparing MTR Inception Report
23 November 2018 (1 day)	Finalization and Validation of MTR Inception Report- latest start of MTR mission
26 to 30 November 2018 (5 days)	MTR mission: stakeholder meetings, interviews, field visits
30 November 2018	Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission
3 to 7 November (5 days)	Preparing draft report
10 to 21December (10 days)	Incorporating audit trail from feedback on draft report/Finalization of MTR report
27 December 2018	Preparation & Issue of Management Response
31December 2018	Expected date of full MTR completion

Options for site visits should be provided in the Inception Report.

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	MTR Inception Report	MTR team clarifies objectives and methods of Midterm Review	No later than 4 days before the MTR mission: (15 November 2018	MTR team submits to the Commissioning Unit and project management for approval
2	Presentation	Initial Findings	End of MTR mission: 23 November 2018	MTR Team presents to project management and the Commissioning Unit
3	Draft Final Report	Full report (using guidelines on content outlined in Annex B) with annexes	Within 5 days of the MTR mission: 30 November 2018	Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, GEF OFP for approval
4	Final Report*	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	Within 2 days of receiving UNDP comments on draft: 7 December 2018	Sent to the Commissioning Unit

*The final MTR report must be in English. If applicable, the UN Joint Office Cabo Verde may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

8. MTR ARRANGEMENTS

The principal responsibility for managing this MTR resides with the UN Joint Office Cabo Verde,

Head of Energy, Environment and Climate Change Portfolio, Maria Celeste Benchimol. The Commissioning Unit for this project's MTR is UN Joint Office Cabo Verde.

The UN Joint Office Cabo Verde will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the MTR team. The Project Team will be responsible for liaising with the MTR team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

9. TEAM COMPOSITION

A team of two independent consultants will conduct the MTR - one team leader (with 15 years of experience and exposure to projects and evaluations in other regions globally) and one team expert (a national expert with 7 years of evaluation experience and knowledge of Energy, Climate Change policies and issues). The consultants cannot have participated in the project preparation, formulation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas:

- Recent experience with result-based management evaluation methodologies; (15 points)
- Experience applying SMART indicators and reconstructing or validating baseline scenarios; (10 points)
- Competence in adaptive management, as applied to Climate Change; (10 points)
- Experience working with the GEF or GEF-evaluations; (15 points)
- Experience working in Africa; (5 points)
- Work experience in relevant technical areas for at least 10 years; (10 points)
- Demonstrated understanding of issues related to gender and Climate Change; experience in gender sensitive evaluation and analysis. (10 points)
- Excellent communication skills; (5 points)
- Demonstrable analytical skills; (5 points)
- Project evaluation/review experiences within United Nations system will be considered an asset; (5 points)
- A Master's degree in Energy, Environment Science, Natural Resource Management, or other closely related field. (10 points)

10. PAYMENT MODALITIES AND SPECIFICATIONS

- 10% of payment upon approval of the final MTR Inception Report
- 30% upon submission of the draft MTR report
- 60% upon finalization of the MTR report

11. APPLICATION PROCESS

Recommended Presentation of Proposal:

- a) **Letter of Confirmation of Interest and Availability** using the [template](#) provided by UNDP;
- b) **CV and a Personal History Form;**
- c) **Brief description of approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they

will approach and complete the assignment; (max 1 page)

- d) **Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc.), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

All application materials should be submitted to the address Procurement.cv@cv.jo.un.org indicating the following reference “Consultant for Cabo Verde Appliances & Building Energy-Efficiency Project – CABEEP, Midterm Review. For more information please contact in the email address humanresources.cv@cv.jo.un.org.

The application must include a financial and technical proposal, updated Curriculum vitas each with a list of three professional referees of the Consultants, a letter of applications and United Nations Personal History Form (P.11) Incomplete applications will be excluded from further consideration.

Criteria for Evaluation of Proposal: Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP’s General Terms and Conditions will be awarded the contract.

