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**Ministry of Energy and Public Utilities
The Government of the Republic of Mauritius**

**UNDP/GEF Project: Removal of Barriers to Energy
Efficiency and Energy Conservation in Buildings
(PIMS 3001)**

Terminal Evaluation Report

December 5, 2014

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ABBREVIATIONS

AFD	Agence Française de Développement
AOSIS	Alliance of Small Island States
APR	Annual Progress Report
CDM	Clean Development Mechanism
CEB	Central Electricity Board
CEO ER	GEF Chief Executive Office Endorsement Request
CFL	Compact Fluorescent Lamp
CO	Country Office
EA	Executing Agency
EE	Energy efficiency
EEMO	Energy Efficiency Management Office
EEU	Energy Efficiency Unit
EOI	Expression of Interest
EOP	End-of-Project
ER	Emission reduction
EU	European Union
FiT	Feed-in Tariff
GEF	Global Environment Facility
GHG	Greenhouse gas
IA	Implementing Agency
kWh	Kilowatt-hour
Log-frame	Logical framework matrix
M&E	Monitoring and Evaluation
MEPU	Ministry of Energy and Public Utilities
MoF	Ministry of Finance
MPI	Ministry of Public Infrastructure
MW	Megawatt
MWh	Megawatt-hour
NGO	Non-governmental Organisation
PIR	Project Implementation Report
ProDoc	UNDP Project Document
PIR	Project Implementation Report
PMU	Project Management Unit
PSC	Project Steering Committee
RE	Renewable Energy
Rs	Mauritian Rupee
RTA	Region-based Technical Advisor
SFD	Social Fund for Development
SIDS	Small Island Developing States
SIDS-Dock	A project designed as a “Docking Station” to connect the energy sector in SIDS with the the global market for finance, technology and carbon.
TA	Technical Assistance
toe	tonne oil equivalent, a unit of energy equivalent to one tonne of oil
UNDP	United Nations Development Programme
UNDP-GEF project	UNDP-implemented, GEF-financed project
UNFCCC	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

The UNDP-implemented, GEF-financed project, ‘Removal of Barriers to Energy Efficiency and Conservation in Buildings in Mauritius, started in 2007 with the goal of sustainably reducing greenhouse gas (GHG) emissions through a transformation of the building energy efficiency market in Mauritius. Through examination of the available documents and interviews with stakeholders, it is clear that the energy efficiency landscape in Mauritius has been transformed compared with the start of the project at both the policy and regulatory levels. Stakeholders and market participants are now aware of energy efficiency measures and their importance. The project has also encouraged and put in place an enabling environment for work by other development agencies, such as AFD (as noted in an interview with AFD representative). A legislative framework is in place to promote energy efficiency. However, the implementation of legislation and enabling direct energy savings has happened only to a very limited extent within the project timeframe. The effect of the project has gone beyond its initial targets and beyond energy savings in buildings through the following specific and durable project achievements at the policy level:

- Passing a far-reaching Energy Efficiency Act as law (2011), establishing an independent Energy Efficiency Management Office (EEMO), under MEPU with its own management committee. This is well beyond the original target of establishing an Energy Efficiency Unit
- Including building energy performance in the new Building Control Act (2012)
- Initiating an appliance labelling scheme which will become mandatory in 2015
- Using project infrastructure to establish a grid code and a feed-in tariff
- Securing a Small Island Developing States Dock (SIDS-Dock) project to promote industrial energy efficiency
- Enabling Mauritius to receive a €50 million Energy Support Loan and a €1.5 million technical assistance package from Agence Française de Développement (AFD) by supporting the establishment of the EEMO, which was one of the conditions for disbursement of the first installment of the loan.

The above achievements notwithstanding, the project has faced difficulties – in particular, with hiring and retaining a project manager and with procurement. These difficulties, in combination with ambitious project targets, have meant that several of the quantitative project outputs and associated greenhouse gas (GHG) reductions have been pushed beyond the end of the project and are, at the time of this evaluation, unmet. UNDP is currently receiving bids from consultants for a scope of work which will, to a large extent, accomplish the targets established in the UNDP-implemented, GEF-financed project (UNDP-GEF project).

Table A: Project Summary Table

Project Title:	Removal of Barriers to Energy Efficiency and Conservation in Buildings in Mauritius			
GEF Project ID:	2241		at endorsement (Million US\$)	at completion (Million US\$)
UNDP Project ID:	PIMS 3001 (58178)	GEF financing:	912,411.00	826,746.55 ¹
Country:	Mauritius	IA/EA own:	338,295.00	300,000.00
Region:	Africa	Government:	219,892.00	10,400,000.00

¹ Total spending of \$868,273.59 is reported by the CO as stated in the Combined Delivery Report. A further \$44,137.41 remain to be spent on the Terminal Evaluation, fees to the CEB related to their energy efficiency campaign, and awareness materials. Together these constitute spending of \$912,411 of GEF funds.

Focal Area:	Climate Change - Mitigation	Other:	4,680,000 (includes \$4.5 million unconfirmed at CEO ER)	-
FA Objectives, (OP/SP):	Promoting energy efficiency in residential and commercial buildings	Total co-financing:	5,238,187.00 (including \$4.5 million unconfirmed)	10,700,000.00
Executing Agency:	Ministry of Energy and Public Utilities	Total Project Cost:	6,150,598.00	11,526,746.55
Other Partners involved:	Ministry of Public Infrastructure, Central Electricity Board, Ministry of Environment and Sustainable Development	ProDoc Signature (date project began):		31/10/2007
		(Operational) Closing Date:	Proposed: 10/2010 Actual: 31/12/2014	

The quantitative evaluation and rating of the project is made difficult by its almost bi-modal distribution of outputs. Some outputs have been achieved well beyond what was envisioned, others not at all.

The project receives an overall rating of “Moderately Satisfactory” because, even though it has not met some of the quantitative outcomes and outputs and has long exceeded its time schedule, it has managed to exceed its GHG reduction target and put in place durable and sustainable changes that can be convincingly shown to have made a change in the energy efficiency landscape in Mauritius and that can be expected to yield the desired reductions in the future. Nonetheless, four years after the originally planned close, significant project outputs remain unachieved (see Table C Summary Evaluation of the Log Frame). Had these outputs been achieved, the project would have been rated “Highly Satisfactory” overall. Had the Energy Efficiency Act, Building Control Act, and FiT not been passed into law, and had the GHG reductions achieved through the FiT not occurred, the project would have been rated “Highly Unsatisfactory”. Given that the project has achieved its target emissions reductions through lasting mechanisms, and has put in place the desired legislation, a rating of “Moderately Unsatisfactory” is not justified. At the same time, despite its achievements, a rating of “Satisfactory” is somewhat difficult to assign with outputs that have not been achieved as of yet. Hence, the rating of “Moderately Satisfactory” is assigned.

The project outcomes that have been met or exceeded (such as passing an Energy Efficiency Act, creating a feed-in tariff, and including industrial energy efficiency through SIDS-Dock), and which were not envisaged in the original project, are more significant in view of long-term energy savings and GHG reductions than the outcomes that have not been achieved, such as conducting building energy audits. All project components are highly relevant to Mauritius, and have thus been given a “Highly Satisfactory” ranking. Efficiency and Effectiveness of implementation are rated as “Moderately Satisfactory” for the reasons above. Monitoring and evaluation is rated overall as “Moderately Satisfactory” because the Mid-term and terminal evaluations have been conducted as planned. M&E Plan Implementation is rated as “Moderately Unsatisfactory” because baseline and end of project impact assessments have not been conducted, leaving little quantitative data with which to assess project impacts. Sustainability of the project is assessed as “Likely” in all categories, except financial, because of the legislation establishing an independent Energy Efficiency Management Office and because of the awareness

observed on energy efficiency matters during the interviews and because of the breadth of involvement of Government agencies in activities related to energy efficiency. Financial sustainability is rated as “Moderately Likely”, primarily because the Energy Efficiency Management Office is dependent on the MEPU for its budget, which leaves a small measure of uncertainty in the security of its long-term funding. This does not represent a significant concern, but nonetheless warrants note. It should be noted that EEMO has considerably more financial independence than an Energy Efficiency Unit originally envisaged in the CEO ER and ProDoc. EEMO also has its own management committee with representatives from almost all stakeholders adding an additional measure of independence.

Assignment of responsibility between the IA (UNDP) and EA (MEPU) on execution is difficult given the Government’s decision mid-project to shift responsibility for hiring of project managers. Cooperation between the IA and EA at a high level was evident in the evaluation and was a clear factor in enabling the passage of legislation. As a result, both are assigned a “Moderately Satisfactory” rating for execution. Nonetheless, the overall quality of implementation/execution of the project is assigned a rating of “Moderately Unsatisfactory” as it has not achieved several of its targeted outputs despite ending in 2014 instead of 2010. These outputs could have been achieved with better focus or availability of a dedicated long-term project manager.

The UNDP-GEF project supported the MEPU in the establishment of a feed-in tariff for renewable energy. As a result of this FiT, 2,459 kW of distributed renewable energy have been installed as of December 2013, and have resulted in direct emissions reductions of 53,481 tCO₂. Although establishment of a FiT was not an output of the project at inception, project staff time and resources were devoted to its development. These resources were credited with making the FiT possible. The FiT is responsible for the direct emissions reductions attributable to the project.

Table B: Summary Evaluation of Project

Evaluation Ratings:			
1. Monitoring and Evaluation	rating	2. IA& EA Execution	Rating
M&E design at entry	S	Quality of UNDP Implementation	MS
M&E Plan Implementation	MU	Quality of Execution - Executing Agency	MS
Overall quality of M&E	MS	Overall quality of Implementation / Execution	MU
3. Assessment of Outcomes	rating	4. Sustainability	Rating
Relevance	HS	Financial resources:	ML
Effectiveness	MS	Socio-political:	L
Efficiency	MS	Institutional framework and governance:	L
Overall Project Outcome Rating	MS	Environmental :	L
		Overall likelihood of sustainability:	L

Table C: Summary Evaluation of the Log-frame

Project Strategy	Objectively Verifiable Indicators	Assumptions	Assessment at Terminal Evaluation
Goal			
To reduce GHG emissions sustainably through a transformation of the building energy efficiency market for existing and new buildings	10-year target CO ₂ equivalent emissions are reduced by an accumulated total of 245,00 tonnes over 10 years End-of-project target:	Effective enforcement of regulations and standards is sustainably maintained after the end of the project Project support is consistent throughout	<ul style="list-style-type: none"> • The project has resulted in 53,481 tCO₂ of direct emissions reductions due to the establishment of a feed-in tariff. • Emissions reductions

	<p>42,000 tonnes of CO₂ avoided due to 30 verified investments in energy efficiency measures in buildings</p> <p>Mid-project target: 9,000 tonnes of CO₂ avoided; 5 verified investments in energy efficiency measures in buildings</p>	<p>project by Government and donors and afterwards by Government</p> <p>Electricity prices remain stable or continue to rise and act as an incentive for investment in energy saving.</p>	<p>through mechanisms envisaged at the start of the project have not occurred at the time of the terminal evaluation. They are expected to occur under the activities of a currently open tender.</p>
Outcomes			
<p>Outcome 1: Building regulations and codes for energy saving are developed, enacted and sustainably enforced.</p>	<p>End-term target: Regulations and codes developed during project are enacted, and enforced in 100% of building permits issued</p> <p>Over 90% compliance to building regulations</p> <p>The future of the Energy Efficiency Unit ensured through Government budget allocations</p> <p>Draft legislation for appliance labelling systems created</p> <p>Mid-term target: Building regulations and codes drafted and necessary legislation enacted</p>	<p>On-going support from Government and concerned stakeholders</p> <p>Regulations developed by stakeholders are adopted by Government</p>	<p>Regulations have been developed, beyond those originally envisaged by the project. A far-reaching Energy Efficiency Act has been passed, as well as a Building Control Act and a feed-in tariff.</p> <p>An Energy Efficiency Management Office (EEMO) has been established by law, assuring its future operation. Its budget is assigned by MEPU as a separate line item. Staffing of EEMO has been challenging. There is at present only an acting director, one engineer, some interns, and two engineers expected to join.</p> <p>Codes following from the regulations under the Building Control Act are still in draft form and not enforced. Therefore, there is no compliance.</p> <p>Appliance labelling is in place on a voluntary basis and is expected to become mandatory early in 2015.</p>
<p>Outcome 2: Demand and supply for energy-saving services and technology stimulated</p>	<p>End-term target: At least 10 trained and competent local energy auditors have met sufficiently high standards to be included on the approved list maintained by the PMU</p> <p>At least 50 energy audits have been carried out under the energy audit scheme, with 30 going forward to investment</p> <p>At least 10 architects qualify as</p>	<p>On-going growth or sustaining of energy (electricity) prices</p>	<p>Training of local auditors has occurred but certification has not, and a list is not maintained by the PMU.</p> <p>30 industrial energy audits have been carried out under the SIDS-Dock project, which has been a continuation of the UNDP-implemented, GEF-financed project. At least 20 have gone on to implement recommendations and realise</p>

