



TERMINAL EVALUATION

Of The GEF-Financed Project

NAMIBIA ENERGY EFFICIENCY IN BUILDINGS PROJECT (NEEP)

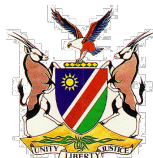
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TERMINAL EVALUATION

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This report presents the findings of the Terminal Evaluation, conducted from 4 February 2013 to 21 March 2014, for the 3-year Namibian Energy Efficiency Programme (NEEP) in Buildings project, implemented by Renewable Energy and Energy Efficiency Institute (REEEI) on behalf of the Namibian Ministry of Mines and Energy

The NEEP was originally designed under the Climate Change Focal Area, Strategic Program 1: Promoting Energy Efficiency in Residential and Commercial Buildings. With the restructure of the GEF Focal Area strategies, the NEEP project remained consistent with the objectives of the **Climate Change Focal Area Strategy** and specifically **Climate Change Objective 2, Promote Market Transformation for Energy Efficiency in industry and the Building Sector.**

ACKNOWLEDGEMENTS

The evaluator is obliged to all project stakeholders who generously shared of their time and provided input to enable this evaluation report.

The author would like to express gratitude to Ms Martha Naanda, Head of the Namibia Energy and Environment Unit, UNDP Country Office as well as to Lucas Black, UNDP Regional Technical Advisor – Energy, Infrastructure, Transport and Technology for the valuable process related information and guidance provided during the various stages of this assessment.

The evaluator wishes to acknowledge, with great appreciation, the crucial role of the REEEI team, and specifically that of NAFT Hamunghete, NEEP Energy Efficiency Assistant and Abraham Hangula, NEEP Energy Efficiency Specialist, who kindly provided project information, extensive logistical support and assistance during the final evaluation mission in Namibia.

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EXECUTIVE SUMMARY

PROJECT SUMMARY TABLE

Project Title:	NAMIBIA ENERGY EFFICIENCY IN BUILDINGS PROJECT (NEEP)			
GEF Project ID:	PIMS 4110		<i>at endorsement (US\$)</i>	<i>at completion (US\$)</i>
UNDP Project ID:	00075196	GEF financing:	859,000	821,249.30*
Country:	Namibia	IA/EA own:	90,900	7,041,971.20**
Region:	Southern Africa	Government:	3,094,000	(included in IA/EA)
Focal Area:	Climate Change	Other:	2,159,000	780,409.09
FA Objectives, (OP/SP):	To promote energy efficient technologies and practices in appliances and buildings	Total co-financing:	5,313,000	7,804,729.48
Executing Agency:	Namibia Ministry of Mines and Energy (MME) (delegated to REEEI)	Total Project Cost:	6,112,000	8,625,978.78
Other Partners involved:	Polytechnic of Namibia, UNDP, MET, ECB, NIA, DRFN, HRDC, NHE, Nampower, Erongo RED, Osona West Party, Arandis Town Council	ProDoc Signature (date project began):		19 August 2010
		(Operational) Closing Date:	Proposed: 1 July 2013	Actual: 31 March 2014

Where REEEI: Renewable Energy and Energy Efficiency Institute; Met: Ministry of Energy and Tourism, ECB: Electricity Control Board; NIA: Namibia Institute of Architects; DRFN: Desert Research Foundation of Namibia; HRDC: Habitat Research and Development Centre; NHE: National Housing Enterprise.

* Reconciliation of final costs including TE not yet reflected

** Ministry of Mines and Energy (official Implementing Partner) contribution reflected under IA. No other government entities contributed co-funding.

The breakdown of these contributions is available in Section 3.2.4

PROJECT OVERVIEW

Inefficient energy habits threaten the sustainability of the environment, natural resources and our planet, Earth, for future generations. Greater utilisation efficiency of the limited available energy is therefore of utmost importance, globally.

Namibia, a net importer of electricity, is confronted with diminishing supply capacity from suppliers, which threatens energy security, and escalating prices reflective of the growing demand and capital investment requirements of suppliers. With respect to clean energy solutions, Namibian electricity users have generally

favoured renewable energy solutions¹ ahead of energy efficiency. Compared to low carbon energy alternatives, energy efficiency is a more cost effective measure² for reducing climate impacts (GHG emissions) and considered good practice to implement prior to sizing and installing renewable energy capacity. This lack of recognition of the value and benefits of energy efficiency and hence the low market penetration of energy efficiency in the country motivated the proposal of the Namibia Energy Efficiency Programme (NEEP) in buildings project. Buildings were identified as the focus area for market transformation and energy efficiency improvements under this project.

The purpose of the NEEP was therefore to accelerate a move towards energy efficiency in buildings in Namibia with a resultant reduction in GHG emissions. The project design identified four components with specific outputs for achieving the desired paradigm shift:

Component 1: Improved regulations and building codes for energy saving in developed buildings

- Output 1.1: Policy and regulatory framework for EE in buildings improved, including building codes.
- Output 1.2: A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction.
- Output 1.3: EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).

Component 2: Organized provision of auditing and energy marketing services

- Output 2.1: Demand and supply for energy saving services and technology stimulated.
- Output 2.2: Mandatory audits in public and commercial buildings adopted.

Component 3: Increased institutional capacity and awareness

- Output 3.1: Institutional capacity, awareness and information on EE in buildings increased.

Component 4: Structured monitoring, feedback and evaluation

- Output 4.1: Monitoring, feedback adaptive learning and evaluation ensured.

The project was financed by the GEF, facilitated by the UNDP and implemented by the Namibian Ministry of Mines and Energy and the Renewable Energy and Energy Efficiency Institute (REEEI) in Namibia.

The NEEP was initially planned for three years. The NEEP ProDoc was signed 19 August 2010. Project activities commenced in October 2010. Implementation spanned over 3 and half years and will conclude on 31 March 2014 (extended from the original closing date of 31 July 2013).

EVALUATION RATING TABLE

The terminal evaluation, conducted at the completion of a project, aims to provide the project partners i.e. GEF/UNDP, the Government of Namibia and REEEI with an independent assessment of the impact and the contribution of the project over the three year implementation period towards the expected goal and outcomes.

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

¹ Based on awareness levels (annual surveys and interviews), sector activity in RE versus that of EE.

² Considering a levelised cost of energy comparison against conventional and alternate (no or low carbon energy options): <http://votesolar.org/wp-content/uploads/2012/07/Lazard-June-11-Levelized-Cost-of-Energy-and-proj-to-2020-copy.pdf> and the “trias energetica” principle [Lysen,1996]: passive measures first, then renewable technologies, and at last efficient use of non-renewable resources.

The evaluation assessed the project design, implementation, and monitoring and evaluation with respect to its contribution to reducing GHG emissions from buildings in Namibia. It was structured as an assessment in terms of the Relevance of the project and activities, Effectiveness of implementation, Efficiency, Impacts/Results achieved and Sustainability of the results. The following provides a summary of the findings.

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

Where HS: Highly Satisfactory; S: Satisfactory; MS: Moderately Satisfactory; MU: Moderately Unsatisfactory; U: Unsatisfactory; L: Likely; ML: Moderately Likely; MU: Moderately Unlikely; UL: Unlikely

PRINCIPAL CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

CONCLUSIONS

The NEEP project faced significant design flaws and implementation challenges that contributed towards the project not achieving the intended results. The following presents the key findings and conclusions for the NEEP.

The project did make a marked contribution towards improved energy efficiency in buildings in Namibia.

The most notable contribution towards a sustainable enabling environment for energy efficiency in buildings was the establishment of the Green Building Council in Namibia (GBCNA). The GBCNA, affiliated to the world Green Building Council, was initiated as a direct result of the NEEP. The establishment of the local council was supported throughout the process by the NEEP and indications are that it will continue to receive a support service from the REEEI (host to the NEEP project) into the foreseeable future. Business, industry and public sector role players received the GBCNA enthusiastically. An Associated Working Group, drawing on voluntary participation by stakeholder representatives and supported by NEEP, have tirelessly contributed to the council establishment where it is currently finalizing the registration with the World Green Building Council and formalizing structures for self-sufficiency.

The GBCNA progress and activities suggest strong ownership by the stakeholders likely to continue driving the initiative after the completion of the NEEP project. The first rating tool has been adapted for Namibia and the first prospective green star rated building is under construction by a prominent banking group. This signifies enormous progress and opportunity to markedly influence future efficiency improvements in buildings.

The GBCNA was not originally anticipated by the project design, but was incorporated into the NEEP activities as a voluntary alternate to circumvent the challenges of improving the formal policy environment.

Other important contributions include 12 energy audits directly funded by the NEEP, 5 energy audits supported by the NEEP staff and additional audits subsequently commissioned by NamPower (number of



audits and details of findings could not be confirmed), prompted by energy auditors trained by the NEEP project.

The NEEP offered training to 60 potential energy auditors, of which 23 successfully completed the training and registered as international certified energy engineers in training³ (7) and international certified energy engineers (CEA) (15) with the Association of Energy Engineers (AEE).

Through several key studies (Baseline study, Techno-socio-economic study and two Annual surveys), NEEP has raised awareness and established a platform for improved decision making relating to energy efficiency in Namibia. The outputs and findings of these studies have already informed and will continue to inform planning by the MME, ECB and NamPower. NEEP team members have also participated in and contributed to related initiatives, programmes and planning such as the NamPower DSM initiative and the revision of the White Paper on Energy that has been initiated.

These are all significant steps in an environment where the awareness with respect to energy efficiency as a key component of an integrated energy plan, support for greater energy security and a mechanism for emission reductions, cost savings and improved energy productivity, is low.

Relevance: The Energy Efficiency focus of the project was and remains highly relevant, well aligned to the energy requirements of the country and to the strategic priorities under which the project was funded.

Effectiveness: Overall, the NEEP project did not deliver on most of the goals it set out to achieve and therefore did not make the targeted impact. The target to reduce carbon emissions from buildings based primarily on a significant change in the policy environment within three years coupled with the implementation of 20 energy efficient demonstration projects, presented an unexpected challenge. Neither these activities could be completed as planned. In the light of the challenges faced, several other initiatives were introduced that are likely to contribute towards energy savings and emission reductions, but the expected and projected **impacts have not been demonstrated and the project is consequently rated as ineffective.**

Efficiency: Considering only the GEF funding contribution and the quantifiable, lifetime emission reductions, the cost works out at \$5.47/tCO₂. This is expensive compared to the current carbon market price, but is comparable to other GEF funded EE projects.

Results: In terms of the primary goal of reducing greenhouse gas emissions, the project will deliver 150,242 tCO₂ compared to the target of 230,157 tCO₂. This represents 65% of the targeted emission reductions, but is a relatively conservative calculation because of data limitations.

Quantification of results was hampered by the absence of information. The project did not design and implement an M&E plan and the progress towards the objective of emission reductions was not properly baselined, captured/tracked and reported. This is a severe shortcoming of the project implementation.

Component 1 (Improved regulations and building codes for energy saving in developed buildings) of the project included the **revision of the building codes and demonstration projects** and was expected to make the greatest contribution to direct energy efficiency savings.

Revisions to the policy and regulatory environment were hampered by institutional challenges outside REEEIs control that were not identified during the design phase. Since, changes to the policy and regulatory framework could not be achieved, no quantifiable savings can be ascribed to this aspect.

The revision of the building codes faced an impossible hurdle. The project design did not adequately establish the status of the current building codes (40 years old, unused and not 'owned' by any government department) and the resulting challenge of revising these to support EE and RE, in spite of the effort put into this activity. As a result, the NEEP did not revise the Building Codes to incorporate energy efficiency measures as planned, but it did uncover, with unexpected difficulty, the status of and the extent of challenges facing the

³ Required to complete a practical component with a report to advance from CEA in-training status to CEA status.



revision of the 40-year-old existing building codes. This has raised awareness about the need for and an interest in revising the building codes as a whole before incorporating energy efficiency and renewable energy components.

Revising other aspects of the policy framework (standards and labelling, National EE strategy, and incorporating preferential taxes and excise duties for EE products) were similarly hampered by institutional challenges, proving too broad/ambitious in scope and exceeding the available financial and planned human resources.

The most important emission reduction interventions identified in the ProDoc, were the energy efficiency retrofits of 20 buildings. Of these, 5 demonstration facilities were committed as co-funding contributions. These are currently in various stages of implementation. The available budget was inadequate to support a further 15 retrofits. The misalignment of the available project budget to planned scope and activities was not taken into consideration nor was an innovative strategy for delivering on these outcomes, given the budgetary limitations, developed.

None of the other components had emission reductions linked to the impacts at design phase and without appropriate indicators and tracked savings, the impact quantification of the associated emission reductions presents a challenge.

The evaluation found that the scope of the project was overly ambitious for the given timelines, the available monetary budget and the challenge of finding an implementation team that was suitably qualified and experienced with respect to energy efficiency. This challenge is best illustrated by the fact that for 16 months out of the total project, there was only one full time team member on the project in the role of assistant.

The project design might have assumed commitment and contributions from other stakeholders that were never adequately captured and committed to / tied in at project design. The co-funding commitments that were made were in kind and towards parallel activities, mostly not specific to the defined outcomes. As such it did not finance the implementation of the planned project scope. As a result the cash budget did not align with the project scope and deliverables.

Failure to deliver is however not only ascribed to misalignment of scope and resources. The implementation omitted several key steps including documenting the outcomes of the inception workshop (held prior to the appointment of any project staff) into a report, adequate risk management, a project workplan, active tracking of and management against impacts/outcomes and the opportunity for a midterm evaluation.

The project furthermore faced significant challenges with respect to record keeping, documentation, reporting and project structures. These challenges were aggravated by the absence of a structured M&E approach to continually monitor, focus, guide and inform the direction of the project. As a result activities were not coherent, not optimally aligned to the project target, and may have missed opportunities to respond and adapt to the challenges.

Sustainability: The activities that were successfully implemented are likely to be sustainable. This is largely ascribed to the strong buy-in achieved for the GBCNA and the compelling business cases offered by the audit reports for the efficiency retrofits.

LESSONS LEARNED

With consideration of the evaluation and the conclusions drawn, the following recommendations are made for future project planning, design, implementation, monitoring and evaluation of projects:

Issue	Recommendation
Policy and Regulatory change	Policy and regulatory change should not be targeted where it is not firmly within the project's span of control or influence unless there is a strong commitment from a suitable stakeholder to champion this initiative
Design due diligence	The misalignment of scope and resources and the critical error of targeting the revision of building codes that effectively did not exist, highlights the need to

Issue	Recommendation
	<p>conduct a stringent due diligence of the project design.</p> <p>The inception workshop and report are critical for the project team to take ownership of and internalize the scope. Having an inception workshop without any dedicated team members appointed and failure to document an inception report that will guide implementation severely handicaps the implementation team.</p> <p>The inception report should review the project goals and outcomes, how they will be achieved, how the steering committee will support delivery and how progress will be tracked against the objectives.</p>
Project design structure (avoiding policy and regulatory change)	GBCNA is an example of a clever project adaption that successfully leveraged industry interest and commitment, achieved improved awareness and created a platform for future energy efficiency in the country, that are not subject to cumbersome government processes. Project designs that can incorporate these characteristics may have greater success.
Definition of Outcomes	<p>Output statements should be interrogated to check that they are relevant, specific, attainable, measurable and realistically timed, i.e. that they are SMART. The activities that support the outcome should also be aligned and tangibly contributing towards the outcome and the emission reduction goal. This recommendation is relevant to the design stage when the outputs are being defined, but also at implementation stage, especially during the inception workshop and as part of the ongoing M&E process.</p> <p>This is a reiterating the GEF / UNDP guidelines for project development, but is emphasized as critical to successful delivery.</p>
Scope and resource alignment	<p>Ensure there are adequate financial and human resources assigned or committed to the project for the range of activities planned. The NEEP probably needed three project managers with the support of a project assistant/administrator to have delivered on the full design scope of the project.</p> <p>At least a high-level work breakdown structure and resource allocation should be done to check the realistic delivery of the scope within budget and with the available resources.</p>
Positioning of the NEEP in the REEEI and project management.	<p>The REEEI faced challenges with implementation and did not leverage the strength of its influential position and capacity as center of technical excellence. Constraints related to capacity and skills are addressed separately below, but perhaps the key to unlocking this inefficiency lies with a stronger, structured project management approach focused on outcomes rather than activities.</p> <p>It is strongly recommended that, when it is not possible to find a technical expert with suitable project management experience, the team structure for similar projects have a full time project manager with part time technical specialist support. It is further recommended that project management capacity and structures be developed within the REEEI (NEI) to position it as a stronger delivery partner.</p>
Project management and reporting culture	Project reporting is often handled as a report on the good progress only and the tendency is to hide or downplay the challenges. A culture should be instilled amongst project managers to use reporting as an opportunity for raising concerns, communicate risks and appeal for assistance, inputs or guidance as necessary.
Monitoring and Evaluation.	<p>A comprehensive M&E plan and tracking during project implementation against indicators and outputs are critical to demonstrate success and to inform adaptive management. As this is already a requirement of GEF funded/UNDP administrated projects, the necessity of this can only be reemphasized.</p> <p>A project that cannot demonstrate tangible progress in terms of the goals, should be stopped.</p>

Issue	Recommendation
Skill/competency and capacity constraints.	<p>It is critical to recruit and obtain the support of full time, suitably skilled resources for a short-term, intensive project such as NEEP. It is strongly suggested that a skills/capacity development strategy be incorporated where this risk is identified. For example incorporating capacity development into contracts, recruiting widely for specialist positions, but identifying a candidate to shadow the specialist. In both these instances the contract conditions and performance requirements can be structured to enable, track skills transfer and to ensure retention of the 'trainee(s)'. This addition may come at a premium, but can be capped and included in the budget if properly planned.</p> <p>The project team should furthermore ensure the requirements for studies are clearly defined, that the terms of reference (technical evaluation criteria) for work outputs from Consultants are clear and suitably specific, that the evaluation and selection of service providers identify the required competencies and that delivery is closely managed to the required outputs</p>
Stakeholder participation.	<p>It is essential to ensure the correct stakeholders are identified and involved from the onset; that strong, jointly beneficial partnerships are actively established towards a common goal; and that support is lobbied for throughout the project. Again, this is repetition of the existing guidelines, but proved a major barrier in revising the building codes without the buy-in of the relevant ministry.</p>
Co-funding contributions	<p>In-kind co-funding contributions should be assessed in terms of the realistic and specific contribution it will make towards the project goal and outcomes and alignment with project scope.</p> <p>While this project showed a co-funding contribution of >US\$5 million, the designed project implementation scope was limited to the GEF funding component of US\$859,000.</p>

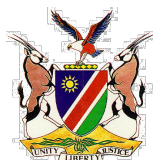
RECOMMENDATIONS (WAY FORWARD)

Several initiatives initiated under NEEP are at a tipping point, with potential to contribute positive shifts for energy efficiency in Namibia if the momentum is harnessed. The following recommendations are made for building on the NEEP contribution, or to reinforce initial benefits from the project in taking it forward:

- Mandatory energy audits in public buildings.** Based on the information produced and collected by the NEEP (audit report findings and various studies), the precedent created with the Solar Water heating Directive and the interest expressed by the MWT, it is believed that a well motivated submission from the MME to cabinet can appeal for energy audits to be made mandatory in public buildings. This was conceptually checked with the MME Director of Energy, Ms Utonih, and confirmed to be possible and acceptable during the TE interview. If the potential benefits of the audit findings are extrapolated across the portfolio of government buildings, this should offer a compelling case for a portfolio wide audit roll out and subsequent efficiency interventions and upgrades. This can be followed up with support to MWT to establish partnerships with the respective ministries for retrofits of the portfolio of government occupied buildings (approximately 9,500). The SWH example of a directive exists where Government lead by a bold example with a ripple effect throughout the private sector. This process may take 4 – 6 months and will most likely require further support with project and financial resources.
- In the interim, it is recommended that **support be provided to MWT to firm up on their interest to conduct energy audits in public buildings.**
- Show casing of demonstration buildings.** It is imperative that the six demonstration facilities (EE House, Convenience Centre, FNB Green Star rated building and planned Erongo RED and MME

buildings) be optimally utilised to show case the results, technologies and benefits of EE. The technical / design brochures developed for Erongo RED are wonderful resources, but should be supplemented with **proven results that demonstrates the benefits of the added investment**. Similar resources should be developed for the other demonstration facilities. Sharing and communicating the benefits of these EE interventions will be **critical to really catalyse the EE potential in the commercial building sector**.

- **The revision of the Buildings Codes** will contribute greatly towards entrenching energy efficiency in the building sector in Namibia. A lot of time and effort have been invested and momentum created to take this task forward. The structures have been established for the technical work of developing standards and revising codes to be completed. It is strongly advised that high-level ownership of the building codes be resolved as a priority to support the progress on a technical level. Soliciting support from stakeholders, raising awareness regarding the range of risks of not revising the buildings codes (health and safety, fire hazards, inefficient and outdated building practices, etc.), lobbying and directly engaging the relevant ministry, will be required, amongst others.
- **The Green Building Council of Namibia** is hoping to appoint permanent staff, but until such time will greatly benefit from a continued support and secretariat function provided by the REEEI (NEI in future) to lighten the administrative burden on the industry volunteers committed to this initiative. Continued support to the GBCNA is therefore recommended to ensure the promise of this initiative is fully delivered on.
- Energy efficiency has benefited from the NEEP, but the barriers to implementation remain high. **Continued support** for development of a suitable policy platform and a promotion of EE in buildings in the country are strongly advised, if at all possible to ensure the identified potential is realized. It is recommended that any further available support be invested in promoting Energy Efficiency in Namibia. If such support is available from GEF/UNDP or any other relevant source, an application for further support should be developed.
- It is recommended that the **position of EE in REEEI (NEI in future) be further strengthened**, that a funding allocation be secured / committed and that role clarity be resolved for NEI with respect to EE. It is recommended that REEEI, if possible, continue with a commitment and resources for driving EE delivery on building codes, pursue implementation of audit findings, follow up with MWT for audits in public buildings, show case results, provide support to the GBCNA, amongst others.
- It is lastly strongly recommended that the recommendations of **the energy audit be pursued for implementation in the UN House** and used to showcase and promote the benefits of energy efficiency interventions and the UN's commitment to climate change mitigation.