ANNEX B. MID TERM REVIEW CRITERIA AND QUESTIONS

Contents	Main review criteria and questions
4. Findings: Project strategy <p>4.1 Project Design</p> <ul style="list-style-type: none"> • Problem being addressed • Relevance and country drivenness <p>4.2 Results framework / Log-frame</p> <ul style="list-style-type: none"> • Log-frame; risks and assumptions; Indicators • Stakeholder participation; linkages with other initiatives; replication approach 	<ul style="list-style-type: none"> • What is the problem being addressed by the project and are the underlying assumptions correct? • Does the project strategy provide the most effective route towards expected/intended results? • Were lessons from other relevant projects properly incorporated into the project design? • How the project addresses priorities of Cabo Verde. Was the project concept in line with the national sector development priorities and plans of Cabo Verde? • Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes? • To what extent relevant gender issues were raised in the project design. • Are there are major areas of concern, recommend areas for improvement. • Does the project adequately take into account the national realities, both in terms of institutional and policy framework in its design and implementation? • Is the project country-driven? • If the project progress is not good, what changes could have been made (if any) to the project design in order to improve the achievement of the project's expected results during rest of the project implementation period <ul style="list-style-type: none"> • How 'SMART', (Specific, Measurable, Attainable, Relevant, Time-bound), the midterm and end-of-project targets are. • Are the project's objectives and outcomes or components clear, practical, and feasible within its time frame? • Has the progress so far led to, or could in the future catalyse, beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc.) that should be included in the project results framework and monitored on an annual basis. • Are the broader development and gender aspects of the project are being monitored effectively?
5. Findings: Progress towards results <p>5.1 Attainment of outcomes and outputs</p> <ul style="list-style-type: none"> • Progress towards outcomes analysis • Remaining barriers to achieve project objectives <p>5.2 Global environmental and other impacts</p> <ul style="list-style-type: none"> • GHG emission reduction estimates • Other impacts 	<ul style="list-style-type: none"> • Review the log-frame indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix, with progress indicators for outcomes/outputs, indicating baseline and target levels, as well as current level and/or reported in PIR linked with ratings for each outcome <ul style="list-style-type: none"> • Results in terms of contribution to sustainable development benefits, as well as global environmental benefits (direct and indirect emission reduction) • Compare and analyse the GEF Tracking Tool at the Baseline with the one completed at the time of mid-term review • What is the status and issues with implementation of Energy Efficiency in buildings and appliances in Cabo Verde? • What are the remaining barriers to achieving the project objective in the remainder of the project? • What are the aspects of the project that have already been successful and what are

Contents	Main review criteria and questions
	the ways in which the project can further expand these benefits?
6. Findings: Project implementation 6.1 Adaptive management and planning; monitoring and evaluation <ul style="list-style-type: none"> • Management • Work planning • Reporting • Communications • M&E systems 6.2 Stakeholder engagement 6.3 Finance and co-financing	<ul style="list-style-type: none"> • <i>Management</i>: appropriateness of the institutional arrangement and whether there was adequate commitment to the project? Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement; Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement; Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement • <i>Work planning</i>: Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved; Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results? Examine the use of the project's results framework/log frame as a management tool and review any changes made to it since project start. • <i>Reporting</i>: Assess how adaptive management changes have been reported by the project management and shared with the Project Board; Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?); Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalised by partners. • <i>Communications</i>: Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results? Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?); • <i>M&E</i>: Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive? Examine the <i>financial management</i> of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively? • <i>Project management</i>: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders? • <i>Participation and country driven processes</i>: Do local and national Government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation? • <i>Participation and public awareness</i>: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives? • Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. • Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.

Contents	Main review criteria and questions
	<ul style="list-style-type: none"> Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds? Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?
7. Findings: Sustainability 7.1 Project risks 7.2 Financial risks to sustainability 7.3 Socio-economic to sustainability 7.4 Institutional framework and governance risks to sustainability 7.5 Environmental risks to sustainability	<ul style="list-style-type: none"> Whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why. <i>Financial</i>: What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)? <i>Socioeconomic</i>: Are there any social or political risks that may jeopardise sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by Governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future? <i>Institutional</i>: Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardise sustenance of project benefits? <i>Environmental</i>: Are there any environmental risks that may jeopardise sustenance of project outcomes?
8. Conclusions and recommendations 8.1 Conclusions <ul style="list-style-type: none"> Summary of main findings and of ratings; statements on strengths and weaknesses Remaining barriers 8.2 Recommendations	<ul style="list-style-type: none"> Identify remaining barriers to achieving the project objective in the remainder of the project, and by reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits MTR Ratings & Achievement Summary Table will be provided, summarising the ratings on a) results, b) implementation and adaptive management, 3) sustainability with a short description of the rating's justification 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