	<p>energy saving experts</p> <p>Mid-term target: At least 10 local engineers are working to qualify as approved energy auditors</p> <p>20 energy audits have been carried out under the audit scheme</p>		<p>some savings.</p>
<p>Outcome 3: Building engineers, architects, compliance officers, policy makers, financial sector, suppliers and public are convinced of importance and market opportunities for building energy saving</p>	<p>End-term target: Number of commercial actors in building energy saving sector increased by a factor of 10 since start of project</p> <p>Mid-term target: Number of commercial actors in building energy saving sector increased by a factor of 5 since start of project</p>		<p>The number of commercial actors in the sector has clearly increased. They are currently estimated to be 20-30 in total. A reliable baseline is not available but the increase may be close to ten-fold.</p>
<p>Outcome 4: Monitoring, learning, adaptive feedback and evaluation</p>	<p>Target: Measured indicators of project outputs and project impacts</p> <p>At least 2-3 project technical reports and/or publications</p>		<p>The project has produced 17 technical reports and publications.</p> <p>As of this Terminal Evaluation, an impact measurement of a public awareness campaign is being conducted.</p>

Replicability of the Project activities within Mauritius is possible in other fields but, given the small size of the country, there is no scope for replication of the same activities as they already cover the entire island. Replicability in other Small Island Developing States (SIDS) is likely. Mauritius is a leader in this field among SIDS, as demonstrated by the generous award received under the SIDS-Dock project (US\$ 1 million).

Key Recommendations

Recommendation 1: The completion of project outcomes through the current UNDP Tender for Consultancy Services to Assist the Energy Efficiency Management Office in Energy Audit Management and to Develop an Energy Efficiency Building Code Compliance Scheme

The tender currently underway by UNDP, under the SIDS-Dock continuation of the UNDP-implemented, GEF-financed project, promises to achieve a number of outputs not achieved under the UNDP-GEF project. The careful implementation and monitoring of the activities under the current tender as part of the SIDS-Dock project, as well as involvement of key stakeholders in the selection of the consultant, will be important to the project's success.

Recommendation 2: A focus on staffing, training and guidance for the Energy Efficiency Management Office (EEMO)

The staffing and training of the EEMO are critical for the long-term sustainability of the project's impacts. Staffing, of the project and the EEMO, has been the key reason for delays in the project and the project's failure to achieve certain outcomes. Therefore, a focus on continuity of staffing in the future will be critical to the long-term success and sustainability of the project's achievements. Specifically, this can include:

- Long-term, focused training for EEMO staff (training is already part of the present UNDP tender for Consultancy Services for energy auditors).
- Staffing efforts from both within and outside Mauritius. Attempts were made to recruit international staff for the EEMO, with a generous allowance, but lack of effective advertisement of the positions led to no results.
- Coordinating with other, well developed, national energy management organisations to send EEMO staff for internships of six months to a year can be very valuable.
- EEMO has a management committee which helps guide its activities. The committee is already fairly well composed but could benefit from the inclusion of a representative of the Central Electricity Board (CEB).

Recommendation 3: Enhancement of municipalities' capacities to enforce the Building Control Act

At present, local authorities have limited ability to enforce existing building codes. In general, violations are often met with small penalties, after which the violations become legal; the result is that local authorities are often discouraged from pursuing violators, knowing that their ability to remove violations may be limited. Several steps are recommended to allow municipalities to effectively enforce energy-saving measures:

- Inclusion of an architect within the local authorities to advise on and be responsible for building energy matters. Currently, personnel at local authorities have no significant understanding of energy use in buildings. The understanding needed is considered to be beyond what can be obtained in a few training sessions. In addition, staff numbers are limited and fully consumed by present activities. Thus, as a result of interviews primarily at the Ministry of Public Infrastructure and the Ministry of Local Governments and Outer Islands, the recommendation is made to hire or otherwise retain an architect with energy efficiency experience at each of the local authorities responsible for issuing building permits.
- Ensuring that there are enforceable penalties that are severe enough to act as a deterrent and that it is not possible to by-pass the regulations.

Recommendation 4: Investment in the long-term development of energy efficiency professionals

The lack of skilled human capacity remains a significant impediment to the implementation of energy-saving measures in the buildings sector of Mauritius. Therefore, the long-term development of energy efficiency professionals will be a key factor in sustaining the energy efficiency sector in Mauritius. Such development can be through continuous training and facilitation of experiences abroad in countries where energy-saving measures have been effectively implemented.

Lessons Learned

Lesson Learned 1: Clarity on assignments, capabilities and authority within the project is mandatory

The project suffered from the lack of a project manager for significant periods as a result of the difficulty in hiring and retaining qualified project managers. In May 2011, the Ministry of Finance & Economic Development made a request to the UNDP Country Office (CO) that all future project managers be recruited by the Government. The request was later rescinded, with UNDP returning to the hiring of project managers. At the time of this report, representatives from the Ministry of Finance have indicated that the Ministry is pleased to have UNDP responsible for procurement.

Clearer, written, assignment of roles, responsibilities and authorities at the project start would help to avoid such situations and the resulting delays. It should be noted that the decision to have project managers recruited by the Government was applicable to all projects, not specifically the UNDP-implemented, GEF-financed project. Nonetheless, written agreement on procurement, hiring and staffing functions would help to avoid delays.

Lesson learned 2: Investment at the project outset in the development of staff to help support the continuity of the project is a key element of project success and sustainability.

In projects such as this, which seek to create entities that will require staffing, early investment in training staff, such that they are ready to take positions when needed, can be worthwhile. As an example, the recruitment of individuals at the project start and their assignment for study periods of 1-2 years in an energy management bureau would then provide some of the key staff needed for an entity such as EEMO once it is established.

This lesson of long-term investment at the project outset in the development of select individuals to build a cadre of expertise within the country stands out as perhaps the most important lesson learned from the project.

Lesson learned 3: Effective rapport with the Executing Agency and other relevant entities, at multiple levels, is critical to project success

A strong rapport with the Executing Agency, and particularly support at the level of the Minister, has been very important in enabling the legislative outcomes that represent the project's main achievements. In particular, communication between the UNDP CO and the EA, as well as support at the highest levels within both, has been noted by project participants as playing a crucial role in securing project outcomes and exposing opportunities, such as establishing a grid code and FiT through the project infrastructure, when the opportunity arose.

Lesson learned 4: The use of adaptive management to take advantage of opportunities but not lose focus on project outcomes

The project practiced effective adaptive management, allowing it take advantage of opportunities to support its overall objectives. This led to establishment of the Energy Efficiency Act, the feed-in tariff, and the grid code, and the creation of the EEMO as a legislated office instead of a unit. These are all positive outcomes. However, in the process, and especially with the gaps arising due to the lack of a project manager, there has been a loss of focus on achievement of project outcomes which resulted in considerable delays in achieving those outcomes.

1. INTRODUCTION

1.1 Purpose of the Evaluation

This report presents the Terminal Evaluation of the UNDP-implemented, GEF-financed project (PIMS 3001), “Removal of Barriers to Energy Efficiency and Conservation in Buildings”. The Terminal Evaluation is a requirement for compliance with the project’s monitoring and evaluation framework and UNDP/GEF policies and procedures as a full-size UNDP-GEF project. The purposes of the evaluation are to assess the results achieved through the project in relation to the outcomes and outputs set out at inception, and to draw lessons that can both improve the sustainability of benefits from the present project and aid the overall enhancement of UNDP programming. This report presents the findings of a desk review of project documents and an evaluation mission carried out in Mauritius during November 17-21, 2014.

1.2 Scope and Methodology

The scope of work is the evaluation of the project outcomes and outputs with reference to those established at the project onset. The evaluation considers the relevance, effectiveness, efficiency, sustainability and impact of the project in accordance with UNDP Guidance for Conducting Terminal Evaluations of UNDP-implemented, GEF-financed projects. The evaluation is conducted by a team of two consultants, one a national of Mauritius and one international.

The evaluation methodology is based on interviews with stakeholders and in-country observers (Annex B), a review of project documents (Annex C), and collection and evaluation of data from various sources, such as the Central Electricity Board, and Office of Central Statistics. Interviewees were selected to represent the majority of stakeholders and observers. Data collection from all sources was performed with the goal of answering the evaluation questions in Annex D.

The report reflects input from the interviews, primarily in the assessment of project impact on energy efficiency in Mauritius. The report reflects the project documents in assessing project finance and progress at various stages. Data from the Central Electricity Board on electricity produced by installations under the FiT were used to assess GHG emissions reductions.

The overall scope and methodology are guided by the scope and methodology provided in the ToR (Annex A). The itinerary followed during the evaluation mission, the list of persons interviewed, documents reviewed and questionnaires utilized are presented in the Annexes to this report.

The Terminal Evaluation considers the adequacy of the overall project concept and design and the extent to which the project has achieved its stated targets. The Terminal Evaluation also considers what remains to be done, gaps in implementation and new opportunities that have developed or been exposed as a result of the project. The project’s impact on GHG emissions have been calculated in accordance with GEF guidelines.

The timeliness of performance is evaluated, as is the use of funds and co-finance.

Finally, the Terminal Evaluation considers the effect on Government, the overall assessment and perception of the situation in Mauritius at the start and end of the project, the effect the project has had on

policy and development within Mauritius, mainstreaming of UNDP principles and an assessment of co-development benefits

1.3 Structure of the Evaluation Report

The body of this report is structured around three main chapters: a description of the project and its context (Chapter Two); the Findings of the Evaluation (Chapter Three); and the Conclusions (Chapter Four). The Annexes provide information on the terms of references, sources consulted, information collected and evaluation questions.

The project description (Chapter Two) presents a summary of project facts, such as start date, duration, the context in which the project started its objectives and stakeholders.

Chapter Three presents the findings of the report with respect to project design, implementation and results. It provides quantitative evaluation of several aspects of the project, as required by UNDP guidelines.

Chapter Four presents the conclusions, recommendations, and lessons learned from the project. These include actions that might be taken now to help ensure the sustainability and continuity of project achievements, as well as steps that can be taken to help improve the design and implementation of future projects.

2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

2.1 Project start and duration

The Project Document was signed on October 31, 2007. The project was initially intended to have a duration of three years. The Project Manager was hired on July 20, 2008 after difficulty in appointing a qualified project manager. The Mid-Term Review, commissioned in November 2011, recommended an extension to April 2013. On 28 December, 2012, the UNDP Country Office requested and later received a no-cost extension to 31 December 2013, in part because of the ability to secure finance from the AOSIS/SIDS-Dock initiative as a part of the GEF-financed project. During this time, the project was expanded to include the industrial sector through funding received from AOSIS/SIDS-Dock, which resulted in an addendum to the GEF Project Document in January 2012. A second no-cost extension was requested in September 2013, resulting in extension of the project until December 2014. The SIDS-Dock project is scheduled to close in December 2015.

2.2 Problems the project sought to address

Mauritius relies primarily on imported fossil fuels for the generation of electricity. In the decade prior to the start of the project, electricity demand in Mauritius had grown at an average annual cumulative rate of over 8%, with building air conditioning and ventilation accounting for more than 10% of peak load. Buildings were responsible for some 78% of electricity consumption in Mauritius.

An increase in housing units and increase in household energy consumption meant that forecasts at the start of the project were for energy consumption to increase by 60% over the decade following project start.

At project start, Mauritius did not have coherent and effective policies to support energy efficiency in buildings. Building codes were a decade old and made no reference to energy saving. There were no metrics for the energy performance of home appliances.

There was a general lack of awareness, lack of concern and consequent lack of coordination amongst Government institutions and stakeholders on the subject of energy saving and conservation. Thus, continuation of the pre-project trajectory would have resulted in considerably greater energy consumption, importation of fossil fuel, and requirements for infrastructure to generate and distribute sufficient electricity to meet demand.

The project sought to address these problems by introducing energy-saving policies, practices, knowledge and awareness to Mauritius.