ACRONYMS AND ABBREVIATIONS

APR/PIR	Annual Project Review/Project Implementation Reports APR/PIR
CEO	chief executive officer
CFL	Compact Fluorescent Light
CO	UNDP country office
CPAP	UNDP country programme action plan
CPD	UNDP country programme document
DRFN	Desert Research Foundation of Namibia
DSM	Demand Side Management
ECB	Electricity Control Board
EE	Energy Efficiency
ESI	Electricity Supply Industry
GEF	Global Environment Facility
GHG	Greenhouse Gas
GW	Gigawatt
GWh	Gigawatt-hour
HCAT	Harmonized Approach to Cash Transfers
HRDC	Habitat Research and Development Centre
HVAC	Heating, Ventilation and Air Conditioning
IA	Implementing agency
INC	Initial National Communication
kW	Kilowatt
M&E	Monitoring and Evaluation
ME	monitoring and evaluation
MET	Ministry of Environment and Tourism
MME	Ministry of Mining and Energy
MOU	memorandum of Understanding
MRLGHRD	Ministry of Regional and Local Government, Housing and Rural Development
MSP	medium size project
MTE	midterm evaluation
MW	Megawatt
MWh	Megawatt-hour
MWT	Ministry of Works and Transport
NCCC	Namibia Climate Change Committee
NEEP	Namibia Energy Efficiency Programme
NEEP	Namibia Energy Efficiency Programme in Buildings





NEI Namibian Energy Institute

ACRONYMS AND ABBREVIATIONS (CONTINUED)

NGO	Non-Governmental Organization
NHE	National Housing Enterprise
NIA	Namibia Institute of Architects
NMA	Namibian Manufacturers Association
OFP	GEF operational focal point
PDF-A	preparatory development assistance block A
PIF	project identification form
PIMS	UNDP GEF project information management system
PIR	project implementation report
POPP	UNDP Programme and Operations Policies and Procedures
ProDoc	UNDP/GEF Project document
PSC	project steering committee
PT	project team
PTA	principal technical advisor
PV	Photovoltaic
RCU	UNDP/GEF regional coordinating unit
RE	Renewable Energy
RED	Regional Electricity Distributor
REEEI	Renewable Energy and Energy Efficiency Institute
ROAR	results oriented annual report
RTA	Regional Technical Advisor
SAPP	Southern African Power Pool
SWH	Solar Water Heater
TE	terminal evaluation
TER	terminal evaluation review
ToR	terms of reference
UNDAF	UN development assistance framework
UNDP	United Nations Development Programme
UNDP CO	United Nations Development Programme Country Office
UNDP EO	UNDP Evaluation Office
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services



1 INTRODUCTION

1.1 PURPOSE OF THE EVALUATION

This Terminal Evaluation (TE) of the medium-sized Namibia Energy Efficiency Programme in Buildings” (NEEP) project, is being undertaken in accordance with the UNDP and GEF Monitoring and Evaluation policies and procedures.

It aims to provide the project partners, i.e., GEF/UNDP, the Government of Namibia and REEEI with an independent assessment of the impact and the contribution of the project over the three year implementation period towards the expected goal and outcomes.

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

This TE has been commissioned to coincide with the last three months of project implementation (the extended completion date scheduled for 31 March 2014) as required. The evaluation was conducted in the context of the project document which describes the initial project design and entailed a comparative review of the planned outcomes or objectives, the implementation process, achievement of results against the targeted objectives and drawing lessons that will guide future implementation and inform decision-making.

1.2 KEY ISSUES ADDRESSED

While comprehensive and overarching, the evaluation mission effectively focused on two key issues.

On initial assessment, the project appeared to have not delivered on several of the outcomes originally defined. The first focus was therefore on verifying this perception and, if confirmed, understanding the factors that contributed to this status.

The project did demonstrate progress in areas and introduced innovative alternatives to circumvent challenging conditions. The initial impression was that the progress made had reached a critical cusp, with potential to either contribute a significant breakthrough for energy efficiency in buildings or to revert back to the status quo prior any interventions. The second focus was therefore on assessing the sustainability of the project impacts into the future or identifying the actions needed that would support sustainability.

As such, questions were designed to test the impact achieved by the project in its entirety and by individual components, but also to test the likelihood of sustainability of the results achieved.

1.3 METHODOLOGY AND EVALUATION

The methodology used for the project final evaluation is based on the UNDP/GEF Monitoring & Evaluation Policies and was structured as follows:

- I. Project documents review prior to the evaluation mission
- II. Evaluation mission and on-site visits, interviews with project management, UNDP CO, project partners and stakeholders, as well as with independent experts.
- III. Drafting the evaluation report and ad-hoc clarification of collected information/collection of additional information
- IV. Circulation of the draft evaluation report for comments
- V. Finalizing the report, incorporation of comments

The TE considered all evidence of results or impacts of the project in terms of the relevance to the goal and the sustainability of the outcomes and the efficiency and the effectiveness of achieving the project’s intended results. The TE methodology took a structured approach that aimed at:

- Providing a comprehensive and systematic accounting of performance against the stated objectives
- Assessing project design, implementation, likelihood of sustainability and a preliminary view on possible impacts
- Focussing on results and sustainability; and identifying lessons learnt for future projects

The TE was structured as an assessment of:

- The project design, implementation and M&E with respect its contribution to reducing GHG emissions from buildings in Namibia.
- The Relevance of the project and activities, Effectiveness of implementation, Efficiency, Impacts/Results achieved and Sustainability of the results.

The evaluation process drew on both quantitative and qualitative data. The sources of data and methods for data collection utilized included:

1. Review of all available **documents and reports** related to project design, implementation progress and tracking. This review also included documented studies, surveys and development work and a number of verification sources to track indicators. Additional sources or evidence identified during the mission and interviews were incorporated in the review process as they were identified.
2. Face-to-face **consultations and interviews** were conducted using semi-structured interviews with a range of stakeholders. A discussion outline and typical interview questions were drafted as a framework to guide discussions, and refined leading up to and during the interviews. The list of stakeholders consulted and the framework for the interview questions are available in the Annexures to this report (refer Sections 5.2 and 5.5.1)
3. **Questionnaires** were distributed to energy auditor trainees and building owners. The purpose of the questions were to gauge whether the free energy audits, training and capacity building had impacted the market demand, whether the training had resulted in any additional audits, whether audits had translated into implementation and whether awareness and information on EE in buildings had materially increased. The opportunity to circulate a questionnaire amongst Engineers and Architects was considered, but not pursued.
4. **Site visits** were conducted to two audited buildings to confirm where audits have resulted in efficiency upgrades. A site visit was also arranged to the EE House (a co-funding commitment from the Polytechnic of Namibia) and the Convenience Centre in Arandis (a co-funding commitment from the Arandis Town Council).

1.4 STRUCTURE OF THE EVALUATION

This final evaluation report follows the structure specified in the Terms of Reference (see Annex F: Annex F: Table of Contents for the Terminal Evaluation Report) and according to the 2012 “Guidance for Conducting Terminal Evaluations of UNDP supported, GEF-financed Projects”.

The TE report provides an Executive Summary with an overview of the TE and findings, supported by the detail review. The review incorporates an (1) Introduction to the evaluation, provides a (2) description of the project, details the (3) findings of the TE in terms of Project Formulation, Implementation and Results, and (4) concludes with recommendations and lessons learnt.

Questionnaires used to collect data and the detail results of the surveys are presented in appendices to this report.

2 PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

2.1 PROJECT TIMELINES

The NEEP was implemented through the Ministry of Mines and Energy and the Renewable Energy and Energy Efficiency Institute (REEEI). The project was planned to officially start in May 2010, the Project Document was signed in August 2010, but only commenced formally in October 2010. The project will conclude its final year of implementation on 31 March 2014.

Originally the project was planned for a 3-year implementation period from May 2010 with the original completion date scheduled for 31 July 2013. In 2012 the project completion date was postponed by the PSC, at a meeting held on 16 June 2012, to 31 December 2013. The completion date was subsequently extended for a further three months (written approval from the UNDP Resident Representative dated 3 December 2013) and will conclude its final year of implementation on 31 March 2014. The total implementation period was therefore 3 and half years.

The TE was commissioned on 5 February 2014. The evaluation mission was conducted between 17 February and 28 February 2014. The second draft TE Report was submitted on 16 April 2014.

2.2 PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS

Buildings are globally a large consumer of energy / electricity resulting in significant CO₂ emissions generated from the burning of carbon fuels to supply these energy needs. With a shift to greater energy efficiency in buildings, the associated energy-related GHG emissions will be reduced. But, the benefits of improved efficiency in buildings do not only lie in climate change mitigation. Greater energy efficiency also results in cost savings, alleviates energy capacity constraints, improves economic productivity, and is believed to contribute to job creation and social development.

The NEEP project's objective has been the reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings. These targeted sectors include government office buildings, hospitals, hotels, schools and a sample of residential buildings.

The project was, and remains, highly relevant in the current Namibian context.

Namibia is a Higher Middle Income country as classified by the World Bank and was named top emerging market economy in Africa (and the 13th best in the world) in 2013 by global business and financial news provider, Bloomberg⁴. The Namibian Government is progressive in terms of economic development and growth and is committed to commercial development and job creation as reflected in, amongst others, the National Development Plans, Vision 2030, Medium term plan and stated aspirations for a green economy and green jobs for the country.

Sustainable and secure energy supply is a critical component for sustained economic growth and development and essential for Namibia's planned transition into an industrialized economy.

The challenge of providing access to clean, reliable and affordable energy in support of socio-economic developmental needs, and addressing major environmental challenges including climate change, is confronting developing economies worldwide.

Whilst Namibia is a relatively small electricity consumer (3,861 GWh in 2013, Nampower Annual Report), it is a net importer of electricity and hence dependent on the status of the electricity system in the Southern Africa Development Community (SADC) region and the Southern Africa Power Pool (SAPP). The demand for electricity throughout the entire SADC region is outstripping supply and the SAPP has been under severe

⁴ <http://www.doingbusiness.org/data/exploreeconomies/namibia/> and <http://www.bloomberg.com/slideshow/2013-01-30/the-top-20-emerging-markets.html#slide9>



pressure for, at least, the preceding 5 years⁵. Historically, South Africa has been the main supplier of imported electricity to Namibia and although recent agreements with Botswana, Zambia and Zimbabwe have been strengthened and a power agreement from the exploration of the Kudu gas fields (800 MW Kudu Gas-to-Power plant) is moving forward, South Africa was still responsible for >40% of the power supply to Namibia in 2013.

South Africa has faced pronounced electricity supply capacity constraints since 2008. On 20 and 21 February 2014, the national utility announced a power supply crisis, curtailed supply to industrial partners and implemented temporary load shedding on 7 March 2014.

Namibia therefore remains vulnerable to supply constraints and price escalations for the foreseeable future.

In the current global context of diminishing fossil fuel resources, escalating fuel and energy prices and the recognition of the impacts on climate change, the importance of securing sustainable energy sources is paramount. Namibia's economic growth objective should therefore be coupled with a transition to a low-carbon economy as a competitive and development priority. A successful transition will require far-reaching changes in technology, finance, policy and societal behaviour.

Two key building blocks of sustainable energy solutions, and a low carbon economy, relate to energy innovation (alternate and clean energy solutions) and energy conservation. During the recent past, significant effort has gone into creating awareness around renewable energy and the abundant renewable energy resources available in Namibia. The NEEP Project Document reported a long list of initiatives that supported the promotion of renewable energy in the country.

Because of the link to the South African power system, which for years had excess electricity capacity, electricity prices have historically been relatively low. More recently electricity prices sharply increased, renewable energy options were successfully promoted and became more readily available. As a result renewable energy solutions have enjoyed significant success, contrary to conventional wisdom, ahead of energy efficiency being pursued.

Energy efficiency is generally considered a more cost-effective carbon mitigation measure, reported to create as many, if not more, jobs than renewable energy (job per GWh)⁶ and, if implemented before introducing an alternate energy solution, reduces the size and the cost of the required solution (also improving the cost effectiveness of the renewable energy solution).

The NEEP was designed in recognition of the unexplored opportunities for Energy Efficiency in Namibia.

The project objectives align directly with the priorities in the UNDP Country Programme Document (CPD), specifically component 3: energy and environment for sustainable development. It also extends to priorities under component 2: Inclusive growth, economic empowerment and poverty reduction with economic growth opportunities and improved residential energy efficiency in particular contributing to the alleviation of energy poverty and improved living conditions in low income households.

2.3 IMMEDIATE AND DEVELOPMENTAL OBJECTIVES

Improved energy efficiency contributes to a reduction in CO₂ emissions, a core GEF objective. The ProDoc stated the project objective as:

"The project's objective is therefore the reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in the commercial and residential buildings such as government office buildings, hospitals, hotels, schools and possibly a sample of residential buildings."

⁵ Nampower Annual Report, June 2013 reported SAPP available capacity 51,702 MW against a suppressed demand of 59,411 MW as at 28 February 2013

⁶ Rutovitz, J. 2010. South African energy sector jobs to 2030. Prepared for Greenpeace Africa by the Institute for Sustainable Futures, University of Technology, Sydney, Australia.



Within the country context and the UN Country Programme (CPD) for Namibia described in the preceding section, the NEEP project sought to accelerate the adoption of EE in the country, raise awareness around EE, establish institutional capacity, increased EE in the Namibian building sector and transformed local market for energy-efficient technologies and practices.

The project was primarily designed to remove, or minimize, the barriers⁷ that were inhibiting the widespread adoption of energy-efficient technologies and practices in the commercial and residential building sectors.

The identified barriers to implementation were targeted through a series of **four key project components**:

- (i) **Assistance and capacity building to local authorities** for the formulation of appropriate regulations (standards and labeling of building appliances and buildings codes) with the aim to establish an improved policy framework and focus areas/technologies
- (ii) **Provision of auditing and energy marketing services** to stimulate the demand and supply of EE services and technology in the country, particularly through the introduction of **mandatory audits in public and commercial buildings** and subsidized implementation of EE measures in at least 20 existing buildings
- (iii) **Strengthening of institutional capacity, awareness and knowledge sharing platforms on EE in buildings** that will facilitate market transformation and the adoption of EE technologies and best practices
- (iv) Supported by Project Management, structured **Monitoring, Feedback and Evaluation** to ensure delivery of the project and the desired impacts

The specific activities of the project were developed and implemented in the context of these components.

2.4 BASELINE INDICATORS ESTABLISHED

The Project Document described the components, the respective **targeted outputs** under each component and the baseline at the time of project inception (against which progress would be measured) as follows:

Table 1: Baseline Indicators

Goal / Objective / Outcome	Performance indicator	Baseline at time of inception
Overall Goal: Promote climate change mitigation, Reduce greenhouse gas emissions from buildings	GHG emission reductions Direct annual emission reduction resulting from the investment in EE measures in buildings.	0 t CO ₂
Overall Objective: Promote nationwide adoption of energy efficient technologies and practices in commercial and residential buildings, and therefore reduce GHG emissions.	Reduction in total energy usage in the commercial and residential building sectors. Market penetration of energy-efficient technologies and practices in buildings.	0 MWh/ year energy savings in the building sector. Lack of energy efficient technologies and practices on the building sector market.
Outcomes		
Component 1: Improved regulations and building codes for energy saving in developed buildings	Improvements made by the Government in the National EE policy, regulatory framework, and building codes	Actual energy policy and regulatory framework as well as building codes are not addressing EE.
Output 1.1: Policy and regulatory	Formulation of a Strategic Action Plan	Strategic Action Plan on EE in new and

⁷ The seven most significant barriers were identified as: institutional, policy, legal and regulatory, technical, cost, awareness and information and implementation barriers.

Goal / Objective / Outcome	Performance indicator	Baseline at time of inception
framework for EE in buildings improved, including building codes .	on EE by MME (in cooperation with REEEI) in new and old buildings. Identification, revision and development of building codes.	old buildings non-existent. EE standards and recommendations non-existent in actual building codes.
Output 1.2: A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction.	Detailed study on potential EE technologies and socio-economic survey. Design of policy instruments, standards, and financial incentives Reinforcement of compliance enforcement capabilities.	Study on potential EE technologies and socioeconomic survey non-existent. Lack of incentives to promote energy-efficient technologies and practices and encourage EE financing. Lack of compliance enforcement capabilities focusing on EE in buildings.
Output 1.3: EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).	Demonstration of EE benefits for buildings through pilot projects.	No pilot project has been implemented in Namibia to demonstrate the benefits and the effectiveness of EE technologies.
Component 2: Organized provision of auditing and energy marketing services	Evaluation of capacity needs and local capacity availability in the industry.	No evaluation has been conducted.
Output 2.1: Demand and supply for energy saving services and technology stimulated.	Enhanced capacity to undertake energy audits in buildings.	Capacity to undertake energy audits in nonexistent building. Program of certification for non-existent auditors.
Output 2.2: Mandatory audits in public and commercial buildings adopted.		Lack of energy audits and feasibility analysis undertaken in buildings. Lack of buildings where EE measures have been implemented.
Component 3: Increased institutional capacity and awareness	Institutional sector awareness and understanding of the concept of EE in buildings.	Lack of institutional capacity and awareness on EE in buildings.
Output 3.1: Institutional capacity, awareness and information on EE in buildings increased.	Increase in public awareness of national and local policy makers and commercial developers. Database and website setup at the Namibian REEEI. Establishment of a green building rating system.	Lack of knowledge on EE in buildings. Database and website on EE in buildings non-existent. Standards for best practices in buildings
Component 4: Structured monitoring, feedback and evaluation	Development of a strategy to monitor and evaluate the project.	Monitoring, feedback, and evaluation strategy non-existent.
Output 4.1: Monitoring, feedback adaptive learning and evaluation ensured.	Monitoring of indicators through baseline, mid- and end-of-project analysis. M&E of project performance. Dissemination of project results.	

The ProDoc suggested the following indicators to be used for measuring and tracking of progress:

Table 2: Initial indicators

Impact to be monitored	Indicators	Verification Means
Growth in the number of energy audits undertaken in commercial and residential buildings	Participation level in project activities.	<input type="checkbox"/> Project database <input type="checkbox"/> Energy Audit Reports <input type="checkbox"/> Survey of Namibia's Central Bureau of Statistics
Increase in market penetration of energy-efficient technologies, practices, products and material in the commercial and residential markets.	Sales of energy-efficient products and material, and implementation of energy-efficient technologies and practices.	<input type="checkbox"/> Project database <input type="checkbox"/> Survey of Namibia's Central Bureau of Statistics <input type="checkbox"/> Supplier and manufacturer sales data
Reduction in total energy usage in the commercial and residential building sectors.	Estimation of the total energy saved in the commercial and residential building sectors via measurement of energy consumption before and after EE applications.	<input type="checkbox"/> Project Monitoring and Evaluation reports <input type="checkbox"/> Survey of power utilities
Lower specific CO2 emissions per building.	Tons of CO2 avoided based on energy consumption reduction.	<input type="checkbox"/> Survey of power utilities <input type="checkbox"/> Project Monitoring and Evaluation reports

The baseline and indicators for most outputs were not defined in terms of targeted emission reductions. For example the market potential if all new building stock were impacted by revised building codes was not quantified. A lot of this data was presumably not available at the time of the project design, but an attempt should have been made. With consideration of the baseline statements and the indicators table there are options for quantifying this potential, but the required data was not sourced (e.g. statistics, sales data), collected (e.g. project database, measured) or analysed for this purpose.

2.5 MAIN STAKEHOLDERS

The UNDP Namibia was the GEF implementing agency for the NEEP. The Implementing partner for the NEEP was the Ministry of Mines and Energy who delegated responsibility for project management to the Renewable Energy and Energy Efficiency Institute on their behalf.

The Project Document conducted a comprehensive stakeholder analysis identifying a long list of stakeholders likely to be involved or interested in the project. From this list, the main stakeholders that were actively involved during the project implementation period include:

Table 3: Main Stakeholder List

Institution / Stakeholder Group	Capacity
Ministry of Mines and Energy (MME)	Implementing Partner / Executing Agency, National Project Director and Co-funder
Renewable Energy and Energy Efficiency institute (REEEI)	Delegated with responsibility as Executing Agency / Project Implementation
Polytechnic of Namibia	Host for the REEEI and Co-funder
Arandis Town Council	Co-funder and Project Steering Committee
Erongo RED	Co-funder and Project Steering Committee
Osona West	Originally identified as co-funder
Ministry of Regional and Local Government, Housing and Rural	Project Steering Committee, implementation partner

Institution / Stakeholder Group	Capacity
Development (MLRGHRD)	
National Housing Enterprises (NHE)	Project Steering Committee
Ministry of Environment and Transport	Project Steering Committee
Electricity Control Board	Project Steering Committee
NamPower	Project Steering Committee
Ministry of Works and Transport	Project implementation partner (GBCNA)
Namibia Institute Architects (NIA)	Project implementation partner (GBCNA)
National Standards Institute (NSI)	Project Implementation partner (green building codes)
Commercial and public buildings owners and managers	Recipients of Energy Audits
Energy Auditor Trainees	Recipients of Energy Auditor training

2.6 END OF PROJECT RESULTS

The results indicated in the last column were targeted by the NEEP:

Table 4: Indicators, baselines and results targeted

Goal / Objective / Outcome	End of project target
Overall Goal: Promote climate change mitigation, Reduce greenhouse gas emissions from buildings	230,157 t CO ₂ cumulatively avoided .
Overall Objective: Promote nationwide adoption of energy efficient technologies and practices in commercial and residential buildings, and therefore reduce GHG emissions.	1,828 MWh/year of energy savings in the building sector. Increase of energy-efficient technologies and practices in the building sector.
Outcomes	
Component 1: Improved regulations and building codes for energy saving in developed buildings	New policy and regulatory framework for EE in buildings, including building codes addressing EE ready for adoption by Parliament
Output 1.1: Policy and regulatory framework for EE in buildings improved, including building codes .	Adoption Strategic Action Plan on EE in new and old buildings. Adoption of new national building codes including EE standards and recommendations.
Output 1.2: A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction .	A detailed study on potential EE technologies and socio-economic survey is conducted. The design of policy instruments, standards and financial incentives by the Government to promote energy-efficient technologies and practices, and encourage EE financing. Strengthening capacities and knowledge inside the Government policy unit to enable the regulation of compliance enforcement.
Output 1.3: EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).	Twenty pilot projects are developed and implemented in institutional, commercial, and residential buildings (including a Zero Emission Building at Erongo RED Headquarters).
Component 2: Organized provision of auditing and energy marketing services	National evaluation on capacity needs for provision of auditing and energy marketing services organization
Output 2.1: Demand and supply for energy saving	At least 40 local auditors are recruited and receive training on



Goal / Objective / Outcome	End of project target
services and technology stimulated.	energy audits in building. At least 70% of local auditors participate in the certification program.
Output 2.2: Mandatory audits in public and commercial buildings adopted.	At least 40 energy audits and feasibility analysis undertaken in buildings. EE measures implemented in at least 20 buildings.
Component 3: Increased institutional capacity and awareness	Significant increase in institutional capacity and awareness.
Output 3.1: Institutional capacity, awareness and information on EE in buildings increased.	Public is aware of the new policy and regulation framework as well as EE in general. Adoption of database and website created by the Namibian REEEI. Adoption of standards for best practices in buildings. Standards are set exceeding the mandatory
Component 4: Structured monitoring, feedback and evaluation	Adoption of programme monitoring, feedback and evaluation strategy.
Output 4.1: Monitoring, feedback adaptive learning and evaluation ensured.	Establishment of a team to monitor indicators throughout the project. Independent evaluation of project performance using building utility bills and other energy data consumption. Presentation of the project M&E main findings to Government and stakeholders.