ANNEX C. DOCUMENTS REVIEWED

1	Back to office Report	
		2016
		2017
		2018
2	Contracts	
		Individual services contract
		Company services contracts
3	Inception Report	
4	PIR	
		PIR 2017
		PIR 2018
5	GEF CC Mitigation Tracking Tool	
6	Work plans	
		2015
		2016
		2017
		2018
		2019
7	Technical Committee Reports	
		Appliance
		Buildings
8	Steering committee Reports	
		First Meeting
		Second Meeting
9	Piloting Committee	
		First Meeting
		Second Meeting
10	Quarterly reports 2018	
		Q1
		Q2
		Q3
11	Combined Delivery Report (CDR)	
		CDR - 2015
		CDR - 2016
		CDR - 2018
12	Steering Committee Dispatch	
13	Technical Committee Reports	
		Buildings
		Appliances
14	Project Documents	
15	Deliverables for Outcome 1	
		Inception Report
		Second Interim Report on EMS
		Draft Work Plan-2019
		Report on training of the trainer
		CERTIFICATION PROGRAMS
		Training of Students
		Power Point Presentation for Training
		Interim Report - Training programs for key stakeholders on energy

		efficient building
		Evaluation Results for Training
		Cabo Verde-Protocol to measure energy savings
		Energy Efficiency Building Code
		Building Technical Code EEBC
		Compliance & Enforcement mechanism
		Municipalities training
		Report Training of Engineer
		Report for Training of Municipal officials - Santiago
		Brochure EEBC
		Inception Report
		Report- Implementation Strategy for Amendment to Construction Permit Regulation
		PPT for Awareness Workshop for Engineers
		PPT for Awareness Workshop for Municipalities
		Protocol to measure energy savings
		Interim Report- Best Practice Guide
16	Deliverables for Outcome 2	
		Work Plan 2019
		National labeling program
		Air conditioning labeling program
		Refrigerators labeling program
		Televisions labeling program
		Lamps labeling program
		Water heaters labeling program
		Washing machines labeling program
		Amendment of Law 17 VIII 2012_v2
		label proposals
		Proposed Seal of Guarantee National Tagging
		Process of implementation certification
		Incentive Program
		Program Management
		Public sensitization program
		Sensitization Program for key Stakeholders
17	Outcome 3 (Pilot Projects)	
		MRV Protocol
		Report- M&R
		Pilot Projects
		DNA Building
		MIOTH Building 1
		MIOTH Building 2
		Project Pilot Santa Cruz
		Reports
		Project EDSC Report
18	Outcome 4 (Case Studies, Out reach)	
		Building Energy Simulation studies
		Dissemination products

ANNEX D. LIST OF PERSONS INTERVIEWED, MISSION AGENDA AND ITINERARY

Date	Activities	Location	Participants
Monday, 7 January 2019	Meeting with the UNDP	UNDP	Maria Celeste Benchimol – UNDP Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting of the International and the National Consultant for MTR on the approach for MTR	UNDP	Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with the Country Team	Centre for Renewable Energies and Industrial Maintenance (CERMI)	Edson Mendes – Coordinator UCPEEE Isauda Monteiro – Project Assistant UCPEEE Carla Tavares – Communication Specialist UCPEEE. Maria Celeste Benchimol - UNDP Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
Tuesday, 8 January 2019	Meeting and discussions with the Project Team	UNDP	Edson Mendes – Coordinator UCPEEE Isauda Monteiro – Project Assistant UCPEEE Carla Tavares – Communication Specialist UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with the National project Director	National Directorate of Industry, Commerce and Energy (DNICE)	Rito Évora – National Director of Industry Commerce and energy Carlos Monteiro – Director of Energy Services /DNICE Ariel Assunção – Directorate of Energy Service (DSE/DNICE) Maria Celeste Benchimol - UNDP Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with Center for Renewable Energies and Industrial Maintenance (CERMI)	CERMI	Luis Teixeira – President CERMI Luis Pina – CERMI Gilson Correia – CERMI Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Skype meeting with the Consultant GESTO	CERMI	Miguel Pita – President GESTO Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with the Consultant for the Energy Audits of the buildings for pilot projects - Company Equilibrium	CERMI	José Carvalho – President Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Visit to the Pilot Project Site: Ministry of Agriculture and Environment Building	National Directorate of Environment (DNA)	Isauda Monteiro – Project Assistant UCPEEE Mário Dantas – DNA Nídia Rosa - DNA Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with National Directorate	DNA	Alexandre Rodrigues – National Director of Environment Isauda Monteiro - Project Assistant UCPEEE