2.3 Immediate and development objectives of the project

The immediate objectives of the project at its inception are summarised in the outcomes below from the Project Document and CEO ER.

Outcome 1:

Building regulations and codes for energy saving are developed, enacted and sustainably enforced

- Energy Efficiency Unit (EEU) is established
- Building regulations and codes developed and enacted, taxation and labelling mechanisms assessed
- Compliance enforcement capabilities of municipal building code enforcement agencies reinforced

Outcome 2:

Demand and supply for energy saving services and technology stimulated

- National standard for energy audits and programme of certification of energy auditors established
- Number of investment-grade energy audits and feasibility studies through audit scheme increased
- Standard designs developed for low- and middle-income housing, schools and other building needs developed and in use
- Appliance selection and installation guidelines for key products available at sale points

Outcome 3:

Building engineers, architects, compliance officers, policy makers, financial sector, suppliers and public are convinced of importance and market opportunities for building energy saving

- Information on local costs and benefits of demand-side management and building energy efficiency well known by service suppliers and policy-makers
- Awareness of building energy-saving opportunities improved

Outcome 4:

Monitoring, learning, adaptive feedback and evaluation

- Monitoring and evaluation work plan implemented
- Lessons learned collected, prepared and disseminated

During project implementation, the project took on additional objectives in the form of establishing a grid-code and feed-in tariff using the project structure, and promoting industrial energy efficiency using AOSIS/SIDS-Dock co-finance obtained as a result of the existence of the GEF-financed project.

2.4 Baseline indicators established

As part of the project preparation phase, a baseline assessment was carried out and the following baseline conditions were identified with respect to each of the project components:

Component	Baseline
Global Environmental Benefits	Barriers limit investment in energy efficiency in buildings. In the baseline, domestic and commercial sector energy consumption increase from the 2007 level of 640 and 537 GWh to 995 and 960 GWh respectively by 2015.
Domestic Benefits	No significant domestic benefits were identified under the baseline.

1: Building regulations and codes for energy saving are developed, enacted and sustainably enforced	Under the baseline there is no investment in the development and enforcement of building standards for energy efficiency. No specialised project management unit dealing with energy efficiency is established, building codes are not developed, and no overall review of taxation and labelling is undertaken.
2: Demand and supply for energy-saving services and technology stimulated	No significant efforts are taken to stimulate demand and supply for energy saving services and technology (beyond awareness-raising activities described under outcome 3 below).
3: Building engineers, architects, compliance officers, policy makers, financial sector, suppliers and public are convinced of importance and market opportunities for building energy saving	Limited awareness-raising activities implemented by the Government and related organisations (Central Electricity Board).
4: Monitoring, learning, adaptive feedback and evaluation	No structured evaluation, learning and dissemination activities.

In addition, UNDP supported a master's degree thesis which examined the state of the Mauritian market for electrical appliances with respect to energy efficiency in the period February-July 2009. The thesis provided a sound baseline for the status of energy labelling in 2009 and indicated that it was absent from the market with many low-efficiency appliances being sold and very few of higher energy performance. In addition, there were no means, prior to the project, for consumers to determine which appliances had higher energy performance without a level of detailed study that was unlikely to be undertaken by the vast majority of consumers.

2.5 Main stakeholders

The main project stakeholders are:

- Ministry of Energy and Public Utilities
- UNDP
- Ministry of Environment
- Ministry of Local Government
- Ministry of Finance and Economic Development
- Town and Country Planning Board
- Central Statistical Office
- Mauritius Research Council
- University of Mauritius
- National Housing Development Corporation
- Central Electricity Board
- Mauritius Association of Architects
- Institution of Engineers
- Private companies – building contractors, equipment suppliers, consultants

3. FINDINGS

3.1 Project Design and Formulation

The project design and formulation present a sound foundation for entrenchment of energy-saving measures in Mauritian practice. The project was timely and highly relevant. At the time of its inception, in 2007, it was notably forward-looking. The project outcomes are considered ambitious. Given the experience of developed countries in promoting energy efficiency, it is safe to say that achieving all the objectives of the UNDP-implemented, GEF-financed project within the allotted time and budget would have been difficult in any country. Given the constraints and risks identified at the project outset, the project outcomes seem, at the time of this evaluation, overly ambitious. As a simple example, the project envisaged a national standard for energy auditing and a programme to which auditors would be certified. Today, seven years after project approval, relatively few countries have this in place. To the evaluators' knowledge, all are developed countries, such as in Western Europe and the United States (where there is no national standard).

In some aspects, the project has achieved far beyond its originally designed outcomes. As examples, the EEMO was established as an independent statutory body, thereby ensuring its continuity and ability to function with certain autonomy and going well beyond the originally-envisaged Energy Efficiency Unit in its autonomy. A grid code and FiT have been developed using the project structure and resources. The project has expanded to foster energy efficiency in industry and this is continuing beyond its own lifespan through the SIDS-Dock project extension, which itself was made possible by the GEF project.

The above results on certain outcomes notwithstanding, the project has faced considerable delays in realising its other outcomes. The result is that, while the project activities may be on-track to achieve the desired project outcomes in the future, they have been pushed well beyond original and modified timelines and, to date, some outcomes have still not been achieved. UNDP has recently launched a tender, under the SIDS-Dock project, whose terms of reference address several of the GEF-financed project outcomes that have not yet been achieved.

Prior to the UNDP-implemented, GEF-financed project, there was little activity in the energy savings field in Mauritius. The project has been credited by most stakeholders with raising considerable awareness through a series of workshops and interactions with Government bodies. It has also been credited with paving the way for later activities, even by other donor agencies. AFD, for example, praised the project for leading the way in the field in Mauritius and enabling much of the subsequent work. In particular, a major outcome of the project has been the establishment of EEMO. There have been €50 million disbursed to the Government of Mauritius, under the Energy Support Loan from the EU, which was conditional upon the establishment of EEMO. In this way, the UNDP-implemented, GEF-financed project has directly enabled the mobilisation of very significant funds for energy reform in Mauritius.

The major difficulties the project faced can be summed up in the intermittent presence of a Project Manager, which had repercussions on all project activities, including the project's ability to take the remedial actions against identified risks. The project has had four project managers, including long periods without a project manager in place. The first project manager was hired in July 2008 and left at the end of his contract, in July 2009. The second project manager worked from October 2009 – October 2010; the third from August 2011 – July 2014 (part-time while carrying responsibility for other assignments at the MEPU); and the fourth from July 2014 to the conclusion of the project (and continues to manage the SIDS-Dock project). The evaluators attribute many of the project's shortcomings to the long periods without a Project Manager and the lack of continuity that resulted. The difficulty in retaining

project managers is attributable to: lack of competence in the required field, unreasonable demands on project manager's time for project managers that were simultaneously managing the project and attending to responsibilities as Government employees; and, to a limited extent, an inability to provide the compensation requested.

Part of the difficulty in appointing a Project Manager was the result of a change in procurement policy by the Mauritian Government, led by the Ministry of Finance and Economic Development. The change was not specific to this project but to all similar projects with Mauritian Government implementation partners. The Mauritian Government required that procurement and hiring be conducted by the Mauritian Government counterparts on projects. This resulted in considerable delays in hiring. Procurement responsibilities were shifted back to UNDP in 2013. During Terminal Evaluation interviews, representatives from the Ministry of Finance reported that the Government was satisfied with UNDP procurement.

3.1.1 Logical Framework Analysis and Results

Project Strategy	Objectively Verifiable Indicators	Assumptions	Assessment at Terminal Evaluation
Goal			
To reduce GHG emissions sustainably through a transformation of the building energy efficiency market for existing and new buildings	<p>10-year target CO₂ equivalent emissions are reduced by an accumulated total of 245,00 tonnes over 10 years</p> <p>End-of-project target: 42,000 tonnes of CO₂ avoided due to 30 verified investments in energy efficiency measures in buildings</p> <p>Mid-project target: 9,000 tonnes of CO₂ avoided; 5 verified investments in energy efficiency measures in buildings</p>	<p>Effective enforcement of regulations and standards is sustainably maintained after the end of the project</p> <p>Project support is consistent throughout project by Government and donors and afterwards by Government</p> <p>Electricity prices remain stable or continue to rise and act as an incentive for investment in energy saving.</p>	<ul style="list-style-type: none"> • The project has resulted in 53,481 tCO₂ of direct emissions reductions due to the establishment of a feed-in tariff. • Emissions reductions through mechanisms envisaged at the start of the project have not occurred at the time of the terminal evaluation. They are expected to occur under the activities of a currently open tender.
Outcomes			
Outcome 1: Building regulations and codes for energy saving are developed, enacted and sustainably enforced.	<p>End-term target: Regulations and codes developed during project are enacted, and enforced in 100% of building permits issued</p> <p>Over 90% compliance to building regulations</p> <p>The future of the Energy Efficiency Unit ensured through Government budget allocations</p> <p>Draft legislation for appliance</p>	<p>On-going support from Government and concerned stakeholders</p> <p>Regulations developed by stakeholders are adopted by Government</p>	<p>Regulations have been developed, beyond those originally envisaged by the project. A far-reaching Energy Efficiency Act has been passed, as well as a Building Control Act and a feed-in tariff.</p> <p>An Energy Efficiency Management Office (EEMO) has been established by law, assuring its future operation. Its</p>

	<p>labelling systems created</p> <p>Mid-term target: Building regulations and codes drafted and necessary legislation enacted</p>		<p>budget is assigned by MEPU as a separate budget item. Staffing of EEMO has been challenging. There is at present only an acting director, one engineer, some interns, and two engineers expected to join.</p> <p>Codes following from the regulations under the Building Control Act are still in draft form and not enforced. Therefore, there is no compliance.</p> <p>Appliance labelling is in place on a voluntary basis and is expected to become mandatory early in 2015.</p>
<p>Outcome 2: Demand and supply for energy-saving services and technology stimulated</p>	<p>End-term target: At least 10 trained and competent local energy auditors have met sufficiently high standards to be included on the approved list maintained by the PMU</p> <p>At least 50 energy audits have been carried out under the energy audit scheme, with 30 going forward to investment</p> <p>At least 10 architects qualify as energy saving experts</p> <p>Mid-term target: At least 10 local engineers are working to qualify as approved energy auditors</p> <p>20 energy audits have been carried out under the audit scheme</p>	<p>On-going growth or sustaining of energy (electricity) prices</p>	<p>Training of local auditors has occurred but certification has not, and a list is not maintained by the PMU.</p> <p>30 industrial energy audits have been carried out under the SIDS-Dock project, which has been a continuation of the UNDP-implemented, GEF-financed project. At least 20 have gone on to implement recommendations and realise some savings.</p>
<p>Outcome 3: Building engineers, architects, compliance officers, policy makers, financial sector, suppliers and public are convinced of importance and market opportunities for building energy saving</p>	<p>End-term target: Number of commercial actors in building energy saving sector increased by a factor of 10 since start of project</p> <p>Mid-term target: Number of commercial actors in building energy saving sector increased by a factor of 5 since start of project</p>		<p>The number of commercial actors in the sector has clearly increased. They are currently estimated to be 20-30 in total. A reliable baseline is not available but the increase may be close to ten-fold.</p>