3 FINDINGS

3.1 FORMULATION

At the time of design the Focal Areas were defined differently and this project was consistent with the Climate Change Focal Area, Strategic Program 1: Promoting Energy Efficiency in Residential and Commercial Buildings. After the restructure of the GEF Focal Area strategies, the NEEP project remained consistent with the objectives of the Climate Change Focal Area Strategy and specifically Climate Change Objective 2, Promote Market Transformation for Energy Efficiency in industry and the Building Sector⁸.

The project development, as documented in the Project Document, incorporated a detailed analysis of the challenges and opportunities related to energy efficiency in buildings in Namibia. This analysis was appropriately translated into a project design that aimed to influence a rapid and momentous shift in the country's energy culture towards more considered and sustainable, energy efficient practices in buildings.

The design took a comprehensive approach, targeting several changes in the policy environment, market transformation (by stimulating the demand for and the supply of energy services and technologies) and development of institutional capacity.

3.1.1 ANALYSIS OF LOGICAL FRAMEWORK (PROJECT LOGIC /STRATEGY; INDICATORS)

The logical framework matrix specified in the Project Document is generally well structured, specifies project outcomes, outputs and output indicators, baseline, targets, source of verification and assumptions. The project results framework is supplemented with a table of indicators, suggesting ways of tracking progress.

The overall goal and overall project objective are well defined, specific, measureable, clear, relevant, attainable, and tied to a delivery timeline.

In general the targets are practical, specific and measureable, with some (important) exceptions. As an example Outcome 2.2 is stated as: "Mandatory audits in public and commercial buildings adopted." A logical target would be a Cabinet directive that makes energy audits mandatory in commercial and public buildings based on the precedent created with the Directive for SWH installations in public buildings. Activities to deliver on this could then include a cost benefit analysis of the implementing such a regulation, preparation a submission to cabinet with a compelling motivation, lobbying stakeholders, submitting the appeal and obtaining a Cabinet decision. But the performance indicators and targets defined in the results framework, while practical and specific, **appear to be misaligned with the targeted output:**

Output	Performance indicator	Baseline	Target
Output 2.2: Mandatory audits in public and commercial buildings adopted.	Number of energy audits and feasibility analysis undertaken in public and commercial buildings. Number of buildings where EE measures have been implemented.	Lack of energy audits and feasibility analysis undertaken in buildings. Lack of buildings where EE measures have been implemented.	At least 40 energy audits and feasibility analysis undertaken in buildings. EE measures implemented in at least 20 buildings.

Another example of a nebulous definition is Output 1.1, stated as "Policy and regulatory framework for EE in buildings improved, **including building codes.**"

Output	Performance indicator	Baseline	Target
Output 1.1: Policy and	Formulation of a Strategic	Strategic Action Plan on EE	Adoption Strategic Action

⁸ GEF-5 Focal Areas Strategies

Output	Performance indicator	Baseline	Target
regulatory framework for EE in buildings improved, including building codes.	Action Plan on EE by MME (in cooperation with REEEI) in new and old buildings. Identification, revision and development of building codes.	in new and old buildings non-existent. EE standards and recommendations non-existent in actual building codes.	Plan on EE in new and old buildings. Adoption of new national building codes including EE standards and recommendations.

The performance indicator lists an activity by the Implementation Partner, **which is not under the direct control of the NEEP project**. This presents a high risk that the project will be held to and measured against a delivery of an activity outside the ambit of its control. Indicators such as this should ideally be avoided.

Further comments relate to the scope of the outputs and expected results.

Under Component 1 alone, the project targeted improvements made by the Government in the National EE policy, regulatory framework, and building codes. Outputs identified the implementation of major policy interventions (including introducing Standards and Labelling (S&L) for appliances, introduction of Green Building Codes, tax breaks and/or preferential import duties for EE technologies and mandatory audits in commercial and public buildings) within the three years with only a small team and limited funds. In South Africa, as an example, S&L and the development of more efficient building standards have taken over a decade to develop with aspects of the standards eventually introduced as voluntary standards pending resolution of remaining barriers.

To achieve such a significant change in the policy environment in such a short period of time would require strong support and drive from all institutional stakeholders and a forceful Government partner. Such forcefulness is unlikely to be employed unless there is a national emergency.

In the project design, MME's involvement was identified as mitigation for most of the identified implementation risks. MME has limited internal capacity for EE, no dedicated directorate with REEEI effectively delegated with the EE implementation responsibility on behalf of the ministry. The REEEI budget has reportedly been approximately NAD 1,2m per year of which only a percentage is available for EE⁹. Supplemental resources to support the changes in the policy environment were not available from the ministry. Such significant reliance on the MME for mitigation under these circumstances was not well considered.

Only \$250,000 was budgeted for this component. **A more realistic budget and time allocation for a significant shift in the policy environment might have been 5 years and \$5 million similar to the budget for REEECAP.**

The project design targeted a revision of the building codes to incorporate EE standards. While seemingly simple, this targeted output did not have sight on the status of the building codes in Namibia. The design phase did not identify that the building codes were not actively used as a national standard, had not been updated in more than 40 years and was not actively championed by any ministry. The studies that informed the project design indicated that the existing building codes were outdated, but did not adequately identify the challenges that that presented. Similarly, it did not identify the lack of ownership by any ministry as a risk for making substantial revisions to the codes. This contributed a major setback for the effort to update the building codes to incorporate energy efficiency and renewable energy components. **Targeting a revision within three years under these circumstances was fatally flawed.**

Component 1 furthermore targeted demonstration projects to be implemented in 20 buildings. The GHG emissions target (230,157 tCO₂) for the project was calculated based on the implementation of these (1 net zero energy building and 19 energy efficient buildings), newly constructed demonstration buildings. Obtaining

⁹ Interview: Director of Energy and during interview with Deputy Director Renewable Energy and Renewable Energy Research.

stakeholder/developer buy-in and commitment, raising funds and designing and constructing 20 demonstration buildings within 3 years are ambitious.

It is however noted that, while the emission reduction target was developed using only this output assumptions, the emission reductions could have been readily achieved had the targeted policy changes (for instance revising the building code, which would then influence all subsequent construction projects in the country) been achieved. The emission reduction target is not excessively onerous had the project scope and activities been carefully assessed at inception, efforts focussed throughout to achieve (and track) the desired market transformation and policy changes and co-funder commitments realised as anticipated.

While less severe, Components 2 (Provision of auditing and energy marketing services) and 3 (increased institutional capacity) were faced with similar resource challenges.

With reference to Quarterly Progress Reports, PSC minutes and feedback from interviews, the scope of the project was narrowed down and refocused relatively early on due to resource constraints and severe regulatory hurdles.

Co-funding contributions where all structured as in-kind contributions and committed towards parallel activities with some shared outcomes of the NEEP. With a total project budget of \$859,000 (not considering in kind co-financing commitments) and only two full time team members, it is assumed that the project design anticipated that the NEEP project would serve as a catalyst for change, rather than single-handedly delivering all the outputs. Successful delivery would require the available resources to leverage significant support, collaboration and contributions from amongst relevant stakeholders. This was unfortunately not achieved to the extent required to deliver on the comprehensive project scope. This assumption was also not pertinently stated as such in the Project Document and no strategy was formulated or documented for effectively leveraging the required resources.

In this context, it appears that the project was under capacitated for the scope of the project and that the project design was overly ambitious.

Should it have been possible to implement all the planned activities and changes, this project would have laid a solid foundation for energy efficiency in buildings in Namibia as it effectively identified key problems and proposed suitable project activities, including improvement of the policy framework, import duties and building codes, mandatory audits, strengthening institutional capacity and awareness, capacity development and incorporated demonstration projects to showcase energy efficiency benefits. But, in the timeframe and budget, the project formulation would have been better and more realistically structured if more focused.

The targeted project was however not adequately informed on some of the key activities and outputs, did not have adequate financial or human resources planned to implement the project and proposed risk mitigation measures were weak.

Project Logical Framework is therefore rated **Moderately Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.2 ASSUMPTIONS AND RISKS

The Project Document did analyze and formulated project implementation risks and key assumptions for risk mitigation and successful project implementation.

Nine key project risks were identified for successful implementation:

- 1 Lack of political commitment
- 2 Low technical capacity

- 3 Lack of awareness of building owners and users to project activities
- 4 Reluctance on the part of industry and end users to participate in the programme and respond to project incentives (S)
- 5 Climate variability may impose new priorities on the funding of Namibian Government and other partners
- 6 Changes in political priorities
- 7 Impact of the introduction of new electricity generation capacity in Namibia, decisions by South Africa (ESKOM) and/or associated reprioritisation of national DSM and EE programs
- 8 Inflationary pressures have had a considerable impact on the growth of Namibian economy in the past. (S)
- 9 An economic down-turn will reduce the demand for energy and therefore will limit the investments in new buildings and EE measures

These risks were assessed during the project preparation phase and the activities and measures to mitigate them were documented. The project was allocated a risk rating of **Moderate** with only two risks identified as Substantial (indicated with an (S) in the list above).

Based on the analysis under Section 3.1.1, this risk analysis inadequately identified the significant risks associated with the broad project scope, the focus on improving the policy environment (MEPS, S&L, import duties and building codes) and introducing mandatory audits within the project delivery timeframes and with the available resources.

While low technical capacity was identified as a risk, it did not anticipate the severe lack of suitably skilled capacity, expertise and experience with respect to EE in Namibia. This lack of suitable technical skills presented one of the most significant challenges faced by the project without an adequate strategy for mitigation.

The risk analysis also does not adequately reflect the risks and assumptions identified in the Results Framework. The Results Framework list of risks, assumptions and mitigation measures identified close cooperation with and active involvement of MME and governmental agencies as a key mitigation measure. The assumptions and critical success factors relied heavily on inputs from external role players and specifically Government. As an example, the assumption that "Government staff is willing to commit sufficient time...." is listed 7 times in the results framework as a prerequisite for delivery. Given the limited capacity for EE in the Ministry of Mines and Energy and the plethora of other priorities in the Renewable Energy Directorate, this should have been flagged as a substantial risk to delivery. The project design should have taken cognizance of this and, unless a very strong mitigation strategy was developed, should have **restructured the design to be less reliant on a single stakeholder**.

The Project Document did identify the need for and recommended the use of a risk log to track and manage the risks on the project. It also proposed that risks be reconsidered and updated during the Inception Workshop.

The rating for risks and assumptions is therefore **Moderately Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.3 LESSONS FROM OTHER RELEVANT PROJECTS (E.G., SAME FOCAL AREA) INCORPORATED INTO PROJECT IMPLEMENTATION



The NEEP project was designed with careful consideration of the gaps within the existing energy landscape and with specific consideration to numerous existing RE and EE related initiatives in the country¹⁰. The project drew on the scope and outputs from these projects and was structured to align with and complement the initiatives that were still active.

There is no reference made to lessons from similar, Energy Efficiency UNDP or GEF Focal Area projects in the Project Document. Notably the UNDP S&L projects in South Africa and Kenya could have contributed valuable lessons and considerations in formulating the outputs and targets for this project. More careful consideration of other regional EE projects should have flagged the ambition of the scope of NEEP in the given timeframes and budget.

The design suggests that experience and lessons from related projects informed the activities, but there is no direct evidence in the Project Document that lessons learnt were extensively considered in the design and formulation of the NEEP.

Lessons from other relevant projects is therefore rated **Moderately Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.4 PLANNED STAKEHOLDER PARTICIPATION

Stakeholder participation was identified in the Project Document as key to successful implementation of the NEEP project. Past experience of the UNDP was cited indicating that EE programmes are most effective when the process involves all stakeholders from the onset and when all analyses, interactions and decisions are open to full scrutiny by all parties. A GEF's project learning in the energy efficiency field was also quoted as: "Risks should be shared among all program participants."

The development of the NEEP project was therefore deliberately done with transparency, targeting active involvement and joint risk-sharing of the government, industry (including equipment manufacturers), Non-Governmental Organizations (NGO), utilities, technical and professional bodies, amongst others.

The **value and number of co-funder commitments towards the project during design phase would suggest strong commitment from the key stakeholders and implementing partners**. It would be reasonably expected that close cooperation with responsible stakeholders during design phase would translate into strong ownership of the project by the co-funders and key stakeholders during the implementation phase.

As described in Section 2.5, the Project Document **identified an extensive list of stakeholders to be considered for participation in the project implementation**. The consideration of stakeholders was comprehensive, including an analysis of the respective entities, their roles on, likely interest in and opportunities for collaboration on the project.

The project had anticipated working with a range of relevant governmental ministries and agencies, parastatals, electricity distributors, municipalities, private and public sector developers and building industry players, RE and EE experts, other donor funded projects and NGOs. The list of stakeholders correlates to the broad scope of the project design. In reality, during implementation, only a selection of these stakeholders actively participated.

¹⁰ These included the UN Habitat, REECAP, NAMREP, GIZ and DANIDA funded PV and DEGREEE projects, amongst others (refer page 28 of the ProDoc for detail of these projects).



An extensive list of stakeholders could easily lead to unfocused effort and ineffective communication. For such a large number of stakeholders, it may be valuable to add a RACI¹¹, or an Influence/Interest matrix or similar analysis and a suggested stakeholder interfacing strategy to the planning phase that would more effectively guide and focus stakeholder engagement on the project.

Considering the broad scope of the project and the heavy reliance on stakeholders to implement alongside the NEEP, stakeholder participation should have been formalised better.

The overall assessment of the stakeholder participation in the design phase is rated **Moderately Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.5 REPLICATION APPROACH

In order to secure sustainability of the project, the sustainability strategy described in the ProDoc was based on:

- The establishment of an enabling environment for market transformation towards more energy efficient technologies and practices in buildings of the commercial and residential sectors. The strategy considered awareness creation, demonstration projects, dissemination of results and project information and creation of suitable institutional capacity as the means with which to support the NEEP objectives beyond the project timelines.
- The establishment of a suitable policy and regulatory framework for EE in buildings, including improvements in building codes during the initial period of the programme that would be conducive to and serve as a platform for the complete transformation of the building sector in Namibia.

The key elements of the replication approach, as described in the ProDoc, involved:

- Monitoring and evaluation of project implementation and results and disseminating of lessons learned
- Close collaboration with and buy-in from industry, retailers and consumer organizations.
- Introduction of mandatory audits in commercial and public buildings
- A conformity assessment and enforcement system will be put in place to maintain the credibility of new EE technologies adopted by the Namibian market and advertise them.

In addition to this, the project aimed to develop capacity for energy efficiency in the building sector through awareness rising activities and training. Amongst the energy auditor trainees surveyed, all respondents indicated that the training enabled improved decision-making from having a better understanding of energy use in buildings.

Several of the building owners and the EE specialists interviewed during the field mission indicated that uncertainty with respect to realizing the projected savings and therefore paybacks were a barrier to implementation. With this uncertainty and mistrust in the efficiency performance of technology, there remains a perceived risk to the investment in EE. Show cases, case studies and demonstration projects would go a long way towards addressing these concerns and enabling replication. The project design incorporated demonstration projects and identified documentation and dissemination of implementation results.

¹¹ Responsibility assignment matrix (RAM), also known as RACI matrix, is a straightforward tool used to allocate roles and responsibilities to project participants, indicating where stakeholders have **R**esponsibility, **A**ccountability are **C**onsulted and or must be kept **I**nformed.

In principle, the changes in the policy environment and the market transformation targeted by the NEEP project would have facilitated a permanent and sustainable shift towards energy efficiency in buildings. The NEEP project aimed to influence all subsequent building designs, influence the availability and demand for energy efficient equipment and technologies and creating capacity in the country to support the shift.

It is difficult to assess this component without consideration of the realism of the scope of the project as discussed under Section 3.1.1. Especially with respect to policy changes towards a more enabling environment, unless these changes take effect, the sphere of influence will be limited. But, without consideration of the challenge of design scope and implementation capacity, the replication approach at design stage is rated **Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.6 UNDP COMPARATIVE ADVANTAGE

UNDP has experience, administrative capacity and expertise to develop and implement GEF financed energy efficiency project. It is a neutral implementing agency and has the benefit of experience from a portfolio of energy efficiency projects under implementation in the climate change focal area.

UNDP has a long-standing relationship with the Namibian government, and a long-term presence in the country and a reputation for actively and constructively contributing to support the country objectives. UNDP understands the country context well, has detailed knowledge of local market and problems and accurately identified the need to promote and escalate the profile of energy efficiency in the country.

It does however not appear that the UNDP country insight, regional experience and extensive project experience was adequately applied to the design phase to inform a more realistic design of targets and outcomes.

UNDP Comparative advantage is rated **Moderately Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.7 LINKAGES BETWEEN PROJECT AND OTHER INTERVENTIONS WITHIN THE SECTOR, INCLUDING MANAGEMENT ARRANGEMENTS

The Project Document identified numerous related initiatives and identified representation from many of these initiatives within the NEEP Organisational Structure either at Steering Committee level, Management Level of Operational Level. The management arrangements were well structured to facilitate integration and linkages between initiatives.

By representation on the PSC, both the NamPower¹² and ECB DSM programmes were influenced by the NEEP and the NEEP could in turn be aligned to best complement these.

Within REEEI, where the NEEP was hosted, the project team was well positioned to collaborate closely with the team members from related initiatives hosted by REEEI¹³ such as REEECAP, Soltrain, the Off-Grid Energisation

¹² Integration into Nampower planning was confirmed during an interview and implied in an email received from Nampower.

¹³ Details of all these listed activities available on the REEEI website: <http://www.reeei.org.na/projects.php>



Master Plan and related activities such as the Energy Shops and give input on the Namibia Energy Regulatory Framework¹⁴.

As indicated in Section 3.1.3, the proposed project was designed to build on experience and activities of other projects implemented in the country.

At design phase the project linkages and structures to support linkages with other interventions are rated **Highly Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.1.8 MANAGEMENT STRUCTURE

The Project Document aligned the management structure with the National Execution Modality of the UN. The management arrangements identified the Implementing Partner accountable to the UNDP/GEF, a project Steering Committee responsible to oversee, steer and facilitate the project direction and implementation, a Project Management Unit responsible under the guidance of the PSC for administration and management of delivery. Project Implementation called for project administration, management and technical support to the Project Manager (identified by the Project Document as residing with the Executing Agency i.e. the MME). The Project Manager duties and project support functions were delegated to the REEEI.

The management arrangements were well designed to support the project, but the lack of a dedicated, operational project manager for the project is a major shortcoming. For the scope and delivery timelines of the project (described Section 3.1.1) the two full time roles of project administration and particularly specialist technical support, were less pertinent than the need for a suitably qualified, dedicated project manager to manage risks, manage focused delivery against defined targets, define critical milestones, and pursue progress within time and budget.

The REEEI raised concerns during the TE with respect to unclear lines of reporting i.e. NEEP team members paid by the project (i.e. UNDP), subject therefore to UNDP administration processes and policies, but delivering to NEEP. Unfortunately no evidence of this being tabled prior to the TE was found. It is expected that this could be addressed with clear definition of roles and responsibilities and confirmation of the relevant reporting structures.

While the management structure was well designed with appropriate representation, failure to correctly structure the dedicated project team placed a significant burden on the project. The Management structure is therefore rated **Moderately Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.2 PROJECT IMPLEMENTATION

3.2.1 THE LOGICAL FRAMEWORK USED DURING IMPLEMENTATION AS A MANAGEMENT AND M&E TOOL

¹⁴ With a stated aim to have renewable energy and energy efficiency fully integrated into the new Namibian energy framework



It is evident from the PSC meetings and the Annual Project Reviews that the Logical framework roughly guided the direction of the project. Several critical milestones towards the outputs and outcomes were achieved during the project lifetime.

The following table provides an overview of the reported activities and milestones during the implementation timeline. No report or meeting minutes were shared for 2010, but there is record of an Energy Auditor training course held by NEEP before the end of 2010.

Table 5: Implementation Activity Overview

Activities 2011	Activities 2012	Activities 2013
<ul style="list-style-type: none"> Baseline survey of the consumption patterns in the country, current market penetration and availability of technologies and service providers (completed) Annual survey to determine the status of EE in terms of awareness, understanding and behavior (commissioned) Techno-Socio-Economic survey (delayed to 2012) Energy Audit training (2nd training completed) EE standards procured, TC6 approached Building codes (delayed until after the baseline study) Website and EE information portal (established) Discussions with World GBC initiated Development of Benchmarking & Verification Tool (planned) GHG calculations interaction with MET (planned) Attendance at 11 trade fairs across the country and 1 Career Fair at Polytechnic 	<ul style="list-style-type: none"> Techno-Socio-Economic survey to determine the technical and socio-economic potential and impacts related to energy efficiency in Namibia (commissioned) Building codes revision (commissioned) Collaboration on the NaDEET¹⁵ Bush telegraph newsletter for EE education (once off) Development of Benchmarking & Verification Tool (still planned) 12 Energy Audits in Commercial and Public buildings commissioned Attendance at Namibia Climate Change Knowledge Fair and 2 Trade fairs 	<ul style="list-style-type: none"> Energy Audits completed and presented to building owners 2nd Annual survey completed Follow up /supplemental EA training course offered re the audit findings GBCNA large focus on formalization, rating tool, training, mini convention, marketing material developed Building Codes study (revision not included) completed 4 awareness campaign trips

There is however no evidence that the project fully utilized the framework, the targets, the defined baselines or the performance indicators to keep the project focused. There is no evidence in any of the documentation that the project goal of reducing GHG emissions remained the guiding principle for decision-making, prioritisation of activities and focus of available resources. The impression is that activities that were commissioned were not managed within the context of the targets and outcomes.

A few examples are highlighted to support this finding:

- Only select outputs from the Results Framework appear to have been targeted. If some of the Outputs were formally excluded, these decisions were not clearly documented. For instance the pursuit of Output 1.2 (A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction) is not reflected as an active project activity. Similarly, Output 2.2 (Mandatory audits in public and commercial buildings adopted) is not pursued at all throughout the project lifetime. This is said with recognition of the unclear definition discussed in Section 3.1.3, but

¹⁵ Namib Desert Environmental Education Trust, www.nadeet.org

this challenge and a formal decision of how to address this was not noted in any of the documentation reviewed.

- Project Steering Committee meetings documented several new and divergent ideas and discussions (participation in a women's group and a housing development) not directly aligned with the original project objectives. While these are good project suggestions, they were not within the already broad scope and demanded effort and attention (including sourcing of legal advice) that could have been better spent. Some such discussions spanned across several (quarterly) PSC meetings suggesting a tangible impact and diluted project focus.
- The two annual surveys that were conducted were not designed in a way to track trends or demonstrate progress against a baseline. These surveys should have been designed with careful consideration of and as a tool to effectively baseline and track the impacts of, primarily, Components 2 and 3 of NEEP.
- Similarly numerous awareness campaigns were held and trade and career fairs attended. Progress reports report on the acquisition of demonstration trailers, the introduction of innovative quiz shows to entice audience participation and interaction and distribution of education material relating to EE. This is in line with the project objective, but there is no evidence of an analysis of the target market, reach, or exposure planned or achieved by these events. The contribution of these activities towards the end of project target, stated as: *"Public is aware of the new policy and regulation framework as well as EE in general; Adoption of database and website created by the Namibian REEEI; Adoption of standards for best practices in buildings. Standards are set exceeding the mandatory"* is unclear.