Date	Activities	Location	Participants
	of Environment (DNA)		Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
Wednesday, 9 January 2019	Skype meeting with Regional Technical adviser	PNUD	Saliou Touré - Regional Technical adviser Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with Engineer's Order CV (OECV)	Engineer's Order (OECV)	Victor Coutinho - Engineer's order Bastonary Isauda Monteiro - Project Assistant UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with National Institute of Land Management (INGT)	INGT	Ilce Amarante - President Fatima Fernandes – INGT Carlos Monteiro – DSE/DNICE Isauda Monteiro - Project Assistant UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with National Association of Municipalities (ANMCV)	Municipality of Ribeira Grande de Santiago	Manuel de Pina – President ANMCV Isauda Monteiro - Project Assistant UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with of the Architects' Order of Cabo Verde	OACV	João Pedro Martins – Architect Isauda Monteiro - Project Assistant UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
Thursday, 10 January 2019	Visit to the communities of Rocha Lama and Achada Igreja	Municipality of Santa Cruz	Maria Celeste Benchimol – UNDP Edson Mendes - Coordinator UCPEEE Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant Communities - Vitalina Lopes, Maria da Graça Correia
	Skype meeting with PWC	UNDP	Rageev Ralhan – Director Clean Energy Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Preparation of the restitution meeting with partners	UNDP	Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
Friday, 11 January 2019	Restitution meeting with partners	UNDP	Nélida Rodrigues - UNDP Maria Celeste Benchimol - UNDP Carlos Monteiro – Director of Energy Services /DNICE Ariel Assunção – Directorate of Energy Service (DSE/DNICE) Edson Mendes – Coordinator UCPEEE Isauda Monteiro – Project Assistant UCPEEE Carla Tavares – Communication Specialist UCPEEE. Neiva Centeio - National Directorate of Environment Helga Barbosa Vicente – National Institute of Land Management José António Carvalho - Institute of quality Management and Intellectual Property (IGQPI) Gilson Gomes – Center for Renewable Energies and Industrial Maintenance (CERMI) João Pedro Barbosa - Architects' Order of Cabo Verde Natalina Almeida – DGPCP Antonino - National Institute of Meteorology and Geophysics Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with UCPEEE	DSE	Edson Mendes – Coordinator UCPEEE Isauda Monteiro – Project Assistant UCPEEE Carla Tavares – Communication Specialist UCPEEE. Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant
	Meeting with PNUD,	DSE	Edson Mendes – Coordinator UCPEEE

Date	Activities	Location	Participants
	DSE, UCPEEE		Isauda Monteiro – Project Assistant UCPEEE Carla Tavares – Communication Specialist UCPEEE. Dinesh Aggarwal – International Consultant Margarida Santos – National Consultant

ANNEX E. RATING SCALE /DEFINATION

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as “good practice”.
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (MU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as “good practice”.
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project’s closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

ANNEX F. CONSULTANT CODE OF CONDUCT FORM

Evaluators/reviewers:

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, minimise 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 limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation/reviewer Consultant Agreement Form

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

Name of Consultant: Dinesh Aggarwal (on behalf of the team)

Name of Consultancy Organisation (where relevant): _____

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

ANNEX G. AUDIT TRAIL

Audit Trail is being provided in a separate file

ANNEX H. EVALUATION REPORT CLEARANCE FORM

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: _____

Signature: _____ Date: _____

UNDP GEF RTA

Name: _____

Signature: _____ Date: _____