Outcome 4: Monitoring, learning, adaptive feedback and evaluation	Target: Measured indicators of project outputs and project impacts At least 2-3 project technical reports and/or publications		The project has produced 17 technical reports and publications. As of this Terminal Evaluation, an impact measurement of a public awareness campaign is being conducted.
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Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Project GOAL: To reduce GHG emissions sustainably through a transformation of the building energy efficiency market for existing and new buildings	Amount of CO ₂ emissions avoided	End-of-project target: 42,000 tonnes of CO ₂ emissions avoided due to 30 verified investments in energy efficiency measures in buildings Mid-project target: 9,000 tonnes of CO ₂ avoided due to 5 verified investments in energy efficiency measures in buildings	<ul style="list-style-type: none"> • Effective enforcement of regulations and standards is sustainably maintained after the end of the project • Project support is consistent throughout the project from Government and donors, and afterwards by Government • Electricity prices remain stable or continue to rise and act as an incentive for investment in energy saving • Suitable methodology is formulated for the calculation of “Amount of CO₂ emissions avoided” 	<ul style="list-style-type: none"> • The project has resulted in 53,481 tCO₂ of direct emissions reductions due to the establishment of a feed-in tariff. • Project support, although present, has changed, resulting in delays. • Suitable methodologies for calculation of “Amount of CO₂ emissions avoided” exist through the GEF/STAP and the UNFCCC.
Output 1.1: <i>Energy Efficiency Unit (EEU) established and functioning</i>	Number of core technical staff recruited by the EEU. Percentage of total assigned tasks completed by the EEU.	End-of-project target: <ul style="list-style-type: none"> • The EEU is fully staffed and functional and its existence is assured beyond the end of the project • EEU has successfully involved stakeholders from different Government Ministries and Agencies, and an Energy Efficiency Management Committee has been set up for overseeing the activities of this Unit Mid-project target: <ul style="list-style-type: none"> • Drafting and enactment of an Energy Efficiency Bill • EEU has been established 	<ul style="list-style-type: none"> • Project support is consistent throughout the project from Government and private donors, and afterwards by Government • The core technical staff have been recruited as from mid-project • Appropriate trainings are provided to the EEU staff for them to be able to manage the operations of the Unit 	<ul style="list-style-type: none"> • An Energy Efficiency Management Office (EEMO) has been established as a statutory body enshrined in law, which ensures its continuity beyond the end of the project. • An Energy Efficiency Act (2012) has been passed as law. • EEMO has an acting technical director, and minimal technical staff, with two engineers scheduled to join in 2015. • EEMO is functional but not at its full capacity. • EEMO involves stakeholders from various ministries and agencies in a management committee which oversees its activities.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 1.2: <i>Building regulations and codes developed and enacted</i>	Percentage of compliance level in new building constructions > 500 m ²	End-of-project target: <ul style="list-style-type: none"> • Building Regulations and Codes have been enacted and sustainably enforced and are receiving support from all Government stakeholders Mid-project target: <ul style="list-style-type: none"> • Final Drafts of Building Regulations and Codes are available and have been disseminated to local key stakeholders 	<ul style="list-style-type: none"> • Final draft Codes and Regulations developed are acceptable to the Government and other public and private stakeholders • On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project • Appropriate and comprehensive training is provided to stakeholders for the implementation of the enforced regulations and codes 	<ul style="list-style-type: none"> • The Building Control Act (2012) has been adopted and contains energy efficiency regulations. • The building codes based on the regulations are developed in draft form and are expected to be finalised under a current UNDP tender. • Although support has been consistent, agreement among stakeholders on how to achieve the desired outcome has not. As a result, codes have been delayed. Agreement is now in place and the effort is led by the Ministry of Public Infrastructure. • Training and codes are to be developed under a currently-tendered UNDP assignment.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 1.3: <i>Compliance enforcement capabilities of municipal building code enforcement agencies reinforced.</i>	<p>Number of building permits issued after enforcement of the codes and regulations</p> <p>% compliance level in new building constructions > 500 m²</p>	<p>End-of-project target:</p> <ul style="list-style-type: none"> • Compliance levels with building standards > 80% in new building constructions • On-going budgets allocated to sustaining compliance enforcement <p>Mid-project target:</p> <ul style="list-style-type: none"> • Building permit issuing authorities of Mauritius and Rodrigues attended training workshops for reinforcing their compliance enforcement capabilities 	<ul style="list-style-type: none"> • One or two days of training sessions may not be sufficient for an effective reinforcement of the compliance enforcement capabilities of the building permit issuing authorities • Training courses may not be tailored as per the specific needs of each of the different target groups of the building permit issuing authorities • The code and regulations may not be enforced by the Government; or, it can take a long time to come in force 	<ul style="list-style-type: none"> • Compliance enforcement capabilities are not in place because: a) compliance enforcement capabilities are generally limited such that even enforcement of the code on basic building violations may not occur; b) legislation is such that even when enforcement occurs for general building infractions penalties are minor and corrective action is rarely taken; c) training has not occurred. The capability of municipal staff to undertake enforcement even with training is questionable. Budgets are not allocated. • Recommendations are made for the inclusion of an architect within the municipalities to be responsible for advising on energy matters and enforcing compliance. It is unclear whether municipalities can take on such an additional person. • Recommendations are made such that the relevant authorities have the ability to issue penalties that serve as a material deterrent and have the ability to order the correction of infractions.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 2.1: <i>National standard for energy audits and programme of certification of energy auditors established.</i>	Number of trained energy auditors Number of certified energy auditors	End-of-project target: <ul style="list-style-type: none"> • Energy audit training course and certification programme for energy auditors are operating on a fully commercial basis • At least 20 local experts have completed the energy audit certification course, and at least 10 are certified for undertaking investment grade energy audits Mid-project target: <ul style="list-style-type: none"> • Report available on the review of existing international standards for energy audits • Training course materials and an energy audit software tool developed • At least 20 local experts have been trained for undertaking energy audits as per the audit scheme 	<ul style="list-style-type: none"> • On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project • Appropriate and comprehensive training are provided to stakeholders for the implementation of the energy audit scheme • Existing market demand for energy audits 	<ul style="list-style-type: none"> • Tender is currently ongoing for training of energy auditors. • A standard will be established as a result of the current tender. • As of the Terminal Evaluation, training and certification have not been completed for buildings • Training for 50 energy auditors was provided for industrial energy audits under the SIDS-Dock extension to the GEF-financed project. • Existing market demand for energy audits seems to remain limited but is increasing as awareness has increased.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 2.2 : <i>Number of investment-grade energy audits and feasibility studies through audit scheme increased</i>	Number of investment-grade energy audits and feasibility studies undertaken	End-of-project target: <ul style="list-style-type: none"> • Full utilisation of the available GEF project funds for part-financing of 50 energy audits • A minimum of 30 out of the 50 supported energy audits should lead to concrete investment projects for the implementation of the recommended audit measures Mid-project target: <ul style="list-style-type: none"> • Final draft of energy audit scheme documentation and report on contingent support mechanism for financing energy audits, are available for implementation 	<ul style="list-style-type: none"> • Sufficient project funds are available for the part-financing of the 50 energy audits. If additional funding is needed, Government and/or donors are willing to provide the necessary funds. • The owners of the designated buildings are able to acquire the remaining funds needed for the 50 audits • On-going growth or sustaining of energy (electricity) prices; and plenty of market opportunities have been developed for investing in energy auditing and in the implementation of the audit measures 	<ul style="list-style-type: none"> • 30 industrial facilities have received industrial energy audits through SIDS-Dock. In a follow-up survey, 20 reported energy savings as a result. • Eight additional facilities have received energy audits under a scheme supported by AFD and made desirable by the awareness raised by the UNDP-implemented, GEF-financed project. • Savings of 1,500 tCO₂ have been realised.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 2.3 : <i>Standard designs for low- and middle-income housing, school, and other buildings needs developed and in use</i>	% of the total number of targeted new residential and non-residential buildings constructed as per the standard designs	End-of-project target: <ul style="list-style-type: none"> 100% of the new low-income housing constructed through the National Housing Development Corporation incorporates energy efficiency and energy-saving measures as a result of this project Standard designs have become de facto norm for off the shelf construction of the other targeted residential and non-residential buildings Mid-project target: <ul style="list-style-type: none"> Final draft of standard designs available for the targeted residential and non-residential buildings of <500 m² 	<ul style="list-style-type: none"> Government may not opt for mandatory standard designs Standard designs may not be suitable for a mild tropical climate such as that of Mauritius and may therefore not be acceptable to the local stakeholders of the public and private sectors 	<ul style="list-style-type: none"> As noted in the risks section, the adoption of standard designs was not deemed feasible by the Ministry of Public Infrastructure and stakeholders. This was claimed to be in part because of the nature of the tropical climate and strong climate variations within the island and in part because these are considered architecturally undesirable. Instead, a set of standard design guidelines is being developed based on the standard designs produced under the UNDP-implemented, GEF-financed project and will be disseminated.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 2.4 <i>Appliance selection and installation guidelines for key products available at points of sale</i>	Number of Guidelines	End-of-project target: <ul style="list-style-type: none"> Guidelines are available at all points-of-sale for at least 5 of the targeted household electric appliances Copies of guidelines for building energy efficient products, fabrics and appliances are widely disseminated through networks of suppliers of products and services Mid-project target: <ul style="list-style-type: none"> Final draft report available on the review of international energy performance standards and energy labelling of household electrical appliances 	<ul style="list-style-type: none"> On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project Inception of this project component may be delayed awaiting the other outputs to be delivered 	<ul style="list-style-type: none"> Labels are available on major appliances at major retail outlets, such as refrigerators and freezers, and some washing machines. A voluntary agreement on labelling of appliances was entered into with the retailers in January 2014. Labelling is expected to become mandatory early in 2015. Awareness of the meaning of the labels is present but awareness of their importance as a decision support tool for buyers is limited.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 3.1 <i>Costs and benefits of building energy efficiency measures well known by service suppliers and policy makers.</i>	Number of commercial actors in building energy-saving sector	End-of-project target: <ul style="list-style-type: none"> Number of commercial actors in building energy-saving sector increased by a factor of 10 since start of the project Mid-project target: <ul style="list-style-type: none"> Number of commercial actors in building energy-saving sector increased by a factor of 5 since start of the project 	<ul style="list-style-type: none"> Inception of this project component may be delayed awaiting the other outputs to be delivered Market opportunities for building energy efficiency and energy-saving may not be attractive enough for the commercial actors A suitable methodology is devised for the survey of the number of commercial actors at the inception, mid-way and at the end of the project 	<ul style="list-style-type: none"> The number of commercial actors in the building energy saving sector has clearly increased. It is estimated by market participants that currently there are 20-30 commercial actors. The quantitative data are lacking to confirm whether this represents a ten-fold increase but it is plausible. The analysis of energy efficiency has in general not yet reached the sophistication of cost-benefit assessment in Mauritius. As identified in the risks, this component is delayed by delays in other components.
Output 3.2 <i>Awareness of building energy-saving opportunities improved;</i>	Energy-saving awareness score	End-of-project target: <ul style="list-style-type: none"> Average “energy saving awareness score” tripled as compared to baseline Mid-project target: <ul style="list-style-type: none"> Average “energy saving awareness score” doubled as compared to baseline 	<ul style="list-style-type: none"> Inception of this project component may be delayed awaiting the other outputs to be delivered On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project 	<ul style="list-style-type: none"> Interviewees unanimously agreed that there has been a clear increase in awareness. The majority of interviewees said that the change is in large part due to the work of the UNDP-implemented, GEF-financed project. The quantitative data to determine an “energy saving awareness score” are not available. An awareness campaign has been carried out and an impact assessment for it is scheduled but was not available in time for this report.

Hierarchy of Objectives	Key Performance Indicators	Target	Critical Assumptions/Risks	Achievements as assessed at Terminal Evaluation
Output 4.1 <i>Monitoring and Evaluation work plan implemented</i>	<ul style="list-style-type: none"> • Number of deliverables submitted by the project consultants • Project outcomes and outputs achieved 	<p>End-of-project target:</p> <ul style="list-style-type: none"> • Terminal Evaluation of the project done by an independent international evaluator • Methodological tool (log-frame) for measuring project performance and impacts has been formulated • Measured indicators of project outputs and impacts <p>Mid-project target:</p> <ul style="list-style-type: none"> • Mid-Term Evaluation of the project done by an independent international evaluator 	<ul style="list-style-type: none"> • On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project 	<ul style="list-style-type: none"> • Mid-term review and terminal evaluation have been carried out. • A methodological tool (log-frame) exists. • Measured indicators are not available for all project outputs and impacts.
Output 4.2 <i>Lessons learned collected, prepared and disseminated.</i>	Number of technical reports, publications, leaflets/pamphlets, and so on, that have been published or hosted to websites	<p>End-of –project Target:</p> <ul style="list-style-type: none"> • At least 2-3 project technical reports and/or publications are made available online on a website and/or in hard copies • Lessons learned documented provide a basis for energy efficiency policy-making inside and outside Mauritius <p>Mid-project target:</p> <ul style="list-style-type: none"> • Dissemination of draft deliverables to local stakeholders for their comments and views 	<ul style="list-style-type: none"> • On-going and consistent support from Government, donors and other concerned stakeholders, throughout and after the end of the project 	<ul style="list-style-type: none"> • The project has produced 17 technical reports which are publicly available. They could be better promoted and available in a single permanent online location. • Documentation of lessons learned occurs to some extent in this report.

3.1.2 Project risks and assumptions

Several of the risks considered at the project outset have materialised and resulted in the delays which prevented the project from achieving certain outcomes. The table below presents the risks and remedial actions identified at the time of project proposal and evaluates which risks materialised, their impact, what remedial actions were taken and how effective the remedial actions have been.