While many of the activities are supportive of energy efficiency in public buildings, they were not necessarily aligned to and measured against the project objectives. The use of the Logical Framework as Management and M&E tool is therefore rated **Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.2.2 EFFECTIVE PARTNERSHIPS ARRANGEMENTS ESTABLISHED FOR IMPLEMENTATION OF THE PROJECT WITH RELEVANT STAKEHOLDERS INVOLVED IN THE COUNTRY/REGION

The NEEP project was designed with due consideration of stakeholders and partnerships. Significant commitments for co-funding were made (\$5,253m to match the GEF/UNDP funding of \$0.859m) by project partners and co-funders and all key stakeholders were included on the PSC.

While strong relationships were established, the partnerships did not unlock the changes in the policy environment or leverage the resources required to deliver on the full project scope as envisaged during the project design phase.

With few exceptions¹⁶, the willingness of stakeholders to participate in interviews and contribute to the evaluation process reflected well on the established relationships and the regard for the NEEP contribution. Similarly, the feedback from stakeholders closely involved with the project, was predominantly positive.

The most successful and effective partnership of NEEP has been the establishment of the Green Building Council for Namibia (GBCNA). This council was initiated by NEEP and has been established with a significant commitment of time and effort by a group of volunteers representing the building industry, public sector,

¹⁶ Most notably the refusal by NamPower to participate in an interview and inability to make contact with a representative of the MRLGHRD

energy specialists and building owners. The development of the GBCNA received extensive support from the GBC of South Africa. The Evaluator viewed a formal inter-ministerial request for a MOU and collaboration between the two councils, directed from the South African government to the Namibian Ministry of Works and Transport.

NEEP has furthermore established solid partnerships with the relevant technical committee at the NSI responsible for the technical specifications and building standards as well as the Department of Works and Transport, in both the Capital Project Management and Maintenance Directorates. These partnerships have the potential to contribute significantly towards the continued development of energy efficiency in buildings beyond the NEEP project.

Failure to establish an appropriate partnership with the MRLGHRD hampered the delivery of Output 1.1 for the revision of the Building Codes. The MRLGHRD and the NHE were both included as stakeholders in the initial project design and as members of the Steering Committee. In spite of this representation and direct involvement in NEEP, the ministry has avoided taking ownership of the building codes and failed to provide critical support needed for revising these. Details of the challenges faced with the revision of the building codes are discussed in Section 3.3.

Another partnership challenge relates to the co-funding for the project. There appears to have been a lack of clarity with regards co-funding commitments from co-funders. While commitment letters were signed and submitted, partners indicated (during interviews and noted in PSC minutes) an expectation that their co-funding contributions would be met by financial and technical support from the NEEP to assist with the delivery on their commitments. This has resulted in delays in implementation of the in-kind commitments. While detail and confirmation of actual commitments (delivered and committed for future delivery) have not been provided, interviews suggested that these commitments have been adjusted to be less ambitious e.g. the commitment for a zero energy building was revised to an energy efficient building and the convenience centre in Arandis appear to have incorporated less energy efficiency measures than anticipated. Note, that in the absence of formal confirmation, these are impressions based on the interviews and site visit.

These two exceptions to the generally good use of partnerships and the inability to fully leverage partnerships in the interest of the project results in a rating of **'Moderately Satisfactory'**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.2.3 FEEDBACK FROM M&E ACTIVITIES USED FOR ADAPTIVE MANAGEMENT

The M&E plan consisted of an introductory page and an extract from the Project Document. No M&E plan or tool for the measurement and evaluation of the project was developed or implemented.

Reference was made in the PSC meetings during 2011 and 2012 to a M&V tool to be developed by the ECB. The PSC noted that an M&V would provide a top down view on energy efficiency in the country, is a necessary tool, would be contributed by a PSC member as a NEEP partnership, and would offer a sustainable impact tracking solution.

It is unlikely that a national M&V tool would have had the required granularity to quantify and track the impact of NEEP. At best, this tool, if it proceeded, would have served as input into overall monitoring and evaluation of the NEEP. It would not have replaced the need for an M&E strategy and tool for the project. The development of the M&V tool by the ECB never proceeded as planned.

Concerns relating to the M&V approach and the need for an M&E tool was repeatedly raised by the UNDP representative and noted in the PIRs and PSC minutes.

The differentiation between M&V and M&E was clearly not understood and the importance of M&E not recognized. The team also did not take the opportunity to engage with the RTA or the CO to understand the concerns that were raised.

The project team did refer to the broad framework documented in the ProDoc as M&E Plan. Most of the steps were followed, but two important steps were omitted. The first is the inception workshop and report. The inception activities offer an opportunity to reassess the targets set in the project design. It allows the project team the opportunity to internalize the project scope, to develop a delivery framework and workplan with key milestones and to interrogate the delivery requirements for outcomes. The inception workshop was held at the beginning of the project. However, no minutes were captured and no inception report was drafted. This was a crucial omission as it was supposed to set the tone of the project. This is ascribed to an issue of capacity, as no dedicated PM was hired at this point.

The second omission was selecting to not conduct a midterm evaluation for the project. While it is not compulsory for a medium size project, it is a valuable tool to independently assess the progress status of the project.

Project management and oversight functions established under the Management Arrangements, regular PMU and Steering Committee meetings and quarterly and annual project progress reports and reviews inadvertently provided some of the intended project monitoring functions. Based on these inputs, the project could partially adapt to changes and challenges.

The Project Steering Committee meetings, an important M&E tool, were discontinued in 2013.

Where feedback resulted in adaptive management, these project adjustments were not always formally documented. During an interview it was noted that the pursuit of Output 1.2: **A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction** was suspended based on feedback from the Ministry of Finance. The Ministry of Finance raised concerns regarding the impact of unintended consequences related to preferential duties and were deterred by the lack of a viable, active example of a similar tax allowance in the region. Because of the failure to formalize or document this, the project team had reinitiated this activity late in 2013.

The lessons from this feedback that may be valuable for future project designs, are therefore also lost.

A second example relates to Standards and Labeling for energy efficient appliances. This activity is referenced in the Project Document under Component 1, as follows:

"Firstly, the development of improved regulations (standards and labeling of building appliances) and adoption of building codes for energy savings. This would lead to an improved policy framework for EE in buildings, including an updated list of recommended appliances and materials to be used in the building sector subject to tax and duty reductions."

This activity is however not included in the logical framework, as an output or performance indicator or a target. In 2013 the NEEP invited tenders for:

"...an analysis of the impact of mandatory instruments for selected electrical appliances and equipment for compulsory requirements for minimum energy efficiency and labeling in order to contribute towards the reduction of the electricity demand on the sector (industry and retailers), the consumer and the economy in general."

During interviews with team members it was stated that the invitation to tender received no responses and based on the available time and resources, a decision was taken to investigate the possibility of conducting the study within the Polytechnic. This could not be agreed and the study was excluded. The minutes of the 2013 PSC meeting was not available and the TOR for this invitation to tender was not shared. No formally documented evidence of the decision to not proceed with the study was reviewed. The question is, based on the definition in the design document, whether this study should have been pursued at all. Again, there is no evidence of this decision being raised at the PSC nor a formal decision taken with regards the value of conducting the study in the final year of the NEEP.

The Evaluator did source a copy of the TOR for the S&L study from a prospective bidder. The TOR indicated an incorrect close date for the tenders, almost a month after the official close. The interested consulting team established this discrepancy while working on the tender submission, a week before the incorrect closing date. Confusion in the market may have contributed to the lack of tender responses received for this work.

Repeated problems with tender invitations, lack of responses received, inadequate responses received contributed to significant delays on the NEEP and should also have prompted **an adaption of the approach for procuring consulting services**. Almost every call for tenders (including both annual surveys, the baseline study and the revision of building codes) were met with inadequate responses and had to be re-advertised (refer Section 3.2.5 where inability to recruit appropriate skills is handled as an issue).

The project results framework targeted at least 40 energy audits in buildings and 20 efficiency retrofits. Energy Audits were commissioned in 12 buildings, 5 – 7 audits were commissioned by NamPower prompted by an Energy Auditor trainee, trained under the NEEP project and 3 or 5 further audits were supported by NEEP (conducted by the National Coordinator of REEEI) for the REEECAP/EMP project. This is short of the 40 audits targeted under the programme. The decision was taken by the PMU to reduce the number of buildings commensurate with the available finance. No efficiency retrofits were implemented for the same reason.

The most notable and most effective adjustment was the decision to pursue the establishment of the GBCNA. This was identified by the PSC as an alternate to mandatory measures for energy efficiency in buildings given the challenges of rapidly achieving policy changes. The establishment of the GBCNA was well identified, well documented and well executed.

The project did not make use of the tools (e.g. logical framework, indicators) and opportunities (tracking of activity impact) available for M&E, structures for managing risks and challenges and adaptive management. It is noted that concerns were raised and captured in PSC minutes and PIRs with respect the lack of M&E, but not addressed. In the absence of a monitoring and evaluation design, M&E design, M&E implementation and effective adaptive management, this aspect is rated **Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.2.4 FINANCIAL PLANNING AND MANAGEMENT

Project expenditure was initially slow and well below the anticipated annual budget. This was raised by the UNDP representative in the PSC minutes, but ascribed to a slow start and the staff shortage that saved on project salaries. An overview of the annual project expenditure against budget for the respective project components is presented in Table 8 below. The table reflects annual expenditure against outcome for each year as reported in Combined Delivery Reports. The actual expenditure against the planned varied significantly over the period, but at the end of March 2014, 96% of the budget allocation had been spent. The budget was therefore effectively mobilized and only \$37,750.70 of the budget remained unutilized. The project was extended to 31 March, but the budget allocation and commitment for the extension and remaining funds was not noted in the extension letter. The project financials has not been finalized at the time of this report and minor variations may still reflect (e.g. the final payment for the TE).

Project expenditure on Outcome 3 and the Project Management Component exceeded their respective budgets, but all other Components underspent against the plan. The expenditure on Project Management represents 14% of the total budget and contravenes the requirement in the Project Document to cap this component at 10% of the budget.

Although the expenditure did not exceed the budget, concerns relate to the high expenditure for project management while the project was short of a team member for 16 months of the three year project.

On enquiry, this overspend on the Project Management Component was ascribed to staff salaries that were not allocated, according to the activities staff were involved in, to corresponding outcomes – as originally intended. All staff costs were allocated to the activity 5 (PMU) only.

Only 51% of the Outcome 4 budget was spent. The under expenditure corresponds with the absence of a structured M&E Plan. But, in terms of the original M&E budget estimate the following variations are noted:

- The Inception Report was not compiled for the project (US\$25,000 budget allocation)
- The project did not conduct a Mid Term Evaluation/Review for which US\$40,000 was budgeted
- The original M&E outline captured in the ProDoc had identified the need for periodic Monitoring through Site visits to the 20 demonstration projects. This did not proceed as planned and the allocated budget US\$40,000 was not utilized.
- The budget allocation in the ProDoc for the TE was for US\$60,000, but the actual costs were less than US\$20,000.

Although the project did not deliver on all aspects as planned, the budget was largely spent. This is noted, but not raised as a significant concern based on the previous finding that the budget was inadequate for the delivery of the full scope, without significant supplemental project financing (cash rather than the in-kind contributions that were committed).

The co-funding commitments were in kind and towards parallel activities rather than directly financing the implementation of the planned project scope.

The HACT spot checks provided guidance and input for a proper documentation system and showed the project as low risk. The financial audit at the end of 2012 identified a few minor discrepancies¹⁷, but found that the project expenditure was in accordance with UNDP accounting policies and procedures, and was approved and authorized.

None of the PIRs documented and tracked the contributions from co-funders. At the time of the TE the project team was struggling to source confirmation and quantification of the co-funding commitments that were realized. At the time of this report, the actual co-funding commitments were confirmed in writing by the respective co-funders as follows:

Table 6: Realized co-funding commitments (US\$)

Co-funder	Commitment (US\$)	Format	Detail of the co-funding contribution
Ministry of Mines and Energy	\$6,825,000 [\$9,606,000]*	In kind	Off-grid Energisation Master Plan; Promotion of Renewable Energy and Energy Efficiency, REEEI, Demonstration projects (Zero emissions building to which \$4,646 million was committed, still to be constructed) * The letter indicated an additional \$2,777,000 towards off-grid electrification of the GAM village and expansion of the PV/Diesel Hybrid system in Tsumkwe. These contribute to the renewable energy sector with no information that supported the link to the NEEP.
Polytechnic of Namibia	\$216, 971.20	In kind	The letter confirmed support in the form of the Energy Efficient House; Training; Consultancy; Staff and office space and technology demonstration trailers and facilities for EE technologies. These contributions were mostly not quantified, hence the monetary value of the funding

¹⁷ The audit identified an erroneous entry, a reallocation of US\$ 4,156.20 and absorption of over expenditure in 3 other GEF projects.



Co-funder	Commitment (US\$)	Format	Detail of the co-funding contribution
			contribution is most likely under reported.
Erongo RED	\$662,758.28	In kind	Development of two energy efficient paypoint buildings for the RED in advance stage (still to be constructed)
Osona West Party	None	Cash/In kind	Company no longer exists
Arandis Town Council	\$100,000	In-kind	Confirmed in writing the contribution of land preparation, subsidized pricing, town planning and staff time towards the Arandis Convenience Centre
Total	\$7,804,729.48	In kind	

Notwithstanding variations, the total co-funding contributions exceed the commitment. Despite this good end result, financial planning and management is rated **Moderately Satisfactory**, because of the tracking and management thereof throughout the project.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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Table 7: Co-funding table (US\$)

Co-financing (type/source)	UNDP own financing (US\$)		Government* (US\$)		Partner Agency (US\$)		Other (US\$)		Total (US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	859,000	821,249.30**	0	0	0	0	0	0	859,000	821,249.30
Loans/Concessions	0	0	0	0	0	0	0	0	0	0
In-kind support	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	3,094,000	6,825,000	2,159,000	979,729.48	5,253,000	7,804,729.48
Totals	859,000	821,249.30*	0	0	3,094,000	6,825,000	2,159,000	979,729.48	6,112,000	8,625,978.78

* Partner Agency is the Ministry of Mines and Energy and REEEI. No other Government co-funding contributions were included.

Table 8: Co-funding table (US\$ million and rounded to three decimals)

Co-financing (type/source)	UNDP own financing (US\$ million)		Government* (US\$ million)		Partner Agency (US\$ million)		Other (US\$ million)		Total (US\$ million)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	0.859	0.821	0	0	0	0	0	0	0.859	0.821
Loans/Concessions	0	0	0	0	0	0	0	0	0	0
In-kind support	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	3.094	6.825	2.159	0.980	5.253	7.805
Totals	0.859	0.821	0	0	3.094	6.825	2.159	0.980	6.112	8.626



Table 9: Annual NEEP project expenditure against budget

Budget cash flows	Amount 2010		Amount 2011		Amount 2012		Amount 2013		Amount 2014		Total	
	(US\$)		(US\$)		(US\$)		(US\$)		(US\$)		(US\$)	
	Planned	Actual	Planned	Actual	Planned	Planned	Actual	Actual	Planned	Actual	Planned	Actual
Component 1	100,000	44,226.06	70,000	56,534.88	60,000	40,627.54	20,000	50,143.24	0	0	250,000	191,531.72
Component 2	90,000	35,079.53	50,000	65,262.81	50,000	26,029.16	50,000	79,164.73	0	0	240,000	205,536.23
Component 3	80,000	12,054.30	80,000	187,440.50	20,000	50,289.25	20,000	5,878.16	0	0	200,000	258,494.77
Component 4	0	0	39,000	2,113.34	25,000	5,158.81	25,000	19,513.44	0	2,832.56	89,000	45,143.19
Project management	20,000	6,913.32	20,000	13,635.01	20,000	43,728.03	20,000	52,923.89	0	18,357.60	80,000	120,543.39
GEF funding	290,000	98,273.21	259,000	324,986.54	175,000	165,728.03	135,000	207,623.46	0	3,343.14	859,000	821,249.30
Total	290,000	98,273.21	259,000	324,986.54	175,000	165,832.79	135,000	207,623.46	0	24,533.30	859,000	821,249.30

Cumulative budget	290,000		549,000		724,000		859,000		859,000		859,000	
Cumulative actual		98,273.21		423,259.75		589,092.54		796,716		821,249.30		821,249.30
Actual : Planned		34%		126%		0.95%		154%		N.A.		96%



3.2.5 UNDP AND EXECUTING AGENCY EXECUTION (*) COORDINATION, AND OPERATIONAL ISSUES

The project was severely hampered by limited availability of human and capital resources to implement the full design scope of project activities. Over the three years of implementation REEEI, NEEP and the UNDP had a high staff turn over and struggled to find suitably qualified team members. This situation was aggravated by the inability of the project to recruit suitably qualified team members. For 8 months initially until June 2011, and again 8 months during 2012 and early 2013 (July 2012- March 2013), the technical specialist role was vacant. During this 16 month period the project had only one full time employed staff member on the team. In October 2012 the National Director of REEEI, with officially delegated responsibility for project management of the NEEP on behalf of the MME, left. This position was only filled in end of March 2013.

During these times the PMU and particularly REEEI supported the NEEP, but even with this support, the implementation capacity was not adequate to keep the momentum of the project going and deliver on the ambitious targets.

NEEP is a National Implementation Project, which means that the role of the UNDP Country Office is mainly one of fiduciary oversight and quality assurance. These inputs are provided at PSC meetings and ad hoc when problems arise. Because of the challenges of project capacity, the UNDP country office was required to provide input and support to the NEEP.

The PIRs and communication to REEEI repeatedly reflect concerns from the UNDP with respect to the lack of an M&E plan, project spend and focussed progress. PIRs mostly rated the project satisfactory and there is no evidence that the eminent failure to deliver on the emission reductions was flagged by the UNDP nor is there evidence of a strong intervention or communication demanding immediate corrective action. Concerns regarding the delivery shortcomings were also not consistently communicated. The letter from the UNDP CO to the REEEI granting the extension of the project to 31 March 2014 complemented the NEEP team on their exemplary contribution.

Even though the role of the UNDP on NEEP was not active implementation, the UNDP should have taken a stronger position with respect to the failure to implement important project controls and especially the absence of structured M&E against objectives. UNDP implementation on this project is therefore rated **Moderately Unsatisfactory**.

Given the limited capacity of the NEEP team over the implementation period, combined with the overly ambitious design that would have required dedicated and innovative management to mobilize and deliver on all the outcomes, the reason the project has delivered below expectations is understood.

Besides the delivery challenges, the project was also hampered by operational issues that would have benefitted from a strong implementation approach. In terms of project management and administration the following issues are noted:

Issue	Detail of the issue	Lesson learnt / Recommendation
Tracking against targets / outcomes	It relates to M&E, but it is also a basic project management principle to keep the end in sight . A well-defined and managed project plan that defines milestones towards an outcome, track progress of delivery against time and within budget and identification of activities on the critical path is essential for the success of any project. Alternatively an M&E plan would have supported tracking and delivery against targets. M&E sits squarely with the implementing agency and is a serious oversight.	The project should produce a project plan and the M&E plan prior to implementation of any activities. It is recommended that a dedicated project manager be appointed for any size project.
Risk Management	The project produced no evidence of active risk	Active Risk mitigation is essential.

Issue	Detail of the issue	Lesson learnt / Recommendation
	<p>management or a risk management log. Risks that prevented progress, especially those that came up repeatedly such as inadequate tender responses, failure of projects to deliver against TORs and expectations, stakeholder and ownership challenges for the building codes, might have been better managed if tracked, flagged and actively mitigated.</p>	
Project Documentation	<p>A personal observation relates to the difficulty with which documentation was produced for review.</p> <p>The documents listed in the TOR were not readily available.</p> <p>The co-funding letters could only be sourced in the second week of the evaluation mission.</p> <p>Minutes for PSC and PMU meetings for 2013 and PSC minutes for 2010 have not been shared.</p> <p>Some key documents referenced in the TOR remain outstanding including the NEEP project inception report and the Lessons Learnt Study.</p> <p>The project could not produce a project database.</p> <p>The lists of energy auditor trainees trained, passed and certified, were not readily available.</p>	<p>Project documentation are important resources especially when team members change and in the absence of a more comprehensive M&E plan, the minutes and progress reports become critical tools to support and track delivery against targets.</p> <p>The HACT spot check in 2011 identified the shortcoming and assisted with project documentation system. Documentation management must be strictly applied and audited.</p>
Tracking of project funding commitments	<p>Failure to track the co-funding commitments reflects poorly on the integrity of the commitment based on which the donor committed the financing contribution.</p> <p>Based on project management principles, project financials showing actuals vs planned, clarifying variations, revised annual projections, etc. would support project planning and adaptive management. Although funding was reported, proof of project financial management was not evident.</p>	<p>Track co-funding commitments, note changes in the commitments and remind co-founders of their commitments.</p> <p>Suggested that project financials be maintained and reported.</p>
Inability to recruit appropriate skills	<p>The project was severely challenged by the inability to recruit appropriate experience and skills for the team roles and for delivery of studies. This was ascribed to limited knowledge, capacity and experience relating to EE in the country at present. This lack of capacity in the country was the driving factor for the project. Limited technical capacity was also identified as a project risk with the proposed mitigating action to develop new capacity. While acknowledging the risk, this risk was not appropriately managed and impacted on delivery. A major concern is that this continued to be a challenge into the last year of implementation without a suitable strategy developed to address it.</p>	<p>It is suggested to recruit wider, more assertively, to advertise more extensively, utilize specialist recruitment agencies and if necessary, to source additional funding to supplement the financial offer if an expat must be recruited.</p> <p>Compensate the need to recruit outside of the borders (if that is required) with utilizing these acquired skills to create capacity e.g. incorporate capacity building as a prerequisite into the contract.</p> <p>Ensure the right panel members are selected to conduct the recruitment process.</p>
Interrogation of the delivered study outputs	<p>Several of the studies throughout the project did not deliver on the expected outputs. The REEEI team has the technical competency to</p>	<p>Ensure the requirements for studies are clearly defined, that the terms of reference (technical evaluation criteria) for work</p>

Issue	Detail of the issue	Lesson learnt / Recommendation
	interrogate the deliverables of external consultants and should scrutinize and test outputs for correctness and usefulness, apply sanity checks and interrogate the findings to ensure the submissions comply with the project needs and quality standards. There are of course extenuating circumstances such as those experienced by the revision of the building codes. This situation was exacerbated by the shortage of key roles on the project.	outputs from Consultants are clear and suitably specific, ensure evaluation and selection of service providers identify the required competencies and closely manage delivery to the required outputs. Even when specialists are appointed, the project team should critically assess the work delivered and trust and utilize their competence to guide the delivery and outputs.

It is understood that suitable, specialist technical skills are in short supply, but some of the omissions are project management and coordination related not dependent on technical skills.

In spite of these comments, the NEEP did make several good contributions to EE in buildings in Namibia with the available funding.

Failure to develop and implement an M&E plan to effectively steer implementation towards the project goal significantly influences the rating for project execution, coordination and operational issues for the implementing agency and the overall implementation to **Moderately Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.3 PROJECT RESULTS

3.3.1 OVERALL RESULTS (ATTAINMENT OF OBJECTIVES) (*)

The primary goal for the project was the reduction of GHG emissions from energy use in buildings. The project aimed to avoid 230,157 t CO₂ cumulatively over the life of the projects.

The project design developed the initial carbon emission savings projections using a carbon emission factor of 1.07 kg CO₂/kWh based on the stated assumption at the time that all electricity displaced will be a reduction on electricity imported from South Africa.

Eskom emission factors for the preceding 3 years were reported around 0.99 kg CO₂/kWh¹⁸. The values for electricity sold may be slightly higher (reported as 1.03 in 2012 as oppose to 0.99 for electricity generated)¹⁹, The improvement in the emissions factor trend was evident since 2002, dropping to below 1.07 in 2003²⁰ already, and steadily holding around 1.00 since 2007.

The Energy Audit Reports produced for NEEP used an emissions factor of 0.55 kg CO₂/kWh to calculate emission savings. This value is based on a country emissions factor considering the various sources of power used in Namibia. An Ecometrica report²¹ produced in 2011 calculated a country emissions factor of 0.49 kg CO₂/kWh for Namibia.

¹⁸ Carbon emissions (relative), tons/MWh: 0.98, 0.99, and 0.99 for 2013, 2012 and 2011 respectively.
http://integratedreport.eskom.co.za/integrated_report_2013/pdf/presentation.pdf

¹⁹ Source: Eskom Climate Change Fact Sheet for the period 1 April 2011 to 31 March 2012.

²⁰ http://www.eskom.co.za/OurCompany/MediaRoom/Documents/ESKOM_ANNUAL_REPORT_2005.pdf

²¹ Ecometrica Technical Paper | Electricity-specific emission factors for grid electricity, August 2011, Matthew Brander, Aman Sood, Charlotte Wylie, Amy Haughton, and Jessica Lovell, emissionfactors.com

It is believed that an emissions factor of 1.07 kg CO₂/kWh can no longer be relevant. Assuming that only power from South Africa will be displaced may be over optimistic, but it is reasonable to assume that imports will be reduced ahead of locally produced power if at all possible. To determine an accurate emissions factor a blended average in consultation with NamPower with respect their operating regime would be necessary. After careful consideration of the options, the emissions factor of 0.99 (displacing Eskom supply as first priority) is applied to calculate the emission reductions for NEEP.

The emission reductions for the NEEP (with consideration of approved Project Document and the GEF Manual For Calculating GHG benefits of GEF Projects: Energy Efficiency and Renewable Energy Projects) have been calculated based on the following:

- **Direct emission reductions** determined from reported energy efficiency upgrades implemented as a direct result of the NEEP (following audit recommendations).
- **Direct post-project emission reductions** were conservatively projected for projects initiated under NEEP and committed, or reasonably expected, to be completed in the immediate future i.e. within the next 5 years.

Committed projects include those being developed as demonstration facilities under co-funding commitments and the first GreenStar building. The co-funders have confirmed in writing their commitment to follow through on these projects that are in various stages of development (refer Table 11 for a status overview).

Projects reasonably expected to be completed include only those recommendations from the NEEP energy audits that have a payback of three-year and less plus efficiency upgrades to water heating systems (typically below 5 years, high level of awareness and market acceptance because of SWH directive). The feasibility of these recommended solutions are sufficiently compelling to prompt implementation. This expectation is supported by the timing of the audit reports (only presented to building owners/occupants late in 2013, allowing limited time for implementation before the TE) and the survey results from building owners/occupants that indicated their intent to implement the audit recommendations within 5 years (refer Section 5.5.4).

Table 10: Status summary of NEEP demonstration buildings under development

Project	Status
MME Zero Energy Building	Design phase, committed as part of the co-funding agreement and confirmed again in writing by the Ministry, but no data could be provided with respect the design, benchmark or business as usual energy consumption, and hence energy and emissions savings, as yet.
Erongo RED paypoints, Arandis	Similar to the MME Zero Energy Building. The design features documented and planned for the Erongo RED buildings were presented in pamphlet format, but no detail with respect the expected energy savings or business as usual energy consumption could be provided as yet.
Arandis Convenience Centre	Funding contribution by the Arandis Town Council confirmed, building constructed, but no information about energy use, efficiency interventions, savings, etc. available.
Green star building (FNB)	Building under construction, but information about the design, the energy efficiency interventions and energy savings could not be obtained.
EE House	Constructed as demonstration facility. No energy savings quantified as yet. The building will not be occupied, but will be operated and monitored to demonstrate and track benefits. Monitoring equipment is currently being installed.

- **Indirect emission reductions** were calculated using a bottom up approach incorporating both direct and direct post project emission reductions and applying a replication factor of 2. The motivation for including the direct post project emissions is again linked to the timing of the project. The lead times for the development and construction of the energy efficiency buildings and the completion of the energy audits meant that the majority of the impacts will only be realized post project. The motivation for the replication factor is the successful establishment of the GBCNA. An international

assessment have found a market penetration of >10% in the commercial sector within 6 years after introducing the green building council rating system²². The replication factor also takes into consideration the stated intent of the Ministry of Works and Transport to conduct efficiency audits for the entire portfolio of public buildings (9,000 buildings). These were not considered strong enough evidence to project a market penetration figure or a percentage implemented efficiency upgrades in existing public buildings, but is considered adequate evidence to support the expectation of at least 34 additional energy efficient commercial buildings (new build and retrofits) in the next 10 years²³.

A replication factor of 3, as per the original design document, was considered, but not selected because of the large share of direct post project savings, the existing levels of EE awareness in the country and the heavy dependence on follow through and active demonstration of EE benefits required to unlock this efficiency potential.

The expected impact based on available information is therefore calculated as follows:

	Project life expectancy	Reported savings (MWh/a)	Savings estimate from audits (MWh/a)*	Demonstration building savings (MWh/a)	Projected savings over life (MWh)	tCO ₂ over life with emissions factor of 0.99
Direct						
Existing Buildings	15	225 ²⁴	-	-	3,375	3,341
New Buildings	25	-	-	-	-	-
Direct post project						
Existing Buildings	15	-	2,802 ²⁵	-	40,310	39,907
New Buildings	25	-	-	276 ²⁶⁻⁻	6,901	6,832
Indirect						
With factor 2	N.A.	-	-	-	-	100,162
Total		225	2,802	276	50,586	150,242

* This reflects only savings measures that have a payback period of 3 years, or less and efficiency upgrades to water heating systems.

In the absence of more specific energy savings data at the design and development stage, the savings impacts for the demonstration buildings were calculated based on the floor area (m²) for these buildings using:

- Baseline kWh/m² per relevant building type as determined in the Baseline study of 50 buildings produced by the NEEP.
- Average energy savings for newly constructed energy efficient buildings estimated to be 40% (30 – 50% quoted range) more efficient for a non green star rated building, 60% more (60 – 85% quoted

²² The Value of Green Star: A Decade of Environmental Benefits, Australia Green Building Council, May 2013; Six Continents, One Mission: How green building is shaping the global shift to a low carbon economy, World Green Building Council, November 2009; and World Green Building Trends: Business Benefits Driving New and Retrofit Market Opportunities in over 60 countries, McGraw Hill Construction, 2013

²³ Bank of Namibia Annual Report 2011, Page 114 indicated 920 new commercial and residential buildings were constructed between 2007 and 2011.

²⁴ This reflects only the interventions implemented at the Kalahari Sands Hotel. No energy savings were reported for the Convenience Centre in Arandis or the EE House. Other projects are still in implementation or planned for implementation.

²⁵ Information for the Nampower audits had not been received and is not reflected here.

²⁶ The expected savings for the Erongo RED paypoints, MME building Swakopmund, and the FNB GBCNA Green Star rated building are included based on calculated energy savings since quantified savings data is not available.



- range) efficient for the green star rated building and 90% more efficient for a net zero energy rated building (savings estimates based on green building council reports²⁷).
- The life expectancies for a new building (25 years) and for an existing building (15 years), as assumed in the ProDoc, were considered reasonable and applied.
 - Square meters designed.
 - Examples of efficiency measures (including passive design elements, underfloor water heating, solar control glazing system, LED lighting, daylight harvesting and ventilated ceiling cavities) for the Paypoints and the MME building as provided by architect.

The Tracking Tool for Climate Change Mitigation Projects was not available at the start of the NEEP project, but the tool has been completed and a snapshot is attached in Annex 5.8.

As indicated previously, the logic framework did not define outcomes in terms of targeted emission reductions, but did state delivery targets. Without linking of outcomes to the emission reduction goals, several of the outcomes are effectively rendered inconsequential. **Please note that while the individual outcomes are not in themselves necessarily unrealistic, the complete scope of the project given the time and budget was unrealistic.** Non-delivery against targets should therefore not be seen as underperformance, but rather in the context of the unrealistic scope.

An overview of achievements against the targets is captured in Table 12 below. A brief description of the findings for each outcome is included, where relevant, in a subsequent table.

²⁷ The Value of Green Star: A Decade of Environmental Benefits, Australia Green Building Council, May 2013; Six Continents, One Mission: How green building is shaping the global shift to a low carbon economy, World Green Building Council, November 2009; and World Green Building Trends: Business Benefits Driving New and Retrofit Market Opportunities in over 60 countries, McGraw Hill Construction, 2013



Table 11: Progress against the results framework

Project Goal: (Promote Climate Change Mitigation) Reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings						
Goal / Objective / Outcome	Performance indicator	Baseline	End of project target	End of project status	Terminal Evaluator comments	Rating
Goal: Promote climate change mitigation Reduce greenhouse gas emissions from buildings	GHG emission reductions Direct annual emission reduction resulting from the investment in EE measures in buildings.	0 t CO ₂	230,157 t CO ₂ cumulatively avoided .	150 242 tCO ₂	Detail description of the emission reduction savings handled in the preceding paragraph (refer Section 3.3.1)	MU
Objective: Promote nationwide adoption of energy efficient technologies and practices in commercial and residential buildings, and therefore reduce GHG emissions.	Reduction in total energy usage in the commercial and residential building sectors. Market penetration of energy-efficient technologies and practices in buildings.	0 MWh/ year energy savings in the building sector. Lack of energy efficient technologies and practices on the building sector market.	1,828 MWh/year of energy savings in the building sector. Increase of energy-efficient technologies and practices in the building sector.	255 MWh/a direct achieved and total of 2,933 MWh/a from direct post project implementation	As above. Direct post project saving slinked to demonstration projects that are in various phases of implementation and the implementation of Q4 2013 audit recommendations with 3 years and less payback plus efficient water heating systems.	MU
Outcomes						
Component 1: Improved regulations and building codes for energy saving in developed buildings	Improvements made by the Government in the National EE policy, regulatory framework, and building codes	Actual energy policy and regulatory framework as well as building codes are not addressing EE.	New policy and regulatory framework for EE in buildings, including building codes addressing EE ready for adoption by Parliament	No actual changes in the policy environment achieved	Significant groundwork has been done that can translate into actual policy improvement with limited, but persistent, effort.	MS
Output 1.1: Policy and regulatory framework for EE in buildings improved, including	Formulation of a Strategic Action Plan on EE by MME (in cooperation with REEEI)	Strategic Action Plan on EE in new and old buildings non-existent.	Adoption Strategic Action Plan on EE in new and old buildings.	Strategic Action Plan not adopted	No evidence of the action plan included in the scope of implementation.	MU

Project Goal: (Promote Climate Change Mitigation) Reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings						
Goal / Objective / Outcome	Performance indicator	Baseline	End of project target	End of project status	Terminal Evaluator comments	Rating
building codes.	in new and old buildings. Identification, revision and development of building codes.	EE standards and recommendations non-existent in actual building codes.	Adoption of new national building codes including EE standards and recommendations.	Building codes were not revised.	The revision of the building codes was unrealistic, but made good progress towards a revised building standard which will lay the foundation for improved efficiency in buildings. The establishment of the GBCNA was pursued as a voluntary measure for EE in buildings. The GBCNA is expected to be a primary contributor to indirect ERs.	
Output 1.2: A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction.	Detailed study on potential EE technologies and socio-economic survey. Design of policy instruments, standards, and financial incentives Reinforcement of compliance enforcement capabilities.	Study on potential EE technologies and socioeconomic survey non-existent. Lack of incentives to promote energy-efficient technologies and practices and encourage EE financing. Lack of compliance enforcement capabilities focusing on EE in buildings.	A detailed study on potential EE technologies and socio-economic survey is conducted. The design of policy instruments, standards and financial incentives by the Government to promote energy-efficient technologies and practices, and encourage EE financing. Strengthening capacities and knowledge inside the Government policy unit to enable the regulation of compliance	Study conducted No policy instruments designed. Discussions with Ministry of Finance initially failed (refer Table 13, Output 1.2), and reopened during first quarter of 2014.	Concluded and serving as a good foundation for planning. Not implemented Not implemented and not relevant in the absence of policies to enforce. Failure to follow through on these activities means no contribution to ERs can be linked to this output.	MU

Project Goal: (Promote Climate Change Mitigation) Reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings						
Goal / Objective / Outcome	Performance indicator	Baseline	End of project target	End of project status	Terminal Evaluator comments	Rating
			enforcement.			
Output 1.3: EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).	Demonstration of EE benefits for buildings through pilot projects.	No pilot project has been implemented in Namibia to demonstrate the benefits and the effectiveness of EE technologies.	Twenty pilot projects are developed and implemented in institutional, commercial, and residential buildings (including a Zero Emission Building at Erongo RED Headquarters).	EE House (built) Convenience centre, Arandis (built) Erongo RED planned paypoints MME building, Swakop (planned) FNB via GBCNA (under construction)	5 demonstration facilities in various stages of implementation will contribute 6,832.3 tCO ₂ as direct post project impacts towards the project.	MS
Component 2: Organized provision of auditing and energy marketing services	Evaluation of capacity needs and local capacity availability in the industry.	No evaluation has been conducted.	National evaluation on capacity needs for provision of auditing and energy marketing services organization	Baseline study and Techno-socio-Economic Study	Baseline study and techno-socio-economic study contributed to a basic understanding of the energy needs to inform planning	MS
Output 2.1: Demand and supply for energy saving services and technology stimulated.	Enhanced capacity to undertake energy audits in buildings.	Capacity to undertake energy audits in nonexistent building. Program of certification for non-existent auditors.	At least 40 local auditors are recruited and receive training on energy audits in building. At least 70% of local auditors participate in the certification program.	Energy Auditor training introduced with 58 trainees recruited. 23 have been registered of which 15 have been certified.	All 23 CEAs listed for Namibia were trained by the NEEP programme. While the targeted percentage for certification was not achieved, the project contributed to creating capacity that previously did not exist at all. Training of assessors and faculty members for the GBCNA was also conducted with EE capacity supply and demand benefits. Market interest has been stimulated	MS

Project Goal: (Promote Climate Change Mitigation) Reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings						
Goal / Objective / Outcome	Performance indicator	Baseline	End of project target	End of project status	Terminal Evaluator comments	Rating
					by the completed Energy Audits.	
Output 2.2: Mandatory audits in public and commercial buildings adopted.	Number of energy audits and feasibility analysis undertaken in public and commercial buildings. Number of buildings where EE measures have been implemented.	Lack of energy audits and feasibility analysis undertaken in buildings. Lack of buildings where EE measures have been implemented.	At least 40 energy audits and feasibility analysis undertaken in buildings. EE measures implemented in at least 20 buildings.	12 audits directly funded 5 – 7 audits in Nampower (awaiting reports) 5 audits through REECAP/EMP (only 3 confirmed)	22 audits completed, 4 demonstration facilities planned and 2 constructed Interest expressed by MWT to conduct >9,000 audits in government buildings No steps taken towards mandatory audits. Audit recommendations have resulted in 3,341 tCO ₂ direct emission reductions and will contribute 39,907 tCO ₂ as direct post project impacts to the project.	MS
Component 3: Increased institutional capacity and awareness	Institutional sector awareness and understanding of the concept of EE in buildings.	Lack of institutional capacity and awareness on EE in buildings.	Significant increase in institutional capacity and awareness.	GBCNA Energy Auditor Training GBCNA training REEEI website	Significant capacity and presence in the market achieved through the GBCNA	HS
Output 3.1: Institutional capacity, awareness and information on EE in buildings increased.	Increase in public awareness of national and local policy makers and commercial developers. Database and website setup at the Namibian REEEI. Establishment of a	Lack of knowledge on EE in buildings. Database and website on EE in buildings non-existent. Standards for best practices in buildings	Public is aware of the new policy and regulation framework as well as EE in general. Adoption of database and website created by the Namibian REEEI. Adoption of standards for best practices in	Not relevant Awareness and interest in building codes established, platform for taking the development forward	The establishment of the GBCNA and voluntary measure for EE in buildings. While the annual surveys did not enable direct tracking of progress, it did suggest a slight increase in awareness levels. The GBCNA is expected to drive the majority of the indirect impacts i.e.: 100,161.5 tCO ₂ .	HS

Project Goal: (Promote Climate Change Mitigation) Reduction of Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings						
Goal / Objective / Outcome	Performance indicator	Baseline	End of project target	End of project status	Terminal Evaluator comments	Rating
	green building rating system.		buildings. Standards are set exceeding the mandatory	GBCNA introduced and first rating tool adopted		
Component 4: Structured monitoring, feedback and evaluation	Development of a strategy to monitor and evaluate the project.	Monitoring, feedback, and evaluation strategy non-existent.	Adoption of programme monitoring, feedback and evaluation strategy.	Not developed.	The lack of a appropriate tool to track progress has resulted in effort without focus / intent	U
Output 4.1: Monitoring, feedback adaptive learning and evaluation ensured.	Monitoring of indicators through baseline, mid- and end-of-project analysis. M&E of project performance. Dissemination of project results.		Establishment of a team to monitor indicators throughout the project. Independent evaluation of project performance using building utility bills and other energy data consumption. Presentation of the project M&E main findings to Government and stakeholders.	Noted in the PSC minutes, but no evidence of activity	Critical omission with adverse impact on optimal project performance and on important outputs and learnings for future activities Activities implemented, but coordinated approach lacking. Omitted key steps including inception report.	U

Where HS: Highly Satisfactory; S: Satisfactory; MS: Moderately Satisfactory; MU: Moderately Unsatisfactory; U: Unsatisfactory

Table 12: Progress and activity overview

Project Outcome	Overview of implemented activities
Component 1: Improved regulations and building codes for energy saving in developed buildings	
Output 1.1: Policy and regulatory framework for EE in buildings improved, including building codes.	<p>The development of EE and RE standards and/or specifications for inclusion in the building codes was pursued since the inception of the project. The main hurdle to implementation of EE clauses in the building code is that there is no formal building code enforced in the country. The most recent, national building codes are more than 40 years old and completely outdated in all respects. EE and RE components can't be incorporated into these codes without updating the entire code. To uncover the details of the status and ownership of the building codes took an extended and concerted investigation. A study to review the Building Codes ran into this barrier and instead of revising the relevant clauses as expected, reviewed the status quo and suggested ways forward. The study did do some modeling and recommended climatic zones for Namibia to guide the EE standards. Work is therefore fairly advanced.</p> <p>A Technical Committee (TC6) has been established within the NSI for building related standards and specifications. This committee was approached during the first year of NEEP to assist with the development of standards for energy efficiency. Numerous interactions with TC6 lead to the creation of a sub committee, chaired by a NEEP PSC member, that will focus on the EE standards.</p> <p>NEEP purchased a set of EE standards for review. TC6 investigated options for adapting standards from South Africa (a dispute about IP rages between NSI and SANS that prevented this conversion) and other countries including the EU. There remain a few technical constraints to resolve, but these can be addressed and reasonably the complete review of the building codes can be achieved within 3 – 5 years, possibly sooner if an agreement can be reached with SANS for the South African Standards to be used and adapted.</p> <p>The greater challenge is obtaining the required support for the revision of the building codes. Municipalities have mostly developed their own bylaws. The MWT indicated that having building codes that sets minimum EE requirements would facilitate the implementation of EE in all new government buildings. The MRLGHRD was identified as the government department with responsibility for the building codes. They ministry does not support the revision and has been unavailable even for high level meetings instigated by NEEP on this matter.</p> <p>Unless support from within this ministry can be obtained, this activity will remain at checkmate. A suggestion for taking this forward is to raise awareness amongst other stakeholders and role-players regarding the risks (health and safety, fire risks, building integrity, old practices and technologies) of not updating the building codes and lobby extensive with the ministry and parliament regarding the risks and opportunities of a revision.</p>
Output 1.2: A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction.	<p>No records were found for this Output, but input was received during an interview. This status is not supported by any other source or document. The interview indicated that discussions were held with the Ministry of Finance to investigate the opportunity to introduce preferential duties and excise taxes. The Ministry of Finance had reservations with respect to unintended consequences and no example in the region of a similar scheme. The closest example, but not relevant to import duties, was the Eskom DSM incentives in SA. The pursuit of this output was unofficially discontinued.</p> <p>It is a concern that these reservations were not adequately identified and raised as a project risk at the time of the project design.</p>
Output 1.3: EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration	<p>No demonstration projects were developed by the NEEP, but commitments from co-funders are intended to contribute towards this output.</p> <p>The EE House was recently constructed at Polytechnic premises. This highly efficient building has been designed to look like a residential home, but with extensive passive design features and numerous advanced technologies to make it energy efficient. The building also incorporates small-scale RE solutions. Monitoring equipment must still be installed so efficiency benefits can be tracked and The EE House will be used for post graduate studies</p>