The risk that presented the most significant impediment to the project was not identified at the outset – namely, finding and retaining appropriate staff. In a country with a relatively small population such as Mauritius with, at the time of project inception, negligible experience in energy-saving measures, the hiring of experienced staff to lead such a project was very likely to be a challenge. The same challenge has been faced with the staffing of EEMO.

Risks	Type	Like- lihood	Remedial actions	Influence on the project as assessed at Terminal Evaluation
1. Lack of ongoing, long-term political and Government support for building energy efficiency	Exogenous	Low	Ongoing consultations and ownership of project development and implementation, with key Government stakeholders. Establishment of EEU under Output 1.1 reinforces project ownership.	<ul style="list-style-type: none"> - While there has been some on-going support, it has not always been coordinated, with various parties moving in various directions. This has clearly resulted in delays in the project. - Consultations and steering committee meetings were held, but more outreach to the various stakeholders could have smoothed operation. - Establishment of EEMO did not create the desired ownership in all sectors of Government. - The direct support of the Minister of Electricity and Public Utilities, and the rapport with UNDP, has been cited as a key factor in the progress of the project and progress of the legislation that has been passed.
2. Government puts back subsidies for electricity, thereby reducing market signals for energy saving	Exogenous	Low	While there is some political pressure to reduce electricity tariffs, Government plans to establish an independent regulatory authority will help to de-politicise electricity rates. Ongoing policy dialogue through this	<ul style="list-style-type: none"> - Risk has not materialised. The Government has instead raised energy prices and announced plans to continue removing subsidies.

			<p>project will help to reinforce the importance of cost-recovery in the sector.</p> <p>Lifeline tariffs, if deemed necessary for very low-income households, will not have a significant impact on this project.</p>	
3. Low fossil fuel prices	Exogenous	Low	<p>Since Mauritius imports all fossil fuels, they come at a premium price. Coal, which will be required for future growth in base-load capacity as well as in the sugar industry out of season, is imported from South Africa and prices are thus already low. Oil, which is required for peak-load, is globally expected to maintain high prices with huge growth in India and China markets.</p>	<ul style="list-style-type: none"> - Risk has not materialised (actually, the reverse – higher fossil prices – has materialised).
6. Poor cooperation between stakeholders	Endogenous	Medium	<p>Highly participatory project development and implementation strategy, with specific incentives to key institutions.</p>	<ul style="list-style-type: none"> - This risk has materialised and resulted in project delays. - The project has lacked the resources (primarily a permanent Project Manager) to engage in the level of participatory project development and incentive-building necessary to overcome these obstacles.
7. Withdrawal of baseline funding	Endogenous	Medium	<p>Government commitments in this area have been confirmed at the highest level and they have been committed over some time to energy efficiency, although financial resources have been limited.</p>	<ul style="list-style-type: none"> - Risk has not materialised.
8. Inadequate project implementation	Endogenous	Medium	<p>Careful selection of project team members and the M&E to be put in place is required. The project design aims to minimise institutional bureaucracy through careful apportionment of activities between Government and</p>	<ul style="list-style-type: none"> - This risk has materialised to a significant extent. The lack of a permanent Project Manager, coupled with Government changes in procurement strategy, meant that the careful apportionment of activities between the Government and private

			private sector.	sector has not been possible to the extent necessary to support the project.
9. Cost over-run and time delays	Endogenous	Medium	Negotiation of fixed price “turnkey” contracts with experts will be required.	- Remedial action was pursued, but was not sufficient. In particular, turnover of the Project Manager and difficulty in hiring new project managers has resulted in long delays to the project.
10. Use of inappropriate technologies	Endogenous	Low	Utilising technologies with a satisfactory track record and use of experienced contractors will be required. Market forces and no GEF-financed technology subsidies aim to ensure that rational choices are made for investments.	- While this risk has not materialised per se, the use of standardized designs was hampered, to an extent, by the inappropriateness of the designs.
11. Failure of investment projects	Endogenous	Low	Mitigated through use of commercial approaches placing risk in the hands of private sector. Training in investment quality energy audits also contributes to reducing this risk.	- The project did not reach the stage of seeking investments for projects.

3.2 Project Implementation

The implementation of the project was adapted considerably to address the difficulties faced by the project. The main outcomes of the project are:

- Establishment of EEMO, which goes beyond the originally envisioned EEU
- Inclusion of energy-saving efforts in the Building Control Act
- The use of the project structure for the establishment of a grid code and feed-in tariff
- Establishment of appliance energy labelling, and as of 2015, mandatory labelling
- Putting energy savings on the Government agenda in Mauritius
- Enabling the US\$1 million SIDS-Dock project
- Enabling the €50 million energy support loan and €1.5 million grant that will be used specifically to “fund concrete and innovative energy efficiency projects”²

Many of the above outcomes were not specified in the original project but have come about through adaptive management.

² AFD allocates RS 2 billion as Budget Support for the Energy Sector, December 10, 2013, <http://www.govmu.org/English/News/Pages/AFD-Allocates-Rs-2-billion-as-Budget-Support-for-the-Energy-Sector.aspx>

The absence of a project manager, together with a lack of clarity on specific roles between the Implementing Agency and the Executing Agency, meant that the Implementing Agency played a broader role than usually assigned to it, becoming involved in the daily execution of the project and management of stakeholder involvement, but with a less effective outcome than a dedicated project manager.

The monitoring and evaluation of the project has met the minimum requirements, with a Mid-Term Review and Terminal Evaluation being conducted. However, the absence of a baseline and end-of-project impact assessment makes quantitative assessment of project outcomes impossible. Such assessments were planned for in the Project Document, and to some extent were conducted in the project preparation phase, but still leave much to be desired. An impact assessment of the effectiveness of the awareness campaign is planned as of the writing of this report.

Project Finance

Project finance data are collected from the Project Implementation Reports (PIRs).

Year (until June 30)	Cumulative GEF financing disbursed (\$)	Cumulative Co-financing (\$)	Additional leveraged funds (\$)	Financial Delivery Rate³
2009	108,068	-	-	11.84%
2010	106,628	10,250,000	-	11.69%
2011	315,072	10,395,385	96,322 (AFD)	34.53%
2012	628,040	10,625,000	-	68.83%
2013	679,165	10,700,000	60,000 (SIDS-Dock)	74.44%
2014 ⁴	826,746.55 ⁵	10,700,000	-	90.61%

Financing (source)	Classification	Type	Amount	
			Planned (\$)	Actual (\$)
UNDP	IA	Cash	0	80,000
Ministry of Public Utilities	National Government	In Kind	338,295	300,000
Ministry of Environment & NDU	National Government	Cash	50,744	10,000,000 ⁶
Ministry of Environment & NDU	National Government	In Kind	33,830	0
Central Electricity Board	National Government	Cash	135,318	400,000
Okipoo LTD	Private Sector	Cash	180,000	0
Investments as a result of energy audits-end users	Private Sector	Cash	4,500,000 ⁷	0
Total Co-financing			5,238,187	10,700,000

3 Percentage of GEF budget actually spent each year.

4 2014 PIR does not indicate co-finance or leveraged funds

5 Total spending of \$868,273.59 is reported by the CO as stated in the Combined Delivery Report. A further \$44,137.41 remain to be spent on the Terminal Evaluation, fees to the CEB related to their energy efficiency campaign, and awareness materials. Together these constitute spending of \$912,411 of GEF funds.

6 Co-finance allocated for installation of solar water heaters under Maurice Ile Durable Fund, 2012 PIR.

7 Non-committed co-finance for investment as a result of energy audits.

3.3 Project Results

The evaluation ratings are difficult to assign because the outcomes of the project are highly varied in their degree of achievement and because the authorities and responsibilities for the project, particularly for hiring, have moved back and forth between the Implementing Agency and the Executing Agency. The quality of execution of certain elements of the project, such as establishing legislation and policy, has been Highly Satisfactory, while the execution of other elements, in particular training and execution of audits, has been Unsatisfactory.

Evaluation Ratings:			
1. Monitoring and Evaluation	rating	2. IA& EA Execution	Rating
M&E design at entry	S	Quality of UNDP Implementation	MS
M&E Plan Implementation	MU	Quality of Execution - Executing Agency	MS
Overall quality of M&E	MS	Overall quality of Implementation / Execution	MU
3. Assessment of Outcomes	rating	4. Sustainability	Rating
Relevance	HS	Financial resources:	ML
Effectiveness	MS	Socio-political:	L
Efficiency	MS	Institutional framework and governance:	L
Overall Project Outcome Rating	MS	Environmental :	L
		Overall likelihood of sustainability:	L

The project is rated as “Highly Satisfactory” for relevance. Mauritius is entirely dependent on imported fuels for electricity generation, with high energy generation costs and subsidies which consume hard currency. At the inception of this UNDP-implemented, GEF-financed project, Mauritius had no national energy efficiency agenda. The project has gone a long way towards creating that agenda, both through legislation and through awareness.

The project is rated as “Moderately Satisfactory” for effectiveness and efficiency because it has met some of its outcomes but not others (see Log Frame Analysis). The project has well exceeded its original timeline, taking more than twice the envisaged time. Part of this is a result of overly ambitious initial plans. The legislation was passed in 2011-2012, not requiring the full extension time. It is the case that, with multiple changes in project managers, implementation has not been as efficient as it could have been, hence the “Moderately Satisfactory” rating.

The project is rated overall as “Moderately Satisfactory” because it has achieved its emissions reduction target, albeit through a mechanism not originally envisaged, and because it has put in place durable structures to promote the long-term sustainability of energy efficiency in Mauritius: EEMO, the Energy Efficiency Act, and the energy component of the Building Control Act. The project has also succeeded in securing funding of US\$1 million (slightly more than the original GEF funding) from SIDS-Dock toward the achievement of project outcomes. Nonetheless, four years after the originally planned close, key project outputs remain unachieved. Had these outputs been achieved, the project would have been rated “Highly Satisfactory” overall. Had the Energy Efficiency Act, Building Control Act, and FiT not been passed into law, and had the GHG reductions achieved through the FiT not occurred, the project would have been rated “Highly Unsatisfactory”. Given that the project has achieved its target emissions reductions through lasting mechanisms, and has put in place the desired legislation, a rating of “Moderately Unsatisfactory” is not justified. At the same time, despite its achievements, a rating of “Satisfactory” is somewhat difficult to assign with outputs that have not been achieved as of yet. Hence, the rating of “Moderately Satisfactory” is assigned.

Assignment of responsibility between the IA and EA on execution is difficult given the Government’s decision mid-project to shift responsibility for hiring of project managers. Cooperation between the IA and EA at a high level was evident in the evaluation and was a clear factor in enabling the passage of

legislation. As a result, both are assigned a “Moderately Satisfactory” rating for execution. Nonetheless, the overall project is assigned a rating of “Moderately Unsatisfactory” as it has not achieved several of its targeted outputs despite ending in 2014 instead of 2010 as originally intended.

The project has a high likelihood of being sustainable. Social and political interest in energy efficiency is high, as observed during interviews. The institutional framework exists with the existence of EEMO and its management committee, which includes a broad range of participants. Environmental sustainability is not a concern as energy efficiency contributes to the improvement of the environment. Financial sustainability is rated as “Moderately Likely” because EEMO depends directly on MEPU for funding and could conceivably be hindered by a shortage of funding in the future.

It is clear from the interviews conducted, in particular with Government entities, that there is considerable country ownership of energy savings initiatives. In fact, there is perhaps some rivalry among various entities about the ownership of various initiatives.

3.3.1 GHG Benefits of the Project

Direct emission reductions attributable to the project are estimated as 53,481 tCO₂ arising from the implementation of a feed-in tariff (FiT) for small-scale and medium-scale distributed generation established by the MEPU and implemented through the Central Electricity Board (CEB). The establishment of the FiT and the necessary grid code were carried out through the PMU and with support of the UNDP-implemented, GEF-financed project. Hence, they are a direct consequence of the project as the establishment of the FiT would not have occurred without the existence of the PMU (as noted by MEPU and UNDP, and evidenced by the UNDP-GEF supported tender for a consultant to develop the grid code).