<p>projects).</p>	<p>and research.</p> <p>The planned design features of the Erongo RED paypoints have been packaged into promotional material and pamphlets that beautifully illustrates the benefits of and approach to EE in these designs. Erongo RED has informally reiterated their commitment to construct these facilities with the EE specifications.</p> <p>The Convenience Centre in Arandis Town has been constructed, but limited EE design features and technologies are visible. Records of the EE specifications and interventions in the design and construction were not available.</p> <p>The MME confirmed the construction of a 1,500m² zero energy building in Swakopmund. FNB has been the first commercial enterprise to pursue a green star rating for their new building in Windhoek. The building is currently under construction, but no energy savings data is available at this time.</p> <p>It would be an imperative to use these buildings as showcases and case studies to promote the demonstrated benefits of EE.</p>
<p>Component 2: Organized provision of auditing and energy marketing services</p>	
<p>Output 2.1: Demand and supply for energy saving services and technology stimulated.</p>	<p>The Baseline study, the Techno-socio-economic survey and to some extent the Annual surveys produced a good understanding of the potential and demand for energy efficient technologies, equipment and services in Namibia. This established a solid platform for decision-making and planning that can be, and has reportedly been used, by the MME, Nampower and ECB, amongst others, to inform Energy and EE plans and interventions.</p> <p>The Energy Auditor Training created capacity for energy auditing services in the country. 58 Trainees listed on NEEP records who received sponsored training. The American association for energy engineers lists 23 Certified Energy Engineers International and Certified Energy Engineers International In Training (i.e. still needing to submit proof of their practical assignment to complete the qualification) for Namibia. All 23 listed candidates were trained through the NEEP programme.</p> <p>Of the 23, 15 have finalised their certification and 7 has in training status, with their practical assignment to formalise their qualification still outstanding (refer http://www.aeecenter.org/custom/cpdirectory/search_results.cfm)</p>
<p>Output 2.2: Mandatory audits in public and commercial buildings adopted.</p>	<p>No steps were taken towards making energy audits mandatory.</p> <p>NEEP purchased an Energy Audit kit that was used for the Energy Audits. This kit was made available to energy auditor trainees free of charge to complete the practical aspects of their training. The kit is rented out to commercial energy auditors for use in audits.</p> <p>Energy audits were commissioned in 12 buildings, 3 additional REECAP/EMP reports were captured, 2 more were reportedly done and between 5 – 7 audits were commissioned by Nampower prompted by an Energy Auditor trainee, trained under the NEEP project. This is short of the 40 audits targeted under the programme. A decision was taken by the PMU to reduce the number of buildings commensurate with the available finance. No efficiency retrofits were implemented for the same reason.</p> <p>The audit findings demonstrated significant potential for energy savings. Building owners were surveyed to assess the response to the audit findings and the likelihood of the audit recommendations being implemented. The questionnaires and survey results are covered in Annex 5.5 of this report.</p> <p>The responsive building owners confirmed that the audit findings were well received and that the data was adequate to inform decision-making around energy upgrades at their premises.</p> <p>2 respondents indicated that they had started implementation of the recommendations, 3 indicated that they had not, but intend to and 1 indicated that they had implemented an alternate clean energy solution, but that the decision was prompted by the audit findings.</p> <p>5 of the respondents indicated the intent to proceed within the next 5 years. Funding constraints to finance the upfront capital investment remained the main barrier to</p>

	<p>implementation.</p> <p>The UN House was one of the beneficiaries of a free audit through NEEP. The Coordinator for common services, who received the audit report presentation, was interviewed and completed a survey questionnaire. It was alarming that there has been no commitment for the UN House to implement any of the audit recommendations. If EE improvements with a clear business case are not implemented in a UN occupied building, the expectation that any of the other building owners would follow through may be ambitious. It is alarming if the UN does not implement cost effective interventions that are a key component of the climate change focal area, which is being promoted within the country by a UN Agency.</p> <p>The presentation on audit findings made to the MWT in November 2013 has been well received. The benefits of EE is recognized by the MWT, but funding not always available, given other priorities. The Ministry intends to take it forward and noted the following requirements for doing so:</p> <ul style="list-style-type: none"> • Engage with relevant ministries to co-fund the efficiency upgrades • Users of the buildings should also receive the reports so there are more people who see the benefits. • Letters will be sent to the relevant Ministries / building occupants. • The Department of Works does not pay for the electricity consumption, therefore requires this to be a collaborative effort. • Upgraded buildings and results can serve as show cases for other Ministries and government buildings • Audits to be extended to entire portfolio of 9,500 Government buildings in the country (They look forward to employ the audit kits purchased during the NEEP Project) <p>It is strongly recommended that the NEEP, and subsequently the REEEI or Namibian Energy Institute (NEI), support and follow up on this intent.</p> <p>To full realize the potential impact of these activities, it will be important to keep prompting building owners to include the EE recommendations in their planning, to keep track of any efficiency retrofits implemented, and where implemented to utilize the findings and experience as case studies and show cases of efficiency benefits.</p>
Component 3: Increased institutional capacity and awareness	
<p>Output 3.1: Institutional capacity, awareness and information on EE in buildings increased.</p>	<p>The GBCNA contributed most significantly to this output.</p> <p>The Associated Working Group was formed in February 2012 to, amongst others, develop a business plan, secure funding, identify and invite members and register the GCBNA with the Namibian authorities and the World Green Building Council.</p> <p>PriceWaterhouse Coopers (PwC) provided professional legal and financial accounting support. In August 2012 a 21-page trust deed was completed with the support of PwC for registration with the Master of the High Court targeting registration of the GBCNA in 2013. A board of trustees was registered by the Master of High Court in March 2013. Registration with the WGBC has been achieved in September 2012, targeting to get Emerging Status by 2013/14. 3 representatives were sponsored by UNDP to attend the GBCSA 5th Convention and Exhibition in Cape Town in 2012.</p> <p>A database of stakeholders is taking shape coming from industry, government, business and professional circles. Sponsorship deals have been sought from the Ministry of Mines and Energy and Nedbank. Collaboration with GBCSA has been strengthened from October 2012 GBCSA 5th Convention resulting in an inter-governmental collaboration request received by the MWT on behalf of the GBCSA.</p> <p>A marketing strategy was developed, marketing material has been designed and printed, and a membership drive is currently seeking members and funders that would enable full time staff to be appointed for the local council.</p> <p>The first Mini Convention of GBCNA was held in 2013 at Habitat Research Development</p>

	<p>Centre and a full-scale convention is planned for the second quarter of 2014.</p> <p>FNB has applied for a green star rating for their new building in Windhoek. With the assistance of WSP, FNB appointed consulting engineers, the relevant South African rating tool was adapted for Namibia to enable the rating of the FNB building.</p> <p>Based on the experience in South Africa, the GBCNA is expected to go from strength to strength and to continue to facilitate sustainable building practices including EE in buildings in Namibia.</p>
Component 4: Structured monitoring, feedback and evaluation	Refer Sections 3.2.1 and 3.2.3 for detail of this activity.
Output 4.1: Monitoring, feedback adaptive learning and evaluation ensured.	As above.

3.3.2 RELEVANCE, EFFECTIVENESS, & EFFICIENCY (*)

As indicated above and in Section 2.2, the project objective is highly relevant. There is a definite need in the country for Energy Efficiency as a cost effective measure that will improve the efficiency with which the limited available electricity supply is utilized. Levels of awareness about energy efficiency remain low in Namibia. The Report on the 2012 Annual National Survey on Energy Efficiency in Buildings in Namibia, published November 2013, indicated, as a key finding:

"...findings of the study suggest that not only do users of energy have low to average levels of knowledge with regards to EE products and technologies, but also that all of the interviewed stakeholders identified the lack of awareness of EE, as well as the lack of understanding of the products and technologies and the benefits thereof as a main barrier to EE market penetration."

In this Annual survey report and amongst almost all interviewed stakeholders, solar PV and SWH were repeatedly the first spontaneous mentions of EE solutions and EE best practices²⁸. Even after the implementation of the NEEP project and the associated initiatives implemented by Nampower and ECB, amongst others, it is the impression of the evaluator that EE measures and the benefits are still not fully and universally understood, confirming the need for an initiative such as NEEP.

As discussed in and 3.1 of this report, the project and its goal to achieve GHG emission reduction by promoting energy efficiency in the building sector remain highly relevant to GEF and UNDP priorities and the country context.

The project relevance is rated Highly Relevant.

Relevant	Not Relevant
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The NEEP project sought to accelerate the adoption of EE in the country, raise awareness around EE, establish institutional capacity, increased EE in the Namibian building sector and transformed local market for energy-efficient technologies and practices. This was targeted through an improved policy environment, market transformation and establishment of institutional capacity. Efforts to change the policy environment were hampered by unexpected and unforeseen hurdles. It is believed that these could have been managed better

²⁸ With Solar energy/panels mentioned by 48.4%, solar water heaters by 35.3% and the closest energy efficient option – efficient lighting – only mentioned by 3.3% of the respondents.

and more effectively, but the progress made is a good step towards creating an enabling policy environment under challenging circumstances.

Market transformation through capacity building and market demand has been effectively stimulated for energy audits, while limited progress was made to transform the market for energy efficient equipment and technologies. Energy audit training and the assessor training for the GBCNA are likely to boost demand and awareness and is an effective contribution to this component.

The establishment of the REEEI website, increased prominence of EE within in REEEI and regular nation-wide awareness campaigns contributed to institutional capacity. The establishment of the GBCNA has however made the most important contribution to capacity building, institutional capacity and as a voluntary approach to building regulations. Implementation of this initiative was focused and effective and is expected to continue to make a significant contribution to EE in buildings into the future.

The project implementation did however not focus on outcomes, was therefore ineffective and few of the targeted outcomes were realized as planned. Unfortunately, the project cannot demonstrate an adequate, quantifiable, direct or indirect impact towards the energy savings and emission reduction goal.

Project effectiveness is therefore rated **Moderately Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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The 3.5 year long project spent a total of US\$ 0.859 million GEF funding over its implementation period (on average US\$ 0.215 million per year). The project funded energy audits that offer very cost effective opportunities for efficiency upgrades, the establishment of the GBCNA and has leveraged co-funding towards 6 demonstration projects.

It further more contributed to raise awareness and creating an enabling environment for EE in the country. It is difficult to quantify the savings from these activities, but the platform created for EE is invaluable.

Life-time project GHG emission reductions are estimated to be 150 252 tCO₂ – with the US\$ 0.859 million invested. The relative costs of direct project GHG emission reductions for GEF funding are therefore 5.47 USD/tCO₂. This is high compared to the planned cost per ton for the project, and high compared to the current market price for carbon, but appears to be within an acceptable range for GEF funded EE projects.

Rating of the project outcome cost-effectiveness/efficiency is rated **Moderately Satisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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3.3.3 COUNTRY OWNERSHIP

The project was developed in recognition of the specific challenges relating to EE in Namibia. In interviews with the REEEI, the Director of Energy, the Deputy Director for Renewable Energy and Renewable Energy Researcher at the MME the importance of EE as part of the energy strategy for the country was reiterated all interviewees. The Energy White Paper is currently under review and all four respondents indicated that EE will be better integrated and given greater priority in the policy and subsequent plans.

At the same time, the MME does not have dedicated institutional capacity for EE. This function is effectively outsourced to REEEI. While the capacity in REEEI is invaluable, the lack of capacity within Government to drive policy decisions and an enabling environment does reflect on the relatively low priority that EE still holds.

3.3.4 MAINSTREAMING

The project objectives align directly with the priorities in the UNDP country programme (CPD) and specifically component 3: energy and environment for sustainable development, including building resilience of this programme. It also extends to priorities under component 2: Inclusive growth, economic empowerment and poverty reduction with economic growth opportunities and improved residential energy efficiency in particular contributing to the alleviation of energy poverty and improved living conditions in low income households.

A few significant successes were achieved towards mainstreaming of Energy Efficiency through the NEEP project activities.

The establishment of the GBCNA is the most notable success. The GBC has received tremendous voluntary support from a range of stakeholders and has been embraced by the building industry and commercial business owners. A business plan and marketing material have been developed and a membership drive is underway. The first rating tool has been adapted for the Namibian environment and the first green star rated building is being constructed. It is expected that the marketing exposure resulting from this building owner promoting their achievement will further add momentum to the initiative. The initiative has been endorsed by Government and has received support from the South African and world green building councils. The green star rating is also broader than only energy efficiency incorporating several aspects of sustainability including water management, transport, materials, land use & ecology, emissions and Indoor environment quality amongst others.

A second promise of success is the intent expressed by the MWT to roll out Energy Audits across their portfolio of 9,000 buildings. The MWT has been an active participant on the NEEP, chairs the GBCNA and has demonstrated commitment to energy efficiency in buildings by sending almost all building professionals (architects, engineers and quantity surveyors) within the MWT for the energy audit and/or GBCNA Assessor training. The combined impact of introducing EE in the existing portfolio of buildings and incorporating EE in new capital projects would contribute significantly to the mainstreaming of EE in the country.

Training of energy auditors, which included a handful of female graduates, has established a core skill set amongst a range of professionals that did not previously exist in the country.

3.3.5 SUSTAINABILITY (*)

Several of the project activities have made good progress, but seem to be have reached a point from where it could either achieve the desired breakthrough or revert back to the status quo. When considering each of the project contributions, the likelihood of sustainability is assessed as follows:

Project result achieved	Likelihood of sustainability	Motivation for this rating
Raised awareness and a good basis for stakeholders from which to make informed decisions (key reports and findings)	Med	Requires maintenance and promotion of the study findings. If data is not maintained and updated regularly, it will become outdated and irrelevant to decision-making and planning. Maintenance and updates will also enable trends to be tracked. If the data is not promoted amongst stakeholders it will not be utilized optimally, not incorporated into future planning and strategies and the upward awareness trend will revert.
GBCNA	High	GBCNA Structures have been established, marketing material has been developed, industry buy-in, first building rated, first rating tool adapted, broad support and enthusiasm, REEEI intends to provide continued Secretariat support (not confirmed). The GBCSA impact in South Africa is considered a relevant example with a good success rate.

Project result achieved	Likelihood of sustainability	Motivation for this rating
Energy audits in buildings leading to implementation	Med - High	<p>Survey results, indicated limited action to date, but intent confirmed by all 5 respondents of the survey.</p> <p>That it has not been prioritized for implementation for the UN House is a concern – if UNDP is taken as a gauge of the likelihood for action.</p> <p>MWT stated intent is a great positive, but requires follow through, given challenges of costs, lack of building codes / specifications and the fact that the respective ministries are responsible for payment of their own electricity bills and hence cost savings will accrue to occupants and not to the MWT.</p>
Green Building Codes	Low - Med	Complete lack of ownership for the delivery of revised codes from the relevant Ministry. Will still require significant technical effort likely to take 3 – 5 years even with the required political will.
Capacity building through training (EA and GBCNA)	Med - High	Has been created, trainees feel empowered and a percentage have already utilized this new skill. But, confidence will dissipate if not utilized and grown.

In Section 3.3.2 it was highlighted that EE has not yet been embedded in the culture with public awareness levels and knowledge still relatively low, awareness in the construction industry also still low and no mandatory requirement for more efficient building practices.

The REEEI will be incorporated into the Namibian Energy Institute as the Centre for Renewable Energy and Energy Efficiency. This transformation has commenced and the launch is planned within the next quarter of 2014. EE will therefore remain a focus area within this new institute, but will also compete for resources with other energy related, technical areas. As indicated above, continued support for EE will be critical to yield the potential impacts and progress that have been made to date. Indications from the MME and from REEEI suggested that it will remain a priority, but neither commitment was backed by a significant financial allocation or dedicated support capacity at this time. The annual allocation for REEEI has been in the order of NAD1,2 million from which EE receives an allocation. A business case and funding strategy is still to be developed for NEI.

In spite of this uncertainty, the prospects of sustainability are rated **Moderately Likely** because of the expected continuation of the GBCNA and the expected implementation of energy audit recommendations that are less dependent on the future of REEEI.

Likely	Moderately Likely	Moderately Unlikely	Unlikely
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Other related initiatives, such as the NamPower DSM project, Soltrain and the solar revolving fund, will promote EE through focused programs, retrofits and financial support, but the focus of these are specific to technologies.

Continued support for development of a suitable policy platform and a promotion of EE in buildings in the country are strongly advised, if at all possible to ensure the identified potential is realized.

3.3.6 CATALYTIC ROLE & IMPACT

A summary of the impacts achieved is provided in Section 3.3.1. Whilst the project has not delivered on the changes to the legislative framework, the targeted energy savings and the GHG emission reductions, it is reasonable to expect that a shift was achieved in the market that will have an impact within the next 10 years.

The NEEP did succeed to lay foundations for and catalyze progress towards implementation of energy efficiency measures in buildings that would not have happened without NEEP.

Within the short implementation time and limited financial resources, the project made a marked contribution towards EE in buildings. Importantly the project initiated institutional changes and created capacity for energy efficiency - such as the GBCNA, trained 15 Certified Energy Auditors, conducted 12 energy audits and prompted several others, created demonstration facilities including the EE/RE House that will serve to create more capacity in the industry - that will continue beyond the conclusion of the NEEP.

The establishment of the GBCNA and the stated intent by the Ministry of Public Works and Transport to pursue EE in the portfolio of public buildings, suggest that the impact of the NEEP may be far reaching, in spite of the challenges it faced.

There was no evidence of unintended, adverse consequences for this project.

The overall project impact is therefore rated **Moderately Unsatisfactory**.

Highly Satisfactory	Satisfactory	Moderately Satisfactory	Moderately Unsatisfactory	Unsatisfactory	Highly Unsatisfactory
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4 CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

4.1 CONCLUSIONS

With consideration to the preceding evaluation, the following conclusions are drawn.

The NEEP project did make a marked contribution towards improved energy efficiency in buildings in Namibia. The most notable contribution towards a sustainable enabling environment for energy efficiency in buildings was the establishment of a Green Building Council in Namibia (GBCNA). The GBCNA, affiliated to the world Green Building Council, was initiated as a direct result of the NEEP. The establishment of the local council was supported throughout the process by the NEEP and indications are that it will continue to receive a support service from the REEEI (host to the NEEP project) into the foreseeable future. Business, industry and public sector role players received the GBCNA enthusiastically. An Associated Working Group, drawing on voluntary participation by stakeholder representatives and supported by NEEP, have tirelessly contributed to the council establishment where it is currently finalizing the registration with the World Green Building Council and formalizing structures for self-sufficiency.

The GBCNA progress and activities suggest strong ownership by the stakeholders likely to continue driving the initiative after the completion of the NEEP project. The first rating tool has been adapted for Namibia and the first prospective green star rated building is under construction by a prominent banking group. This signifies enormous progress and opportunity to markedly influence future efficiency improvements in buildings.

The GBCNA was not originally anticipated by the project design, but was incorporated into the NEEP activities as a voluntary alternate to the challenges of improving the formal policy environment.

Other important contributions include 12 energy audits directly funded by the NEEP, 5 energy audits supported by the NEEP staff and additional audits subsequently commissioned by Nampower (number of audits and details of findings could not be confirmed), prompted by energy auditors trained by the NEEP project.



The NEEP offered training to 60 potential energy auditors, of which 23 successfully completed the training and registered as international certified energy engineers in training²⁹ (7) and international certified energy engineers (CEA) (15) with the Association of Energy Engineers (AEE).

The NEEP did not revise the Building Codes to incorporate energy efficiency measures as planned, but it did uncover, with unexpected difficulty, the status of and the extent of challenges facing the revision of the 40-year-old existing building codes. This has raised awareness about the need for and an interest in revising the building codes as a whole before incorporating energy efficiency and renewable energy components. To take this forward, it is important that the created momentum be sustained and high-level ownership challenges be addressed.

Through several key studies (Baseline study, Techno-socio-economic study and two Annual surveys), NEEP has raised awareness and established a platform for improved decision making relating to energy efficiency in Namibia. The outputs and findings of these studies have already informed and will continue to inform planning by the MME, ECB and Nampower. NEEP team members have also participated in and contributed to related initiatives, programmes and planning such as the Nampower DSM initiative and the revision of the White Paper on Energy that has been initiated.

These are all significant steps in an environment where the awareness with respect to energy efficiency as a key component of an integrated energy plan, support for greater energy security and a mechanism for emission reductions, cost savings and improved energy productivity, is low.

Relevance: The Energy Efficiency focus of the project is highly relevant, well aligned to the energy context and requirements of the country. It is also well aligned to the Namibia Country Plan and the climate change goals of the GEF.

Effectiveness: The project design was comprehensive and detailed, incorporating a broad scope of activities to lower the barriers to the adoption of energy efficiency. There were however numerous flaws in the project design that set unattainable targets for the NEEP to deliver on. These implementation hurdles were however not adequately raised and addressed during the project implementation.

Overall, the NEEP project could not deliver on the goals it set out to achieve and therefore did not make the targeted impact. The target to reduce carbon emissions from buildings, based primarily on a significant change in the policy environment within three years coupled with the implementation of 20 energy efficient demonstration projects, presented an enormous challenge. Neither these activities could be completed as planned. Several other initiatives were commenced that are likely to contribute towards energy savings and emission reductions, but the expected and projected **impacts have not been demonstrated and the project is consequently rated as ineffective.**

Efficiency: Considering only the GEF funding contribution and the quantifiable, lifetime emission reductions, the cost works out at \$5.47/tCO₂. This is expensive compared to the current carbon market price, but is comparable to other GEF funded EE projects.

Results: In terms of the primary goal of reducing greenhouse gas emissions, the project will deliver 150,242 tCO₂ compared to the target of 230,157 tCO₂. This represents only 65% of the targeted emission reductions, but is a relatively conservative calculation because of data limitations.

Quantification of results was hampered by the absence of information. The project did not design and implement an M&E plan and the progress towards the objective of emission reductions was not properly baselined, captured/tracked and reported. This is a severe shortcoming of the project implementation.

Component 1 (Improved regulations and building codes for energy saving in developed buildings) of the project included the revision of the building codes and demonstration projects and was expected to make the greatest contribution to direct energy efficiency savings. The revision of the building codes faced an

²⁹ Required to complete a practical component with a report to advance from CEA in-training status to CEA status.



impossible hurdle and was severely hampered by institutional challenges that fell outside the control of REEEI/NEEP.

The project design did not adequately establish the status of the current building codes (40 years old, unused and not 'owned' by any government department) and the resulting challenge of revising these to support EE and RE, in spite of the effort put into this activity. Similarly, revising other aspects of the policy framework (standards and labelling, National EE strategy, and incorporating preferential taxes and excise duties for EE products) proved too broad and exceeded the available financial and planned human resources.

Since changes to the policy and regulatory framework could not be achieved, no quantifiable savings can be ascribed to this aspect.

The most important emission reduction interventions documented in the ProDoc were the energy efficiency retrofits of 20 buildings. Of these, 5 demonstration facilities were committed as co-funding contributions. These are in various stages of implementation. The available budget was inadequate to support a further 15 retrofits. The misalignment of the available project budget to planned scope and activities was not taken into consideration nor was an innovative strategy for delivering on these outcomes, given the budgetary limitations, developed.

None of the other components had emission reductions linked to the impacts at design phase and without tracked savings, the impact quantification of the associated emission reductions presents a challenge.

The evaluation found that the scope of the project was overly ambitious for the given timelines, the available monetary budget and the challenge of finding an implementation team that was suitably qualified and experienced with respect to energy efficiency. This challenge is best illustrated by the fact that for 16 months out of the total project, there was only one full time team member on the project in the role of assistant.

The project design might have assumed commitment and contributions from other stakeholders that were never adequately captured and committed to / tied in at project design. The co-funding commitments that were made were in kind and towards parallel activities, mostly not specific to the defined outcomes. As such it did not finance the implementation of the planned project scope. As a result the cash budget did not align with the project scope and deliverables.

Failure to deliver is however not only ascribed to misalignment of scope and resources. The implementation omitted several key steps including the inception workshop and report, adequate risk management, a project workplan, active tracking of, and management against, impacts and the opportunity for a midterm evaluation.

The project furthermore faced significant challenges with respect to record keeping, documentation, reporting and project structures. These challenges were aggravated by the absence of a structured M&E approach to continually monitor, focus, guide and inform the direction of the project. As a result activities were not coherent, not optimally aligned to the project target, and may have missed opportunities to respond and adapt to the challenges.

Sustainability: The activities that were successfully implemented are likely to be sustainable. This is largely ascribed to the strong buy-in achieved for the GBCNA and the compelling business cases offered by the audit reports for the efficiency retrofits.