These CO₂ reductions are calculated as follows:

Total renewable energy installed capacity under the FiT, December 31 2013:	2,459 kW
Electricity generated 2013 by renewables installed under FiT:	54,383 MWh
Mauritius grid emission factor (per GEF figures):	0.9834 tCO ₂ /MWh
Assumed lifetime of equipment:	20 years

Therefore, the electricity expected to be generated over the estimated lifetime of the generation capacity installed during the project lifetime⁸ is 1,087 GWh. Application of the grid emission factor for Mauritius of 0.9834 tCO₂/MWh results in direct emissions reductions of 53,481 tCO₂, per GEF guideline definitions.

The 42,000 tCO₂ of direct reductions calculated at the time of preparation of the project have not materialised as the implementation of the activities leading to those reductions have been pushed beyond the end of the project period (implementation of energy audits and subsequent energy saving investments, and implementation of new building regulations). They can still be expected to be realised with the realisation of outcomes under the SIDS-Dock project. As such, they will be classified as indirect reductions of the UNDP-GEF project.

The estimated 126,000 - 245,000 tCO₂ of indirect emissions reductions calculated at the time of project inception in the Project Document remain valid and can be expected in addition to 42,000 tCO₂ noted in

⁸ As per GEF guidelines on GHG emission reduction calculations, direct emissions are those resulting from the lifetimes of equipment installed during the implementation period of the project.

the previous paragraph, as indirect emissions reductions that will be realised with the implementation of energy audits and subsequent energy improvements under the SIDS-Dock project.

Indirect reductions GHG emissions on the order of 2,000 tCO₂ have resulted from work on industrial energy efficiency as a result of, or influenced by, the UNDP-implemented, GEF-financed project. Such reductions are the result of the follow-on SIDS-Dock project and work by AFD. These have resulted in approximately 35 energy audits, of which approximately 25 have implemented energy saving measures.

Indirect emission reductions may have occurred as a result of appliance labelling schemes that have already been implemented voluntarily and will be mandatory in 2015. However, the data to quantify these reductions do not exist as of this Terminal Evaluation. Similarly, there has been an overall reduction in energy intensity in the Mauritian economy from 0.076 toe/100,000 MUR in 2011 to 0.073 toe/100,000 MUR in 2013. This continues a trend of reduction in energy intensity of the Mauritian economy, falling from a peak of 0.91 toe/100,000 MUR in 2006. The data do not exist to link the reduction to the UNDP-GEF project, despite the overall increase in awareness as a result of the project – a matter confirmed by almost all interviewees.

The project has not produced any direct post-project emissions reductions, as defined by the GEF guidelines, as it has not put in place any revolving financial mechanisms to fund implementation of emission reductions after the end of the project.

3.3.2 Impact, Co-development benefits, and mainstreaming of UNDP principles

Despite the lack of quantitative data to assess project impacts, it is clear from the interviews conducted for the Terminal Evaluation that the UNDP-GEF project has had an impact on establishing energy efficiency in the Governmental dialogue in Mauritius. It has provided a catalyst for other development agencies, such as energy efficiency work by AFD.

By establishing a steering committee with broad involvement from ministries and Government departments, the project has promoted interaction between various ministries and institutions. This large-scale participatory dynamic can be expected to have positive catalytic effects on projects requiring cross-ministerial and cross-institution cooperation in the future. This was observed to an extent already during the interviews, where representatives from various entities were in contact and shared ideas largely through their common participation on either the project steering committee or the EEMO management committee.

As the majority of Mauritius's electric power is generated by heavy fossil fuels, the reduction of fossil fuel combustion can be expected to lead to a reduction in pollutants such as nitrogen oxides. Tourism is a significant contributor to the Mauritian economy. By promoting Mauritius as an environmentally conscious destination, Mauritius may be able to increase its share of high-value, environmentally conscious tourists.

Providing energy audits and implementation of energy efficiency measures provides equal opportunity employment for men and women but is not otherwise expected to directly have gender benefits. An increase of environmentally-aware tourism is likely to drive an increase in demand for handicrafts, the manufacture of which has traditionally been dominated by women of lower incomes. Thus, the project could indirectly create increased employment opportunities.

4. CONCLUSIONS

Given the state of the energy savings field in Mauritius and around the world at the time of project inception, some of the project targets were overly ambitious and difficult to achieve. The project has gone beyond some of its designed outcomes, most notably in the passing of the Energy Efficiency Act as law, which establishes EEMO as a legislated body instead of a unit within MEPU; in using project resources to establish a grid code and FiT; having a Building Control Act passed with energy efficiency regulations included; and securing the SIDS-Dock project to include industrial energy efficiency.

Some of its quantitative implementation targets have not been met – specifically those relating to training and certification, full staffing and functioning of EEMO, adoption of standard designs or design guidelines, the conduct of energy audits and the resultant energy savings.

Thus, it is possible to conclude that the higher-level policy and targets have been achieved and exceeded, while the lower-level, follow-on, implementation targets have generally not been. In the longer-term view, the outcomes achieved are clearly the more important for the sustainability of energy savings in Mauritius. But, in the short-term view, the project has failed to meet some of its quantifiable outcomes.

The project faced several difficulties, most notably the high turnover of project managers and difficulties in hiring staff. Effective adaptive management allowed the achievement of important gains even in the light of these staffing difficulties.

5. RECOMMENDATIONS AND LESSONS LEARNED

Recommendation 1: The completion of project outcomes through the current UNDP Tender for Consultancy Services to Assist the Energy Efficiency Management Office in Energy Audit Management and to Develop an Energy Efficiency Building Code Compliance Scheme

The tender currently underway by UNDP, under the SIDS-Dock continuation of the UNDP-implemented, GEF-financed project, promises to achieve a number of outputs not achieved under the UNDP-GEF project. The careful implementation and monitoring of the activities under the current tender as part of the SIDS-Dock project, as well as involvement of key stakeholders in the selection of the consultant, will be important to the project's success.

Recommendation 2: A focus on staffing, training and guidance for the Energy Efficiency Management Office (EEMO)

The staffing and training of the EEMO are critical for the long-term sustainability of the project's impacts. Staffing, of the project and the EEMO, has been the key reason for delays in the project and the project's failure to achieve certain outcomes. Therefore, a focus on continuity of staffing in the future will be critical to the long-term success and sustainability of the project's achievements. Specifically, this can include:

- Long-term, focused training for EEMO staff (training is already part of the present UNDP tender for Consultancy Services for energy auditors).
- Staffing efforts from both within and outside Mauritius. Attempts were made to recruit international staff for the EEMO, with a generous allowance, but lack of effective advertisement of the positions led to no results.
- Coordinating with other, well developed, national energy management organisations to send EEMO staff for internships of six months to a year can be very valuable.
- EEMO has a management committee which helps guide its activities. The committee is already fairly well composed but could benefit from the inclusion of a representative of the Central Electricity Board (CEB).

Recommendation 3: Enhancement of municipalities' capacities to enforce the Building Control Act

At present, local authorities have limited ability to enforce existing building codes. In general, violations are often met with small penalties, after which the violations become legal; the result is that local authorities are often discouraged from pursuing violators, knowing that their ability to remove violations may be limited. Several steps are recommended to allow municipalities to effectively enforce energy-saving measures:

- Inclusion of an architect within the local authorities to advise on and be responsible for building energy matters. Currently, personnel at local authorities have no significant understanding of energy use in buildings. The understanding needed is considered to be beyond what can be obtained in a few training sessions. In addition, staff numbers are limited and fully consumed by present activities. Thus, as a result of interviews primarily at the Ministry of Public Infrastructure and the Ministry of Local Governments and Outer Islands,

the recommendation is made to hire or otherwise retain an architect with energy efficiency experience at each of the local authorities responsible for issuing building permits.

- Ensuring that there are enforceable penalties that are severe enough to act as a deterrent and that it is not possible to by-pass the regulations.

Recommendation 4: Investment in the long-term development of energy efficiency professionals

The lack of skilled human capacity remains a significant impediment to the implementation of energy-saving measures in the buildings sector of Mauritius. Therefore, the long-term development of energy efficiency professionals will be a key factor in sustaining the energy efficiency sector in Mauritius. Such development can be through continuous training and facilitation of experiences abroad in countries where energy-saving measures have been effectively implemented.

Lessons Learned

Lesson Learned 1: Clarity on assignments, capabilities and authority within the project is mandatory

The project suffered from the lack of a project manager for significant periods as a result of the difficulty in hiring and retaining qualified project managers. In May 2011, the Ministry of Finance & Economic Development made a request to the UNDP Country Office (CO) that all future project managers be recruited by the Government. The request was later rescinded, with UNDP returning to the hiring of project managers. At the time of this report, representatives from the Ministry of Finance have indicated that the Ministry is pleased to have UNDP responsible for procurement.

Clearer, written, assignment of roles, responsibilities and authorities at the project start would help to avoid such situations and the resulting delays. It should be noted that the decision to have project managers recruited by the Government was applicable to all projects, not specifically the UNDP-implemented, GEF-financed project. Nonetheless, written agreement on procurement, hiring and staffing functions would help to avoid delays.

Lesson learned 2: Investment at the project outset in the development of staff to help support the continuity of the project is a key element of project success and sustainability.

In projects such as this, which seek to create entities that will require staffing, early investment in training staff, such that they are ready to take positions when needed, can be worthwhile. As an example, the recruitment of individuals at the project start and their assignment for study periods of 1-2 years in an energy management bureau would then provide some of the key staff needed for an entity such as EEMO once it is established.

This lesson of long-term investment at the project outset in the development of select individuals to build a cadre of expertise within the country stands out as perhaps the most important lesson learned from the project.

Lesson learned 3: Effective rapport with the Executing Agency and other relevant entities, at multiple levels, is critical to project success

A strong rapport with the Executing Agency, and particularly support at the level of the Minister, has been very important in enabling the legislative outcomes that represent the project's main achievements. In particular, communication between the UNDP CO and the EA, as well as support at the highest levels within both, has been noted by project participants as playing a crucial role in securing project outcomes and exposing opportunities, such as establishing a grid code and FiT through the project infrastructure, when the opportunity arose.

Lesson learned 4: The use of adaptive management to take advantage of opportunities but not lose focus on project outcomes

The project practiced effective adaptive management, allowing it take advantage of opportunities to support its overall objectives. This led to establishment of the Energy Efficiency Act, the feed-in tariff, and the grid code, and the creation of the EEMO as a legislated office instead of a unit. These are all positive outcomes. However, in the process, and especially with the gaps arising due to the lack of a project manager, there has been a loss of focus on achievement of project outcomes which resulted in considerable delays in achieving those outcomes.

ANNEX A – TERMS OF REFERENCE

TERMS OF REFERENCE

INTERNATIONAL CONSULTANT TO CONDUCT TERMINAL EVALUATION FOR THE PROJECT “REMOVAL OF BARRIERS TO ENERGY EFFICIENCY AND ENERGY CONSERVATION IN BUILDINGS” IN MAURITIUS

A. Project Title: “Removal of Barriers to Energy Efficiency and Energy Conservation in Buildings”

B. Project Description

In October 2007, the Ministry of Energy Public Utilities (MEPU) launched a US\$ 912,411 technical assistance project, funded by the GEF and supported by UNDP, called ‘Removal of Barriers to Energy Efficiency and Energy Conservation in Buildings’. The overall project goal was to reduce GHG emissions sustainably through a re-engineering of the building energy efficiency market for existing and new buildings. In setting out to do so, the project activities were designed to ensure that energy is used cost-effectively and rationally throughout the island. The project tackled market barriers in all three areas of a building’s energy use: building fabric, equipment, and people (behaviour). The target was an accumulated total of 42,000 tonnes of CO₂eq (direct emission reductions) and 245,000 tonnes CO₂eq (indirect emission reductions) over 10 years.

a) Project Rational/Background

The project was intended to overcome barriers to energy efficiency in buildings in Mauritius and reinforce the development of a market approach to improving residential and non-residential building energy efficiency in both existing stock and future buildings.

The project had five broad outcomes (or components):

1. Building regulations and codes for energy saving are developed, enacted and sustainably enforced;
2. Demand and supply for energy saving services and technology stimulated
3. Building engineers, architects, compliance officers, policy makers, financial sector, suppliers and public are convinced of the importance and market opportunities for building energy-saving
4. Monitoring, learning, adaptive feedback and evaluation
5. Project management

Further details are provided in the detailed Terminal Evaluation Terms of Reference.

C. Scope of Work

The International Consultant will be the team leader and will be responsible for the quality of the report and timely submission. The National Consultant will provide supportive roles in terms of professional inputs, knowledge of local policies, local navigation, translation / language support (if needed), etc.