4.2 LESSONS LEARNED

With consideration of the evaluation and the conclusions drawn, the following recommendations are made for future project planning, design, implementation, monitoring and evaluation of projects:

Issue	Recommendation
Policy and Regulatory change	Policy and regulatory change should not be targeted where it is not firmly within the project's span of control or influence unless there is a strong commitment from a suitable stakeholder to champion this initiative
Design due diligence	The misalignment of scope and resources and the critical error of targeting the revision of building codes that effectively did not exist, highlights the need to

Issue	Recommendation
	<p>conduct a stringent due diligence of the project design.</p> <p>The inception workshop and inception report are critical for the project team to take ownership of and internalize the scope. The projects should not proceed without this critical step.</p>
Project design structure (avoiding policy and regulatory change)	GBCNA is an example of a clever project adaption that successfully leveraged industry interest and commitment, achieved improved awareness and created a platform for future energy efficiency in the country, that are not subject to cumbersome government processes. Project designs that can incorporate these characteristics may have greater success.
Definition of Outcomes	<p>Output statements should be interrogated to check that they are relevant, specific, attainable, measurable and realistically timed, i.e. that they are SMART. The activities that support the outcome should also be aligned and tangibly contributing towards the outcome and the emission reduction goal. This recommendation is relevant to the design stage when the outputs are being defined, but also at implementation stage, especially during the inception workshop and as part of the ongoing M&E process.</p> <p>This is a reiterating the GEF / UNDP guidelines for project development, but is emphasized as critical to successful delivery.</p>
Scope and resource alignment	<p>Ensure there are adequate financial and human resources assigned or committed to the project for the range of activities planned. The NEEP probably needed three project managers with the support of a project assistant/administrator to have delivered on the full design scope of the project.</p> <p>At least a high-level work breakdown structure and resource allocation should be done to check the realistic delivery of the scope within budget and with the available resources.</p>
Positioning of the NEEP in the REEEI and project management.	<p>The REEEI faced challenges with implementation and did not leverage the strength of its influential position and capacity as center of technical excellence. Constraints related to capacity and skills are addressed separately below, but perhaps the key to unlocking this inefficiency lies with a stronger, structured project management approach focused on outcomes rather than activities.</p> <p>It is strongly recommended that, when it is not possible to find a technical expert with suitable project management experience, the team structure for similar projects have a full time project manager with part time technical specialist support. It is further recommended that project management capacity and structures be developed within the REEEI (NEI) to position it as a stronger delivery partner.</p>
Project management and reporting culture	Project reporting is often handled as a report on the good progress only and the tendency is to hide or downplay the challenges. A culture should be instilled amongst project managers to use reporting as an opportunity for raising concerns, communicate risks and appeal for assistance, inputs or guidance as necessary.
Monitoring and Evaluation.	<p>A comprehensive M&E plan and tracking during project implementation against indicators and outputs are critical to demonstrate success and to inform adaptive management. As this is already a requirement of GEF funded/UNDP administrated projects, the necessity of this can only be reemphasized.</p> <p>A project that cannot demonstrate tangible progress in terms of the goals, should be stopped.</p>
Skill/competency and capacity constraints.	It is critical to recruit and obtain the support of full time, suitably skilled resources for a short-term, intensive project such as NEEP. It is strongly suggested that a skills/capacity development strategy be incorporated where this risk is identified. For example incorporating capacity development into contracts, recruiting widely for specialist positions, but identifying a candidate to shadow the specialist. In

Issue	Recommendation
	<p>both these instances the contract conditions and performance requirements can be structured to enable, track skills transfer and to ensure retention of the 'trainee(s)'. This addition may come at a premium, but can be capped and included in the budget if properly planned.</p> <p>The project team should furthermore ensure the requirements for studies are clearly defined, that the terms of reference (technical evaluation criteria) for work outputs form Consultants are clear and suitably specific, that the evaluation and selection of service providers identify the required competencies and that delivery is closely managed to the required outputs</p>
Stakeholder participation.	<p>It is essential to ensure the correct stakeholders are identified and involved from the onset; that strong, jointly beneficial partnerships are actively established towards a common goal; and that support is lobbied for throughout the project.</p> <p>Again, this is repetition of the existing guidelines, but proved a major barrier in revising the building codes without the buy-in of the relevant ministry.</p>
Co-funding contributions	<p>In-kind co-funding contributions should be assessed in terms of the realistic and specific contribution it will make towards the project goal and outcomes and alignment with project scope.</p> <p>While this project showed a co-funding contribution of >US\$5 million, the designed project implementation scope was limited to the GEF funding component of US\$859,000.</p>

4.3 RECOMMENDATIONS (WAY FORWARD)

Several initiatives initiated under NEEP are at a tipping point, with potential to contribute positive shifts for energy efficiency in Namibia if the momentum is harnessed. The following recommendations are made for building on the NEEP contribution, or to reinforce initial benefits from the project in taking it forward:

- Mandatory energy audits in public buildings.** Based on the information produced and collected by the NEEP (audit report findings and various studies), the precedent created with the Solar Water heating Directive and the interest expressed by the MWT, it is believed that a well motivated submission from the MME to cabinet can appeal for energy audits to be made mandatory in public buildings. This was conceptually checked with the MME Director of Energy, Ms Utonih, and confirmed to be possible and acceptable during the TE interview. If the potential benefits of the audit findings are extrapolated across the portfolio of government buildings, this should offer a compelling case for a portfolio wide audit roll out and subsequent efficiency interventions and upgrades. This can be followed up with support to MWT to establish partnerships with the respective ministries for retrofits of the portfolio of government occupied buildings (approximately 9,500). The SWH example of a directive exists where Government lead by a bold example with a ripple effect throughout the private sector. This process may take 4 – 6 months and will most likely require further support with project and financial resources.
- In the interim, it is recommended that support be provided to MWT to firm up on their interest to conduct energy audits in public buildings.
- Show casing of demonstration buildings.** It is imperative that the six demonstration facilities (EE House, Convenience Centre, FNB Green Star rated building and planned Erongo RED and MME buildings) be optimally utilised to show case the results, technologies and benefits of EE. The technical / design brochures developed for Erongo RED are wonderful resources, but should be supplemented with **proven results that demonstrates the benefits of the added investment**. Similar resources should be developed for the other demonstration facilities. Sharing and communicating

the benefits of these EE interventions will be **critical to really catalyse the EE potential in the commercial building sector**.

- **The revision of the Buildings Codes** will contribute greatly towards entrenching energy efficiency in the building sector in Namibia. A lot of time and effort have been invested and momentum created to take this task forward. The structures have been established for the technical work of developing standards and revising codes to be completed. It is strongly advised that high-level ownership of the building codes be resolved as a priority to support the progress on a technical level. Soliciting support from stakeholders, raising awareness regarding the range of risks of not revising the buildings codes (health and safety, fire hazards, inefficient and outdated building practices, etc.), lobbying and directly engaging the relevant ministry, will be required, amongst others.
- **The Green Building Council of Namibia** is hoping to appoint permanent staff, but until such time will greatly benefit from a continued support and secretariat function provided by the REEEI (NEI in future) to lighten the administrative burden on the industry volunteers committed to this initiative. Continued support to the GBCNA is therefore recommended to ensure the promise of this initiative is fully delivered on.
- Energy efficiency has benefited from the NEEP, but the barriers to implementation remain high. **Continued support** for development of a suitable policy platform and a promotion of EE in buildings in the country are strongly advised, if at all possible to ensure the identified potential is realized. It is recommended that any further available support be invested in promoting Energy Efficiency in Namibia. If such support is available from GEF/UNDP or any other relevant source, an application for further support should be developed.
- It is recommended that the **position of EE in REEEI (NEI in future) be further strengthened**, that a funding allocation be secured / committed and that role clarity be resolved for NEI with respect to EE. It is recommended that REEEI, if possible, continue with a commitment and resources for driving EE delivery on building codes, pursue implementation of audit findings, follow up with MWT for audits in public buildings, show case results, provide support to the GBCNA, amongst others.
- It is lastly strongly recommended that the recommendations of **the energy audit be pursued for implementation in the UN House** and used to showcase and promote the benefits of energy efficiency interventions and the UN's commitment to climate change mitigation



5 ANNEXES

5.1 ITINERARY

The evaluation mission was conducted from 17 February to 28 February 2014. The itinerary for the two weeks were scheduled as follows:

Mon 17/02	Tues 18/02	Wed 19/02	Thurs 20/02	Fri 21/02
	08:00 REEEI Team Introduction	08:30 MME: Deputy Director RE Noddy Hipangelwa and RE researcher Susan Tise	09:00 NSI TC6: Immanuel Owoseb and Ambunda Melchiol	09:00 CEA and Energy Auditor trainee: Siselia Illeka
	12:00 GBCNA AWG / MWT: Canisius Matsungu	10:30 GBCNA AWG member, trustee and NHUD: George Kozonguizi	10:30 MWT and building owner: Mrs Maria Iyambo** and Mr. Muketi.	10:00 Audit beneficiary Kalahari Sands Hotel: Marthinus Brendell
	14:30 UNDP: Martha Naanda*	12:00 Energy Audit Trainees x2	14:00 NEEP EE specialist: Abraham Hangula	12:00 NEEP EE Administrator: NAFT Hamunghete
15:30 brief REEEI team introduction	16:00 EmCON / GBCNA: Glenn Howard	14:00 Energy Audit Trainee: Tangeni Shivute		14:00 REEEI National Director: Dr Chiguvare
		15:30 Camco*** Jonathan Curren		16:00 RE House visit

* An introductory meeting only

** Mrs Iyambo requested an alternate interview with her, the Director Capital Management and the Under Secretary

*** Poor Internet and/or Skype connection meant that the interview was rescheduled as a personal interview for 3 March

Mon 24/02	Tues 25/02	Wed 26/02	Thurs 27/02	Fri 28/02
09:15 – 10:00 Arandis Town Council and building visit		08:00 ECB (cancelled)	09:00 UNDP: Lucas Black	ECB: Possible reschedule of interview, but rep. not available
11:15 Audit beneficiary Pelican Bay Hotel GM Ndeshi Shatona	10:00 Audit beneficiary UN House: Charles Kauejao	08:30 TC6, PSC and GBCNA: Dr Andreas Weinecke	10:00 NEEP EE Specialist NEEP data review	
12:00 Erongo RED PSC and co funder: Rudolf Ouseb and Claude Tjizo		12:00 MME Director of Energy: Selma Penna-Utonih		

Mon 24/02	Tues 25/02	Wed 26/02	Thurs 27/02	Fri 28/02
14:00 Audit beneficiary Woermann Brock Walvis Bay: Ingo Woermann	14:20 REEEI PMU Team: Helvi and Virginia	14:20 MWT US, and two Directors: Ben Booysen, Maria Iyambo,	14:00 – 16:30 PSC debriefing	
		16:00 previous REEEI National Coordinator: Kudakwashe		

Two further interviews were scheduled and held for the week following the evaluation mission:

- 3 March at 14:00: Jonathan Curren, Camco (a continuation of the Skype interview on 18 February)
- 4 March at 10:00: Martha Naanda, UNDP Country Office

5.2 LIST OF PERSONS INTERVIEWED

The following list of stakeholders were interviewed as part of the assessment:

Individual	Role/capacity	Contact details	Date interviewed
Canisius Matsungu	Ministry of Works and Transport, Capital Projects Management and Green Building Council Associated Working Group (AWG) member	Tel: +264 81 339 5142 Email: cmatsungu@gmail.com	18 February 2014
Glenn Howard	Consultant for Baseline study and Energy Audits and Green Building Council AWG member	Tel: +264 61 224 725 Email: glenn@emcongroup.com	18 February 2014
Noddy Hipangelwa	Ministry of Mines and Energy Deputy Director Renewable Energy and NEEP PMU member	Tel: +264 61 284 8111, nhipangelwa@mme.gov.na	19 February 2014
Susan Tise	Renewable Energy Researcher at the Ministry of Mines and Energy	stise@mme.gov.na	19 February 2014
George Kozonguizi	GBCNA Associated Working Group member, trustee and Namibia Housing and Urban Development, part of consulting team appointed to develop green building codes	kozonguizi.george018@gmail.com	19 February 2014
Elifas Ngonga	Energy Auditor Trainee, Polytechnic of Namibia	Tel: +264 61 207 2584 engonga@polytechnic.edu.na	19 February 2014
Moses Shuudeni	Energy Auditor Trainee, Polytechnic of Namibia	Tel: +264 61 207 2517 mshuudeni@polytechnic.edu.na	19 February 2014
Tangeni Shivute	Energy Auditor Trainee, Burmeister & Partners	Tel: +264 61 379 9057	19 February 2014

Individual	Role/capacity	Contact details	Date interviewed
	Consulting Engineers (previously Nampower)	tt.tshivute@gmail.com	
Jonathan Curren	Managing Director (South Africa), Camco Clean Energy, part of consulting team appointed to develop green building codes	Tel: +27 11 253 3400 jonathan.curren@camcocleanenergy.com	19 February 2014, continued on 3 March 2014
Immanuel Owoseb	National Standards Institute (NSI) Standards Officer Technical Committee 6	Tel: +264 61 386 428 email: owoseb@nsi.com.na	20 February 2014
Ambunda Melchiol	NSI, Quality Assurance Officer and Energy Auditor Trainee	Tel: + 264 61 386 400 email: melchiol1@yahoo.com	20 February 2014
Frederick Muketi	Chief Mechanical Engineer, Capital Projects Directorate, Ministry of Works and Transport, GBCNA AWG member and Chairperson	Tel: + 264 81 354 9193 Email: fmuketi@hotmail.com	20 February 2014
Abraham Hangula	NEEP: Energy Efficiency Specialist Polytechnic of Namibia	Tel: +264 207 2011 Mobile: +264 811 500 430 email: ahangula@polytechnic.edu.na	20 February 2014
Siselia Illeka	Energy Auditor trainee and registered Certified Energy Auditor	Tel: +264 081 312 6337 email: cesilia.ileka@gmail.com	21 February 2014
Marthinus Brendell	Audit beneficiary Kalahari Sands Hotel	Tel: +264 81 124 9140 Email: marthinus.brendell@suninternational.com	21 February 2014
NAFT Hamunghete	NEEP EE Assistant, REEEI - Polytechnic of Namibia	Tel.: +264 61 207 2011/2154 Mobile: +264 81 1600005	21 February 2014
Dr. Zivayi Chiguvare	Director, Renewable Energy and Energy Efficiency Institute Polytechnic of Namibia	Tel: +264 61 207 2247/2154 zchiguvare@polytechnic.edu.na	21 February 2014
Ndeshi Shatona	Audit beneficiary Pelican Bay Hotel GM	Tel: +264 64 214 000 email: gm.pelicanbay@preteahotels.com.na	24 February 2014
Rudolf Ouseb	Erongo RED PSC and co funder:	Tel: +264 81 122 4666 Email: rouseb@erongored.com.na	24 February 2014
Claude Tjizo	Erongo RED PSC and co funder	Tel: +264 81 122m0828 Email: ctjizo@erongored.com.na	24 February 2014
Ingo Woermann	Audit beneficiary Managing Director Woermann Brock	Tel: +264 81 127 8140 Email: iwoermann@wbswakop.com	24 February 2014
Charles Kauejao	Audit beneficiary UN House Common Services Coordinator	Tel: +264 81 124 7228 Email: Charles.kauejao@one.un.org	25 February 2014
Helvi Illeka	Project Officer at REEEI and NEEP PMU Team	Tel: +264 61 207 2011 or +264 81 160 0013 Email: hileka@polytechnic.edu.na	25 February 2014
Virginia Roman	Project Administrator REEEI and NEEP PMU Team	Tel: +264 81 445 7262 Email: vroman@polytechnic.edu.na	25 February 2014
Dr Andreas Wienecke	Technical Committee 6 and EE sub-committee, Project Steering Committee, Director: Namibian Habitat Centre and	Tel: +264 81 881 3029 Email: awiennam@gmail.com	26 February 2014

Individual	Role/capacity	Contact details	Date interviewed
	GBCNA AWG member		
Selma-Penna Utonih	MME Director of Energy, NEEP project steering committee	Tel: +264 (0)61 284-8322 email: sputonih@mme.gov.na	26 February 2014
Ben Booysen	Ministry of Works and Transport, Director Capital Projects Management	Tel: +264 81 141 0474 email: bbooyesen@mwtc.gov.na	26 February 2014
Maria Iyambo	Ministry of Works and Transport, Director Maintenance	Tel: +264 81 124 4819 email: miyambo@mwtc.gov.na	26 February 2014
Andrew Uwazi	Ministry of Works and Transport, Deputy Permanent Secretary Works	Tel: +264 81 149 0841 email: amwazi@mwtc.gov.na	26 February 2014
Kudakwashe Ndhlukula	Previous REEEI National Coordinator	Tel: +971508125201 kndhlukula@gmail.com	26 February 2014
Lucas Black	UNDP Regional Technical Advisor – Energy, Infrastructure, Transport and Technology (EITT)	Tel: +27 71 874-4893 email: lucas.black@undp.org	27 February 2014
Martha Naanda	UNDP Country Office / Assistant Resident Representative, Head: Namibia- Energy & Environment	Tel: + 264 61 204 6231 Email: martha.naanda@undp.org	4 March 2014

5.3 SUMMARY OF FIELD VISITS

Field visits were limited since most planned efficiency buildings are in the planning stages and not yet constructed. The four field visits were to Kalahari Sands Hotel, Windhoek, Pelican Bay Protea Hotel, Walvis Bay, Convenience Centre, Arandis Town and the RE/EE House, Windhoek.

The **Kalahari Sands Hotel** Maintenance Manager shared preliminary energy saving results deduced from the comparative assessment of year on year energy bills. This data has not been verified in accordance with international protocols for measurement and verification with adjustments incorporated for weather and occupancy levels, but is suitably significant to indicate a marked energy savings impact. These energy savings were ascribed to the installation of heat pumps for water heating (water heating being identified as a primary contributor to energy use in the audit). The hotel has only just commenced a retrofit of all downlights to LEDs throughout the hotel. Light fittings that were visible in public areas were however all still inefficient.

We were met by the acting General Manager (GM) at the **Pelican Bay Protea Hotel** in Walvis Bay. The acting GM indicated, and confirmed later via email, that the hotel had not yet implemented any of the recommended efficiency upgrades. They received a harsh comment from a hotel during the December summer holidays regarding the hotel's inefficient lighting technology and practices and they are interested in pursuing efficiency upgrades. Unfortunately the maintenance manager was not available for the meeting.

The **Arandis Town Convenience Centre**, identified as a co-funding contribution by the Arandis Town Council, has been constructed. This is a prominent and attractive building at the entrance to the town. The building has been fitted with LED lighting in the restroom facilities and the passages leading to the restrooms. It appeared that the design was done to maximize the use of daylight natural ventilation, but the town council representative tasked to host the field visit was not aware of any of specific design features and could not confirm the extent of the perceived energy efficiency interventions. Shop fitting for the individual shops was not standardised and the lighting in the respective shops, where visible, included a mix of both old, inefficient technology (e.g. T9 fluorescent tubes, standard downlights) and more efficient technologies (e.g. T5 fluorescent lamps, CFL downlights).



The **RE/EE House** is newly constructed at the Polytechnic of Namibia in Windhoek. This building resembles a residential home, designed and constructed to be a showcase for clean energy and energy efficient design, materials and technologies. Snags and finishes in the building are currently being finalized and the data loggers and monitoring equipment still have to be installed. The building will initially be utilized as demonstration facility, for research and post graduate / advanced studies related to clean energy and energy efficiency. This scope may be increased in future once the facility is fully operational.



5.4 LIST OF DOCUMENTS REVIEWED

The documents listed below were reviewed as part of this evaluation:

Output	Documents Produced with lead and other prominent experts who undertook the work
Component 1: Improved regulations and building codes for energy saving in developed buildings	
Output 1.1 Policy and regulatory framework for EE in buildings improved, including building codes.	Report on the Revision of National Building Codes to Incorporate Renewable Energy Technologies and Energy Efficiency Principles, Final Report, v2, May 2013, Camco and NHUD; Terms of Reference for the Revision of National Building Codes to incorporate Renewable Energy and Energy Efficiency principles, NEEP Project
Output 1.2 A list of EE appliances and materials for the building sector recommended for taxes and excise duty reduction.	Study on Potential Energy Efficiency Technologies and Socio-Economic Survey
Output 1.3 EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).	List of audit reports provided under Output 2.1.
Component 2: Organized provision of auditing and energy marketing services	
Output 2.1 Demand and supply for energy saving services and technology stimulated.	Namibia Energy Efficiency Programme (NEEP) in Buildings, Baseline Study on Energy Efficiency in Buildings in Namibia, November 2011 Terms of Reference to Conduct a Baseline Study on Energy Efficiency in Buildings for the Namibia Energy Efficiency Programme (NEEP) Annual National Survey on Energy Efficiency, 2011; Annual National Survey on Energy Efficiency, 2013; Survey Warehouse Audits Reports of 12 buildings; EmCON Consulting <ul style="list-style-type: none"> • UN House, Windhoek; • Woermann Brock Supermarket, • Aegams, Windhoek; • Nedbank Business Centre, Windhoek; • Brendan Shimbwaye Building, Windhoek;

Output	Documents Produced with lead and other prominent experts who undertook the work
	<ul style="list-style-type: none"> • Woermann Brock, Walvis Bay; • Windhoek Country Club; Cohen Building Windhoek; • Bank of Namibia, Windhoek; • Maerua SuperSpar, Windhoek; • Kalahari Sands Hotel, Windhoek; • Protea Hotel Pelican Bay, Walvis Bay; • Sanlam Centre. <p>Nampower DSM Programme documentation</p>
Output 2.2 Mandatory audits in public and commercial buildings adopted.	N.A.
Component 3: Increased institutional capacity and awareness	
Output 3.1 Institutional capacity, awareness and information on EE in buildings increased.	<p>Green Building Council Trust Deed Document, PWC</p> <p>Green Building Council of Namibia Marketing strategy, GBCNA</p> <p>Green Building Council of Namibia Associated Working Group meeting minutes</p> <p>Local Context Report, Green Star SA – Office v1 Tool for use in Namibia (Green Star SA-Namibia), Revision 8; WSP Green by Design</p> <p>REEEI website, http://www.reeei.org.na/</p> <p>Bush Telegraph Newsletter, Vol 11, No 1, 2012, NaDEET, http://www.nadeet.org/educational-material</p>
Structured monitoring, feedback and evaluation	
Monitoring, feedback adaptive learning and evaluation ensured.	<p>Project Document</p> <p>Project Inception Report</p> <p>Project Implementation Report – 2010 to 2011</p> <p>Project Implementation Report – 2011 to 2012</p> <p>Project Implementation Report – 2012 to 2013</p> <p>Annual Standard Progress Report – 2011</p> <p>Annual Standard Progress Report – 2012</p>

Output	Documents Produced with lead and other prominent experts who undertook the work
	<p>Annual Standard Progress Report – 2013</p> <p>Quarterly Standard Progress Report – January to March 2011</p> <p>Quarterly Standard Progress Report – April - June 2011</p> <p>Quarterly Standard Progress Report – July – September 2011</p> <p>Quarterly Standard Progress Report – October to December 2011</p> <p>Quarterly Standard Progress Report – January to March 2012</p> <p>Quarterly Standard Progress Report – April to June 2012</p> <p>Quarterly Standard Progress Report – July to September 2012</p> <p>Quarterly Standard Progress Report – October to December 2012</p> <p>Quarterly Standard Progress Report – January to March 2013</p> <p>Quarterly Standard Progress Report – April to June 2013</p> <p>Quarterly Standard Progress Report – July to September 2013</p> <p>Quarterly Standard Progress Report – October to December 2013</p> <p>Minutes of the Project Steering Committee meeting held in Windhoek on 16 May 2011</p> <p>Minutes of the Project Steering Committee meeting held in Arandis on 18 August 2011</p> <p>Minutes of the Project Steering Committee meeting held in Arandis on 14 November 2011</p> <p>Minutes of the Project Steering Committee meeting held in Arandis on 12 March 2012</p> <p>Minutes of the Project Steering Committee meeting held in Arandis on 16 July 2012</p> <p>Namibia Energy Efficiency Programme in Buildings (NEEP) Monitoring and Evaluation Plan for 2011 - 2013</p> <p>Audited combined delivery report, Statement of assets and equipment and report to management on the accounts of Namibia Energy Efficiency Programme United Nations Development Programme, Ministry of Mines and Energy for the financial year ended 31 December 2012</p>

The project Inception Report, Lessons Learnt study and Minutes for the Steering Committee meeting held in 2013 and the PMU minutes for 2013 were not made available.