- A. The review team is expected to prepare an Evaluation Report based on the outline listed in Annex II (detailed Terminal Evaluation Terms of Reference) while specifically including the following aspects:
1. Adequacy of the overall project concept, design, implementation methodology, institutional structure, timelines, budgetary allocation or any other aspect of the project design that the evaluation team may want to comment upon.
 2. Extent of progress achieved against the overall Project Objective disaggregated by each

- of the individual Outcomes, Outputs and Activities (including sub-activities); as against the Impact Indicators identified and listed in the project document. Extent of the incremental value added with project implementation.
3. Performance in terms of in-time achievement of individual project activities as well as overall project in terms of adherence to planned timelines.
 4. Relevance and adequacy of mid-course changes in implementation strategy with PSC approval, if any and the consequent variations in achievements, if any.
 5. Degree of effectiveness of the Energy Efficiency Management Office while identifying gaps, if any with lessons learned and alternative scenarios, if any
 6. Extent to which energy efficiency has been mainstreamed in the local context. Identify gaps, if any, and provide alternative scenarios
 7. Extent of effectiveness of the project and energy efficiency gains achieved as a consequence of the project and the extent to which the envisaged benefits (have been achieved
 8. Estimation of the greenhouse gas emission reduction benefits, direct and indirect, arising from the project. Greenhouse gas mitigation estimates for the project must be derived using the official GEF methodology for energy efficiency projects: <http://www.stapgef.org/revised-methodology-for-calculating-greenhouse-gas-benefits-of-gef-energy-efficiency-projects-version-1-0/>
 9. Evaluate the impact of the project activities on the various government institutions
 10. Extent of effectiveness of awareness generation activities by way of quality of promotional packages / awareness material, number of Awareness Programmes, Trainings undertaken and level of awareness created. Quality of documentation, if any, produced under the project like, brochure, etc. should also be considered
 11. Pattern, in which funds have been leveraged, budgeted, spent and accounted for in the project.

B. The team should also focus their assessments on project impacts as listed:

- a) Perceptions on the “Situation at the end of the Project” as it seems to the review team at the terminal review stage
- b) Nature and scale of the policy impact made by the project, if any, on relevant line departments of the Government or other policy making bodies
- c) Extent of effectiveness of capacity building initiatives undertaken under the aegis of the project
- d) Assessment of Greenhouse Gases Emission reduction achieved during the life of the project and an estimate of likely emission reductions possible in the future
- e) Appropriateness and effectiveness of the institutional arrangement deployed in the project with alternative scenarios, if any
- f) Details of co-funding, if any, leveraged by the project and its impact on the project achievements (a “Financial Planning Co-financing” format is enclosed in Annex II for reporting);
- g) The effectiveness of monitoring and overseeing systems such as Project Steering Committee and suggestion on improvements if any

D. Expected Outputs and Deliverables

The Team leader shall be the International Consultant who will be responsible for the overall delivery and drafting of the reports and outputs. The National Consultant will be responsible to arrange for the local data collection and organise meetings/workshop as required. The National consultant will also contribute to drafting of the various reports. The National and International

consultants shall be regarded as being jointly responsible for the delivery of reports, presentations and workshops and shall therefore collaborate to achieve the deliverables and outputs hereunder.

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

E. Institutional Arrangement

The Consultant will report directly to the National Project Director, MEPU and Environment Programme Manager, UNDP.

- a) All reports are to be written in English. The Consultant will provide an electronic version of all the required deliverables.
- b) The Consultant is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders.

F. Duration of the Work

The total duration of the evaluation will be 13 person days over a period of 1 month for the international consultant.

Activity	Timing (person day involvement per consultant)	Completion Date
Preparation and desk work	3 days	5 November 2014
Evaluation Mission	5 days	17-21 November 2014
Draft Evaluation Report & draft GEF CC-M Tracking Tool	3 days	21 November 2014
Final Report & final GEF CC-M Tracking Tool	2 days	30 November 2014

G. Duty Station

The Consultant will be required to be present in Mauritius during the evaluation mission.

H. Qualifications and Competencies

Education

An Advanced Degree in Science, Engineering, Energy or a related discipline.

Work Experience:

- A minimum of 5 years of relevant experience in Energy Efficiency or related field;
- Must have undertaken at least 2 Final Evaluations, including one in the field of Energy Efficiency, preferably for a similar UNDP/GEF project;
- Demonstrated ability to assess complex situations, succinctly distils critical issues, and draw forward-looking conclusions and recommendations;
- Highly knowledgeable of GEF and UNDP-GEF monitoring and evaluation policies procedures an advantage;
- Familiarity with Mauritius or any Small Island Development States (SIDS);
- Excellent in human relations, coordination, planning and team work.
- Be fully IT-literate

Corporate Competencies:

- Demonstrates integrity and ethical standards
- Creative and innovative
- Sound analytic capacities
- Ability to address complex concepts and to gather written materials in a clear, concise and meaningful manner with a high level of accuracy and attention to detail
- Highly organized, able to effectively develop and manage projects, ensuring that deadlines are met

Functional Competencies:

- Excellent writing, analytical and research skills
- Showing strong attention to details
- Excellent interpersonal skills
- Ability to work in a multicultural and international environment
- Ability to work under pressure and to meet tight deadlines

Language:

- Excellent spoken and written English. Knowledge of French is an advantage.

I.SCOPE OF PRICE PROPOSAL AND SCHEDULE OF PAYMENT

Financial Proposal

A financial proposal has to be submitted by offerors which specifies:

- i) The Daily fee must be “**all-inclusive**”. The term “All inclusive” implies that all costs (professional fees, travel costs, living allowances, communications, consumables, etc.) that could possibly be incurred by the Contractor are already factored into the final amounts submitted in the proposal.
- ii) an IC Time Sheet must be submitted by the Contractor, duly approved by the Individual Contractor’s supervisor, which shall serve as the basis for the payment of fees.

Schedule of Payments

Payments of fees would be effected by UNDP as follows:

%	Milestone	Deadline
20%	At contract signing	5 November 2014
30%	Following submission and approval of the 1ST draft terminal evaluation report & draft GEF Tracking Tool	21 November 2014
50%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report & GEF Tracking Tool	30 November 2014

J. RECOMMENDED PRESENTATION OF OFFER

The International Consultant and the National Consultant should apply separately and the final team will be decided by the UNDP CO.

The following documents are requested:

- a. Duly accomplished **Letter of Confirmation of interest and Availability** using the template provided by UNDP
- b. **Personal CV or P11**, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the candidate and at least three (3) professional references;
- c. **Brief description** of why the individual considers him/herself as the most suitable for the assignment, and a methodology, on how the candidate will approach and complete the assignment;
- d. **Financial Proposal** that indicates the contract price, supported by a breakdown of costs, as per template provided. If the Offeror 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 Offeror must indicate and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

K. CRITERIA FOR SELECTION OF THE BEST OFFER

The award of the contract will be made to the Individual Consultant whose offer has been evaluated using the “Combined Scoring Method” and determined as:

- Responsive/compliant/acceptable
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specified below (Technical Criteria weight (0.7), Financial Criteria weight (0.3))

Only candidates obtaining a minimum of 49 points out of 70 would be considered for the Financial Evaluation.

Criteria (Technical)	Weight (%)
At least an Honours Degree in Science or Engineering	10
A minimum of 5 years of relevant experience in Energy Efficiency or related field;	10
Must have undertaken at least 2 Final Evaluations, including one in the field of Energy Efficiency, preferably for a similar UNDP/GEF project;	10

Demonstrated ability to assess complex situations, succinctly distils critical issues, and draw forward-looking conclusions and recommendations;	15
Highly knowledgeable of GEF and UNDP-GEF monitoring and evaluation policies procedures an advantage;	10
Familiarity with Mauritius or any Small Island Development States (SIDS);	5
Excellent in human relations, coordination, planning and team work.	5
Be fully IT literate	5
Criteria (Financial)	30
Total point obtainable	100

L. Indicators to evaluate the consultant's performance will be as follows:

All the outputs should meet the satisfaction of government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders:

M. Annex to the TOR

- Annex 1 to the TOR provides further details about the assignment.
- Annex B - Letter of confirmation of Interest and availability and Submission of Financial Proposal
- Annex C - P11
- Annex D – IC Contract Template
- Annex E – UNDP GCC IC
- Annex F- IC Timesheet

Application should be submitted online via undp.jobs.org by Friday 24October, 2014.

ANNEX B – MISSION ITINERARY (NOVEMBER 17 - 21, 2014), AND LIST OF INTERVIEWEES

Monday 24th November afternoon

1. Mr. S. Ramchurn
Environment Programme Analyst
UNDP

Mr. L. G. Sewtohul, Project Manager SIDS-Dock Project

Tuesday 25th November morning

2. Dr. P. M. K Soonarane
Deputy Director Technical Services
Ministry of Energy and Public Utilities

Tuesday 25th November afternoon

3. Mr. S. Nemchand
Acting Permanent Secretary
Ministry of Energy and Public Utilities

Mr. R. Bikoo
Director General
Ministry of Energy and Public Utilities

4. Mr. R. Mungur (Ag. Director EEMO)
Chief Planner
Ministry of Energy and Public Utilities

Wednesday 26th November morning

5. Mr. Dev Anand Balloo, Director of Architecture
Mr. R. Ramjit, Principal Architect
Mrs. B. Candasamy, Ag. Principal Architect
Mr. SKM Padya, Project Coordinator

Technical Division (Architect)
Ministry of Public Infrastructure, National Development Unit
Land Transport and Shipping

6. Dr. M. K. Elahee
Chairman, EEC at EEMO
Associate Professor, University of Mauritius

7. Mr. S. Mukoon
Corporate Planning and Research Manager
Central Electricity Board

Wednesday 26th November afternoon

8. Mr. F. Wong
Member of EEC
Mauritius Association of Architects (Former President of the Association)
9. Mrs. Rashida Nanhuck, Acting Director
& Mrs. LC Bhujohory, Acting Head, Unit of Engineering
Mauritius Standards Bureau

Thursday 27th November morning

10. Mr. Laurent Bergadaa, Chargee de Mission
Agence Française de Développement
11. Mr. Heeramun, Divisional Environment Officer
& Mrs. Abdool, Acting Divisional Environment Officer

Department of Environment
Ministry of Environment & Sustainable Development
12. Mr. R. Hemoo
Land Use and Planning Executive,
Ministry of Local Government and Outer Islands

Thursday 27th November afternoon

13. Mr. Vikram Bhujun
Pro-Design Ltd

Mr. P. Chaundee (Project Manager GEF Project from 02 August 2011 – 31 July 2014)
Energy Services Division

Mr. Tony Lee
Director, Ecosis Ltd

Mr A. Ramlugun,
Executive Director, CREAD & Co. Ltd
14. Mr. Hussaundee (Project Manager GEF Project from October 2009 – October 2010)
Director, EE Systemik Ltd
15. Mr. R. Fuzurally and Ms N. Mootoocurpen
Analyst
Ministry of Finance & Economic Development
New Government Centre, Port Louis

Friday 28th November morning

16. Mr. R. Ghose, Principal Analyst,
and Mrs. K. Manna, Industrial Analyst
Ministry of Industry, Commerce and Consumer Protection

17. Dr. P. M. K Soonarane
Deputy Director Technical Services
Ministry of Energy and Public Utilities

Friday 28th November afternoon

18. Mr. Simon Springett, UNDP Resident Coordinator
Mr. Satyajeet Ramchurn, UNDP Environment Programme Analyst, UNDP

APPENDIX C – LIST OF DOCUMENTS REVIEWED

1. UNDP Project Document
2. UNDP Project Document addendum
3. GEF CEO ER
4. Project PIRs (2009 – 2014)
5. Project APRs (2009 – 2014)
6. Project Draft Final Completion Report
7. Project Mid-Term Evaluation and Management Response
8. State of Mauritian Market for Selected Electrical Appliances, 2009 Master's Thesis

APPENDIX D - EVALUATION QUESTION MATRIX

Evaluative Criteria	Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local and national levels?				
<ul style="list-style-type: none"> Do the project objectives conform to agreed priorities in the UNDP Country Programme Document (CPD)? 	<ul style="list-style-type: none"> How does the project support the environment and sustainable development objectives of the Republic of Mauritius? 	<ul style="list-style-type: none"> In line with the national priorities mentioned in the UNDP Country Programme Document 	<ul style="list-style-type: none"> UNDP Country Programme Document Project document 	<ul style="list-style-type: none"> Documents analyses Interviews with UNDP and project team
<ul style="list-style-type: none"> Is the project relevant to the GEF climate change mitigation area? 	<ul style="list-style-type: none"> How does the project support the GEF climate change mitigation area? 	<ul style="list-style-type: none"> Existence of a clear relationship between the project objectives and GEF climate change mitigation area? 	<ul style="list-style-type: none"> Project documents GEF focal areas strategies and documents 	<ul style="list-style-type: none"> Documents analyses GEF website Interviews with UNDP and project team
<ul style="list-style-type: none"> Is the project relevant to the Republic of Mauritius's environment and sustainable development objectives? 	<ul style="list-style-type: none"> Is the project country-driven? What was the level of stakeholder participation in project design? What was the level of stakeholder ownership in implementation? Does the project adequately take into account the national realities, both in terms of institutional and policy framework in its design and its implementation? 	<ul style="list-style-type: none"> Degree to which the project supports national environmental objectives Degree of coherence between the project and national priorities, policies and strategies Appreciation from national stakeholders with respect to adequacy of project design and implementation to national realities and existing capacities Level of involvement of government officials and 	<ul style="list-style-type: none"> Project documents National policies and strategies Key project partners 	<ul style="list-style-type: none"> Documents analyses GEF website Interviews with UNDP and project team

		<p>other partners in the project design process</p> <ul style="list-style-type: none"> Coherence between needs expressed by national stakeholders and UNDP-GEF criteria 		
<ul style="list-style-type: none"> Is the project addressing the needs of target beneficiaries at the local level? 	<ul style="list-style-type: none"> How does the project support the needs of relevant stakeholders? Has the implementation of the project been inclusive of all relevant stakeholders? Were local beneficiaries and stakeholders adequately involved in project design and implementation? 	<ul style="list-style-type: none"> Strength of the link between expected results from the project and the needs of relevant stakeholders Degree of involvement and inclusiveness of stakeholders in project design and implementation 	<ul style="list-style-type: none"> Project partners and stakeholders Project documents 	<ul style="list-style-type: none"> Document analysis Interviews with relevant stakeholders
<ul style="list-style-type: none"> Is the project internally coherent in its design? 	<ul style="list-style-type: none"> Are there logical linkages between expected results of the project (log frame) and the project design (in terms of project components, choice of partners, structure, delivery mechanism, scope, budget, use of resources etc.)? Is the length of the project sufficient to achieve Project outcomes? Whether gender issues had been taken into account in project design and implementation and in what way has the project 	<ul style="list-style-type: none"> Level of coherence between project expected results and project design internal logic Level of coherence between project design and project implementation approach 	<ul style="list-style-type: none"> Program and project documents Key project stakeholders 	<ul style="list-style-type: none"> Document analysis Key interviews

	contributed to greater consideration of gender aspects, (i.e. project team composition, gender-related aspects of pollution impacts, stakeholder outreach to women's groups, etc). If so, indicate how			
<ul style="list-style-type: none"> How is the project relevant with respect to other donor-supported activities? 	<ul style="list-style-type: none"> Does the GEF funding support activities and objectives not addressed by other donors? How do GEF-funds help to fill gaps (or give additional stimulus) that are necessary but are not covered by other donors? Is there coordination and complementarity between donors? 	<ul style="list-style-type: none"> Degree to which program was coherent and complementary to other donor programming nationally and regionally 	<ul style="list-style-type: none"> Documents from other donor supported activities Other donor representatives Project documents 	<ul style="list-style-type: none"> Documents analyses Interviews with project partners and relevant stakeholders
<ul style="list-style-type: none"> Does the project provide relevant lessons and experiences for other similar projects in the future? 	<ul style="list-style-type: none"> Has the experience of the project provided relevant lessons for other future projects targeted at similar objectives 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Data collected throughout evaluation 	<ul style="list-style-type: none"> Data analysis
Evaluative Criteria	Questions	Indicators	Sources	Methodology
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?				
<ul style="list-style-type: none"> Has the project been effective in achieving the expected outcomes and objectives? 	<ul style="list-style-type: none"> Has the project been effective in achieving its expected outcomes? 	<ul style="list-style-type: none"> See indicators in project document results framework and log frame 	<ul style="list-style-type: none"> Project documents Project team and relevant stakeholders Data reported in project annual and quarterly reports 	<ul style="list-style-type: none"> Documents analysis Interviews with project team Interviews with relevant stakeholders

<ul style="list-style-type: none"> How is risk and risk mitigation being managed? 	<ul style="list-style-type: none"> How well are risks, assumptions and impact drivers being managed? What was the quality of risk mitigation strategies developed? Were these sufficient? Are there clear strategies for risk mitigation related with long-term sustainability of the project? 	<ul style="list-style-type: none"> Completeness of risk identification and assumptions during project planning and design Quality of existing information systems in place to identify emerging risks and other issues Quality of risk mitigations strategies developed and followed 	<ul style="list-style-type: none"> Project documents UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews
<ul style="list-style-type: none"> What lessons can be drawn regarding effectiveness for other similar projects in the future? 	<ul style="list-style-type: none"> What lessons have been learned from the project regarding achievement of outcomes? What changes could have been made (if any) to the design of the project in order to improve the achievement of the project's expected results? 		<ul style="list-style-type: none"> Data collected Throughout evaluation 	<ul style="list-style-type: none"> Data analysis
Evaluative Criteria	Questions	Indicators	Sources	Methodology
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?				
<ul style="list-style-type: none"> Was project support provided in an efficient way? 	<ul style="list-style-type: none"> Was adaptive management used or needed to ensure efficient resource use? Did the project logical framework and work plans and any changes made to them use as management tools during implementation? Were the accounting and financial systems in place adequate for project management and producing accurate and timely financial 	<ul style="list-style-type: none"> Availability and quality of financial and progress reports Timeliness and adequacy of reporting provided Level of discrepancy between planned and utilized financial expenditures Planned vs. actual funds leveraged Cost in view of results achieved compared to costs of similar projects from 	<ul style="list-style-type: none"> Project documents And evaluations UNDP Project team 	<ul style="list-style-type: none"> Document analysis Key interviews

	<p>information?</p> <ul style="list-style-type: none"> ▪ Were progress reports produced accurately, timely and responded to reporting requirements including adaptive management changes? ▪ Was project implementation as cost effective as originally proposed (planned vs. actual) ▪ Did the leveraging of funds (co-financing) happen as planned? ▪ Were financial resources utilized efficiently? Could financial resources have been used more efficiently? ▪ Was procurement carried out in a manner making efficient use of project resources? ▪ How was results-based management used during project implementation? 	<p>other</p> <ul style="list-style-type: none"> ▪ organizations ▪ Adequacy of project choices in view of existing context, infrastructure and cost ▪ Quality of results-based management reporting (progress reporting, monitoring and evaluation) ▪ Occurrence of change in project design/ implementation approach (i.e. restructuring) when needed to improve project efficiency ▪ Cost associated with delivery mechanism and management structure compare to alternatives 		
<ul style="list-style-type: none"> ▪ How efficient are partnership arrangements for the project? 	<ul style="list-style-type: none"> ▪ To what extent partnerships/ linkages between institutions/ organizations were encouraged and supported? ▪ Which partnerships/linkages were facilitated? Which ones can be considered sustainable? ▪ What was the level of efficiency of cooperation and collaboration arrangements? ▪ Which methods were successful or not and why? 	<ul style="list-style-type: none"> ▪ Specific activities conducted to support the development of cooperative arrangements between partners, ▪ Examples of supported partnerships ▪ Evidence that particular partnerships/linkages will be sustained ▪ Types/quality of partnership cooperation methods utilized 	<ul style="list-style-type: none"> ▪ Project documents and evaluations ▪ Project partners and relevant stakeholders 	<ul style="list-style-type: none"> ▪ Document analysis ▪ Interviews

Evaluative Criteria	Questions	Indicators	Sources	Methodology
<ul style="list-style-type: none"> Did the project efficiently utilize local capacity in implementation? 	<ul style="list-style-type: none"> Was an appropriate balance struck between utilization of international expertise as well as local capacity? Did the project take into account local capacity in design and implementation of the project? Was there an effective collaboration between institutions responsible for implementing the project? 	<ul style="list-style-type: none"> Proportion of expertise utilized from international experts compared to national experts Number/quality of analyses done to assess local capacity potential and absorptive capacity 	<ul style="list-style-type: none"> Project documents and evaluations UNDP Beneficiaries 	<ul style="list-style-type: none"> Document analysis Interviews
<ul style="list-style-type: none"> What lessons can be drawn regarding efficiency for other similar projects in the future? 	<ul style="list-style-type: none"> What lessons can be learnt from the project regarding efficiency? How could the project have more efficiently carried out implementation (in terms of management structures and procedures, partnerships arrangements etc...)? What changes could have been made (if any) to the project in order to improve its efficiency? 		<ul style="list-style-type: none"> Data collected throughout evaluation 	<ul style="list-style-type: none"> Data analysis
<ul style="list-style-type: none"> Has the project been effective in achieving the expected outcomes and objectives? 	<ul style="list-style-type: none"> Has the project been effective in achieving its expected outcomes? 	<ul style="list-style-type: none"> See indicators in project document results framework and log frame 	<ul style="list-style-type: none"> Project documents Project team and relevant stakeholders Data reported in project annual 	<ul style="list-style-type: none"> Documents analysis Interviews with project team Interviews with relevant

			and quarterly reports	stakeholders
<ul style="list-style-type: none"> How is risk and risk mitigation being managed? 	<ul style="list-style-type: none"> How well are risks, assumptions and impact drivers being managed? What was the quality of risk mitigation strategies developed? Were these sufficient? Are there clear strategies for risk mitigation related with long-term sustainability of the project 	<ul style="list-style-type: none"> Completeness of risk identification and assumptions during project planning and design Quality of existing information systems in place to identify emerging risks and other issues Quality of risk mitigations strategies developed and followed 	<ul style="list-style-type: none"> Project documents UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews
<ul style="list-style-type: none"> What lessons can be drawn regarding effectiveness for other similar projects in the future? 	<ul style="list-style-type: none"> What lessons have been learned from the project regarding achievement of outcomes? What changes could have been made (if any) to the design of the project in order to improve the achievement of the project's expected results? 		<ul style="list-style-type: none"> Data collected throughout evaluation 	<ul style="list-style-type: none"> Data analysis
Evaluative Criteria	Questions	Indicators	Sources	Methodology
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?				
<ul style="list-style-type: none"> Is the Project financially sustainable? 	<ul style="list-style-type: none"> Are there financial risks that may jeopardize the sustainability of project outcomes? What is the likelihood of 	<ul style="list-style-type: none"> The likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. 	<ul style="list-style-type: none"> UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews

	financial and economic resources not being available once GEF grant assistance ends?			
<ul style="list-style-type: none"> Is the Project environmentally and socially sustainable? 	<ul style="list-style-type: none"> Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes? 		<ul style="list-style-type: none"> UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews
<ul style="list-style-type: none"> To what extent the stakeholders will sustain the project? 	<ul style="list-style-type: none"> Are there social or political risks that may threaten the sustainability of project outcomes? What is the risk for instance 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 project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives? 		<ul style="list-style-type: none"> UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews

Evaluative Criteria	Questions	Indicators	Sources	Methodology
Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?				
<ul style="list-style-type: none"> Assess the likely permanence (long lasting nature) of the impacts 	<ul style="list-style-type: none"> Clarify based on extent: a) verifiable improvement in energy intensity; and/or b) through specified indicators that progress is being made towards achievement of project objectives c) regulatory and policy changes at regional, national and/or local levels 	<ul style="list-style-type: none"> The positive and negative, foreseen and unforeseen changes to and effects produced by a development intervention 	<ul style="list-style-type: none"> Project documents UNDP, project team, and relevant stakeholders 	<ul style="list-style-type: none"> Document analysis Interviews

APPENDIX E – EVALUATORS’ DECLARATIONS

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

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

Evaluation Consultant Agreement Form³

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

Name of Consultant: Omer Faruk

Name of Consultancy Organization (where relevant): _____

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

Signed at UNDP, Mauritius on 17-11-2014

Signature: [Signature]

³ www.unevaluation.org/Unegcodeofconduct

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

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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 Consultant Agreement Form³

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

Name of Consultant: T. K. A. Stewart

Name of Consultancy Organization (where relevant): University of Mauritius

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

Signed at Port Louis - Mauritius on 22.11.19.

Signature: [Signature]

³www.unevaluation.org/unegcodeofconduct