5.5 QUESTIONNAIRES USED AND SUMMARY OF RESULTS

The general framework used to guide interview discussions and questions and the questionnaires sent to Energy Auditor trainees and Building Owners are included.

5.5.1 INTERVIEW QUESTIONS

The following outline has been drafted to guide questions to the respective stakeholders and stakeholder groups. Questions are indicative only of the information being sought and formulation thereof was refined and tailored to stakeholder's individual involvement and/or relevance to the project and its targeted outcomes.

The questions were structured into three categories:

- 1.) The first two questions aimed to obtain a general understanding of the stakeholder's role and/or exposure to the NEEP project. Based on this response, subsequent questions could be shaped or selected more appropriately.
- 2.) The next category of questions was intended to collect information about the overall impact of the NEEP project.
- 3.) The third group of questions was focused on the individual outcomes (with respect to achieved results, challenges, sustainability, lessons learnt and recommendations) as they applied to the specific stakeholder.

Question	Stakeholder group likely to be targeted with the question					
	UNDP Staff	Project Team	Executing agencies	Project stakeholders	Building owners	Students
Context						
Involvement described	x	x	x	x	x	x
General perception of the NEEP in Buildings project	x	x	x	x	x	x
Overall Impact						
Assess and provide evidence on the progress towards greater EE in Buildings	x	x	x	x	x	x
Assess and provide evidence on the progress towards a suitable enabling policy environment	x	x	x	x	x	x
Assess and provide evidence on the progress towards integration of policy across all relevant departments (housing, energy, environment, education)	x	x	x	x	x	x
Assess and provide evidence on the progress towards a culture shift to greater resource efficiency	x	x	x	x	x	x

Question	Stakeholder group likely to be targeted with the question					
	UNDP Staff	Project Team	Executing agencies	Project stakeholders	Building owners	Students
On a scale of 0 – 5 indicate how the NEEP has contributed to reducing barriers to EE (list 7). Can you substantiate this rating?	x	x	x	x	x	x
Comment (in your opinion) on whether any of the changes / progress (assuming a positive response above) would have occurred without the NEEP project?	x	x	x	x	x	x
Targeted and non-targeted outcomes						
Discuss any of the targeted project outcomes relevant to you (interviewee) in terms of baseline and progress against the baseline providing evidence / examples where possible?						
With respect to:						
Outcome 1. Improvement of regulations and building codes for energy saving in buildings developed						
Assess progress towards implementing building codes	x	x	x	x		
Assess commitment to follow through on building codes implementation	x	x	x	x		
Assess likelihood of capacity building and enforcement by local authorities regarding building codes	x	x	x	x		
Lessons learnt	x	x	x	x		
Recommendations	x	x	x	x		
Assess progress and provide evidence towards adoption and implementation of a National EE strategy and action plan?	x	x	x	x		
Assess progress and provide evidence with respect to a National commitment to EE?	x	x	x	x		
Assess and provide evidence with respect to progress against the baseline in terms of improved regulations	x	x	x	x		
Assess status and importance of introducing S&L of appliances	x	x	x	x		
Other identified	x	x	x	x		
Outcome 2: Provision of auditing and energy marketing services organization						
Building Audits						
Assess progress and provide evidence where possible with respect capacity for auditing of buildings?	x	x			X	x
Perceived value of building audits and findings?	x	x			X	x
Assess likelihood of audits translating into efficiency improvements?	x	x			X	x
Assess the likelihood of audits translating into carbon emission reductions?	x	x			X	x
Identify the remaining barriers to implementation?	x	x			X	x

Question	Stakeholder group likely to be targeted with the question					
	UNDP Staff	Project Team	Executing agencies	Project stakeholders	Building owners	Students
Recommendations that would facilitate efficiency upgrades	x	x			X	x
Marketing services						
Assess with evidence where possible, the improved market acceptance and penetration of EE in buildings?		x		x	X	x
Assess, with evidence if possible, the improved understanding of available technologies?		x		x	X	x
Is Life cycle costing of EE technologies understood?		x		x	X	x
What do you consider remaining barriers to implementation?		x		x	X	x
Do you have any recommendations that would facilitate the implementation of efficiency upgrades in the commercial sector?		x		x	X	x
Outcome 3: Increased institutional capacity and awareness						
Assess with evidence if possible the relevance and status of the GBCNA					x	x
Who represents the central body of knowledge and source of EE credible information and support in Namibia?			x	x	X	x
Assess and provide evidence where possible regarding training and workshops to build capacity?	x	x	X	x	x	x
Do you feel empowered by the training provided?						x
Have you utilized this new skill since the training?						x
What remains a hurdle for large scale utilisation of these new skills and implementation of EE						x
If yes, to what extent?						x
Recommendations for addressing those?						X

5.5.2 QUESTIONNAIRE FOR ENERGY AUDIT TRAINEES

Energy Audit Trainees

Please note: The shaded areas in the questionnaire can be used for recording your answers to questions.

PART A: Company and respondent information:

1. Company name	
2. Respondent's name and surname	
3. Contact details (Cell phone, office number, e-mail address)	Cell phone number <input type="text"/> e-mail address <input type="text"/> Telephone number <input type="text"/>
4. Position in company	
5. Please indicate which training course(s) you attended.	Please mark (X) in all applicable boxes Date 2010 <input type="checkbox"/> May 2011 <input type="checkbox"/> December 2013 <input type="checkbox"/>

PART B: Energy Auditor Training Feedback:

6. On a scale from 0 – 10 (where 10 indicates significant value and 0 no value at all), indicate the value of the Energy Audit training to you?	
7. If you rated the value received below 5, please provide a reason for the low rating?	
8. Would you recommended the course to anyone else?	Please mark (X) Yes <input type="checkbox"/> No <input type="checkbox"/> Not sure <input type="checkbox"/>
9. Please provide a motivation for your choice in Q 8	

10. Have you utilised the knowledge and skills gained during the training since you completed the course?	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>
11. If yes, in what capacity did you use it?	<p>Please mark (X) in all applicable boxes</p> <p>a) To conduct an audit <input type="checkbox"/></p> <p>b) To evaluate the findings from an audit <input type="checkbox"/></p> <p>c) As a prompt to commission an audit at your premises <input type="checkbox"/></p> <p>d) To assist another auditor with an audit <input type="checkbox"/></p> <p>e) Improved decision-making from having a better understanding of energy use in buildings <input type="checkbox"/></p> <p>f) Other: Please specify <input type="text"/></p> <p><input type="text"/></p>
12. Have you participated or conducted an energy audit since the training?	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>
13. If not, what has prevented you from participating in an audit?	<p><input type="text"/></p>
14. Do you feel empowered by the training to conduct an energy audit?	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>
15. If not, what remains a hurdle for utilising these new skills and knowledge?	<p>Please mark (X) in all applicable boxes</p> <p>a) Not your line of work <input type="checkbox"/></p> <p>b) Lack of opportunity <input type="checkbox"/></p> <p>c) Training inadequate? <input type="checkbox"/></p> <p>d) Lack of confidence in skills and knowledge? <input type="checkbox"/></p> <p>e) Lack of market or management interest in energy audits? <input type="checkbox"/></p> <p>f) Other: Please specify <input type="text"/></p> <p><input type="text"/></p>

5.5.3 QUESTIONNAIRE FOR BUILDING OWNERS

Building Owners

Please note: The shaded areas in the questionnaire can be used for recording your answers to questions.

PART A: Company and respondent information:

1. Company name	
2. Respondent's name and surname	
3. Contact details (Cell phone, office number, e-mail address)	<div>Cell phone number</div> <div>e-mail address</div> <div>Telephone number</div>
4. Position in company	

PART B: Quality and completeness of information received:

5. Did you receive the Energy Efficiency Audit report (Level 2 audit) from the REEEI team/consultants who conducted the audit?	Please mark (X) <div>Yes</div> <div>No</div>
6. If yes, did you understand the information presented?	Please mark (X) <div>Yes</div> <div>No</div>
7. If yes, did you receive a presentation that further clarified the findings and recommendations?	Please mark (X) <div>Yes</div> <div>No</div>
8. If you did receive the report, was the information in the report sufficient for you to make a decision on proceeding with an energy efficiency retrofit?	Please mark (X) <div>Yes</div> <div>No</div>
9. If not, what additional information would you require in order to inform your decision?	

PART C: Investment in Energy Efficiency retrofit

<p>10. Have you implemented any of the recommendations from the audit report?</p>	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>																					
<p>11. If not, please indicate the reason for selecting to not proceed</p>	<p>Please mark (X) in all applicable boxes</p> <p>a) Funding constraint <input type="checkbox"/></p> <p>b) Regulatory constraint <input type="checkbox"/></p> <p>c) Inadequate data <input type="checkbox"/></p> <p>d) Other: Please specify <input type="checkbox"/></p> <div style="background-color: #cccccc; height: 40px; width: 100%;"></div>																					
<p>12. If yes, please indicate what you have implemented and to what extent you have implemented the recommended solutions with respect to the following end uses:</p> <p><i>(If any of the listed technologies are not relevant to your audit findings, please indicate with N.A.)</i></p>	<p>Please mark (X) in all applicable boxes and indicate the extent of the retrofit that was implemented (%)</p> <p style="text-align: right;">(X) (%)</p> <table border="1" style="width: 100%;"> <tr> <td>Air-conditioning</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Lighting</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Computers and office equipment</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Appliances</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Power factor correction</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Water heating</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr> <td>Other: Please specify</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </table> <div style="background-color: #cccccc; height: 60px; width: 100%;"></div>	Air-conditioning	<input type="checkbox"/>	<input type="checkbox"/>	Lighting	<input type="checkbox"/>	<input type="checkbox"/>	Computers and office equipment	<input type="checkbox"/>	<input type="checkbox"/>	Appliances	<input type="checkbox"/>	<input type="checkbox"/>	Power factor correction	<input type="checkbox"/>	<input type="checkbox"/>	Water heating	<input type="checkbox"/>	<input type="checkbox"/>	Other: Please specify	<input type="checkbox"/>	<input type="checkbox"/>
Air-conditioning	<input type="checkbox"/>	<input type="checkbox"/>																				
Lighting	<input type="checkbox"/>	<input type="checkbox"/>																				
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Appliances	<input type="checkbox"/>	<input type="checkbox"/>																				
Power factor correction	<input type="checkbox"/>	<input type="checkbox"/>																				
Water heating	<input type="checkbox"/>	<input type="checkbox"/>																				
Other: Please specify	<input type="checkbox"/>	<input type="checkbox"/>																				
<p>13. If you did not fully implement the recommendations, do you have intentions to implement the remaining interventions?</p>	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>																					
<p>14. If you did not implement any of the recommendations, do you have intentions</p>	<p>Please mark (X)</p> <p>Yes <input type="checkbox"/></p>																					

to implement the recommended interventions?	No	<input type="checkbox"/>
15. If you have indicated Yes to Q 13 or Q 14, please indicate when you expect to implement the retrofits?	<p>Please mark (X)</p> <p>Within two years <input type="checkbox"/></p> <p>Within next 5 years <input type="checkbox"/></p> <p>Only in 5 – 10 years <input type="checkbox"/></p> <p>Not sure <input type="checkbox"/></p>	

* **Level 1 audit:** A walk through audit, **Level 2 audit** includes walk through audit, data logging and asset inventory, **Level 3 Audit** includes everything of Level 2 plus additional detailed measurements including thermal conductivity of building materials, etc.

5.5.4 SUMMARY OF RESULTS

Energy Auditor Training

Of the 31 Energy Auditor Trainees invited to participate in the survey, 15 responded with completed questionnaires. Of the 15 respondents, 4 had attended the Energy Auditor Training offered in 2010, and 11 had attended in 2011. 14 of the respondents indicated that they would recommend the course to others. One respondent was unsure as he felt the course had a strong technical focus and was not well suited to his existing level of knowledge / skill.

Only 5 of the respondents indicated that they had attended the subsequent / follow up training session held in December 2013 where the audit reports, reporting format, analysis approach and feedback from the audit findings were shared.

Of the 15 respondents, 7 indicated that they had completed the practical component required to formally complete the training.

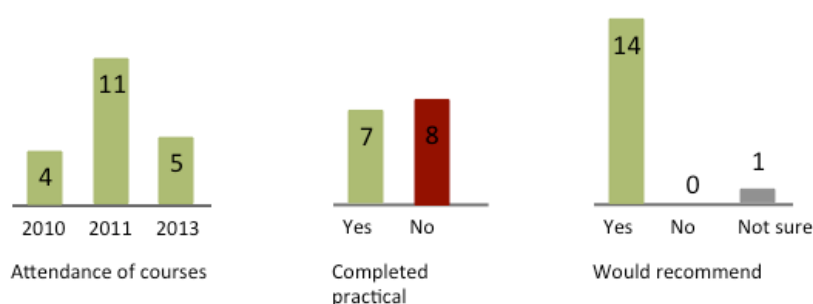


Figure 1: Summary of attendance and course completion

Respondents were asked to rate the Energy Auditor training on a scale from 0 – 10 (where 10 indicates significant value and 0 no value at all). The average score across all respondents was 7.8.

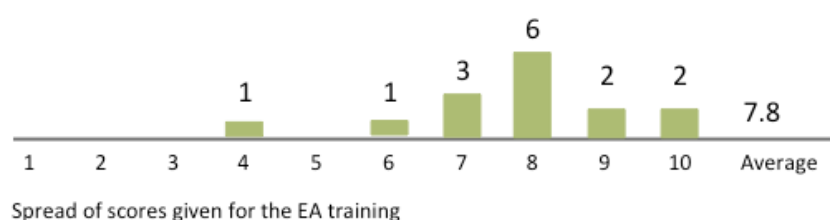


Figure 2: Perceived value of the Energy Auditor training

All 15 respondents indicated that they had utilized the newly acquired skills since the training, but for various purposes:

- To conduct an audit: **7**
- To evaluate the findings of an audit: **3**
- As a prompt to commission an audit at their work premises: **2**
- To assist another auditor with an audit: **4**
- Improved decision-making from having a better understanding of energy use in buildings: **12**
- **One** respondent indicated “other” and clarified other as “Used it as a tool in recommending energy efficiency use and planning at work palce (sic) “

14 of the 15 respondents indicated that they felt empowered by the training to conduct an audit and one qualified the yes, provided that it is done in conjunction with a coach.

9 respondents indicated that they had participated in audits after completing the training. The remaining barriers for participation in audits were identified as:

- Energy audits not being their line of current work: **4**
- Lack of opportunity: **4**
- Training inadequate: **1**
- Lack of confidence in skills and knowledge: **1**
- Lack of market or management interest in energy audits: **3**

Two “other” reasons were specified as:

- I still need to undergo the practical aspects of training
- Appropriate time to do the study

Beneficiaries of the Energy Audits (Building owner or relevant representative)

6 of the 12 building owners who had received the free energy audit under the NEEP, responded to the short questionnaire.

5 of the 6 confirmed that the audit findings were well received and that the data they had received was adequate to inform decision-making around energy upgrades at their premises.

2 respondents indicated that they had started implementation of the recommendations, 3 indicated that they had not, but intend to and 1 indicated that they had implemented an alternate clean energy solution, but that the decision was prompted by the audit findings.

Those that had not implemented or had not implemented all the recommendations, indicated their intent to proceed, at least partly, within:

- The next two years: **3**
- The next 5 years: **2**

Remaining barriers to implementation were highlighted as **funding constraints** (3 of the 6 respondents) and “other” where other was clarified as:

- Miscommunication in change over of Directorates



- Education and awareness lacking in organisation

5.6 EVALUATION CONSULTANT AGREEMENT FORM

Evaluation Consultant Agreement Form³⁰

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

Name of Consultant: Mari-Louise van der Walt

Name of Consultancy Organization (where relevant): Alakriti Consulting

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

Signed at Rivonia, on 5 February 2014

Signature: _____

5.7 CO-FINANCING TABLE

The planned values reflected here are as captured in the Project Document, with details of the co-funding commitments obtained from the co-funding letters. The amounts quoted in the co-funding letters vary marginally from that of the ProDoc, but the variation is assumed to relate to fluctuations in the currency exchange rates.

Co-financing (type/source)	UNDP own financing (US\$ million)		Government* (US\$ million)		Partner Agency (US\$ million)		Other (US\$ million)		Total Disbursement (US\$ million)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	0.859	0.821	0	0	0	0	0	0	0.859	0.821
Loans/Concessions	0	0	0	0	0	0	0	0	0	0
In-kind support	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	3.094	6.825	2.159	0.980	5.253	7.805
Totals	0.859	0.821	0	0	3.094	6.825	2.159	0.980	6.112	8.626

*Other Sources as indicated in the table above include contributions committed from co-funders as follows:

³⁰www.unevaluation.org/unegcodeofconduct





Co-funder	Commitment (mill. US\$)	Format	Detail of the co-funding contribution
Ministry of Mines and Energy	\$3,134,000	Cash/In kind	Off-grid Energisation Master Plan; Promotion of Renewable Energy and Energy Efficiency, REEEI
Polytechnic of Namibia	\$1,130,000	Cash/In kind	Construction of an Energy Efficient building; Training sessions; Consultancy; Staff; Demonstration of EE technologies
Erongo RED	\$800,000	Cash/In kind	Co financing a zero emissions building for the RED
Osona West Party	\$129,000	Cash/In kind	Installing an in-feed system for houses and mini-grid; Construction of two houses in cash and kind
Arandis Town Council	\$100,000	In-kind	Land preparation, subsidized pricing, town planning and staff time towards the Arandis Convenience Centre
Total	\$5,253,000		



5.8 CLIMATE CHANGE MITIGATION TRACKING TOOL

Snapshop of the CCM TT for the NEEP:

Tracking Tool for Climate Change Mitigation Projects (For Terminal Evaluation)	
<p>Special Notes: reporting on lifetime emissions avoided</p> <p>Lifetime direct GHG emissions avoided: Lifetime direct GHG emissions avoided are the emissions reductions attributable to the investments made during the project's supervised implementation period, totaled over the respective lifetime of the investments.</p> <p>Lifetime direct post-project emissions avoided: Lifetime direct post-project emissions avoided are the emissions reductions attributable to the investments made outside the project's supervised implementation period, but supported by financial facilities put in place by the GEF project, totaled over the respective lifetime of the investments. These financial facilities will still be operational after the project ends, such as partial credit guarantee facilities, risk mitigation facilities, or revolving funds.</p> <p>Lifetime indirect GHG emissions avoided (top-down and bottom-up): Indirect emissions reductions are those attributable to the long-term outcomes of the GEF activities that remove barriers, such as capacity building, innovation, catalytic action for replication.</p> <p>Please refer to the Manual for Calculating GHG Benefits of GEF Projects.</p> <p>Manual for Energy Efficiency and Renewable Energy Projects Manual for Transportation Projects</p> <p>For LULUCF projects, the definitions of "lifetime direct and indirect" apply. Lifetime length is defined to be 20 years, unless a different number of years is deemed appropriate. For emission or removal factors (tonnes of CO₂eq per hectare per year), use IPCC defaults or country specific factors.</p>	
General Data	Results at Terminal Evaluation
Project Title	Namibia Energy Efficiency Programme in Buildings
GEF ID	PIMS 4110
Agency Project ID	00075196
Country	Namibia
Region	AFR
GEF Agency	UNDP
Date of Council/CEO Approval	August 19, 2010
GEF Grant (US\$)	859 000
Date of submission of the tracking tool	
Is the project consistent with the priorities identified in National Communications, Technology Needs Assessment, or other Enabling Activities under the UNFCCC?	1
Is the project linked to carbon finance?	0
Cumulative cofinancing realized (US\$)	
Cumulative additional resources mobilized (US\$)	

Objective 2: Energy Efficiency		
Please specify if the project targets any of the following areas		
Lighting	0	Yes = 1, No = 0
Appliances (white goods)	0	Yes = 1, No = 0
Equipment	0	Yes = 1, No = 0
Cook stoves	0	Yes = 1, No = 0
Existing building	1	Yes = 1, No = 0
New building	1	Yes = 1, No = 0
Industrial processes	0	Yes = 1, No = 0
Synergy with phase-out of ozone depleting substances	0	Yes = 1, No = 0
Other (please specify)		
Policy and regulatory framework	2	0: not an objective/component 1: no policy/regulation/strategy in place 2: policy/regulation/strategy discussed and proposed 3: policy/regulation/strategy proposed but not adopted 4: policy/regulation/strategy adopted but not enforced 5: policy/regulation/strategy enforced
Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds)	0	0: not an objective/component 1: no facility in place 2: facilities discussed and proposed 3: facilities proposed but not operationalized/funded 4: facilities operationalized/funded but have no demand 5: facilities operationalized/funded and have sufficient demand
Capacity building	4	0: not an objective/component 1: no capacity built 2: information disseminated/awareness raised 3: training delivered 4: institutional/human capacity strengthened 5: institutional/human capacity utilized and sustained
Lifetime energy saved	182 111 721	MJ (Million Joule, IEA unit converter: http://www.iea.org/stats/unit.asp) Fuel savings should be converted to energy savings by using the net calorific value of the specific fuel. End-use electricity savings should be converted to energy savings by using the conversion factor for the specific supply and distribution system. These energy savings are then totaled over the respective lifetime of the investments.
Lifetime direct GHG emissions avoided	3 341	tonnes CO ₂ eq (see Special Notes above)
Lifetime direct post-project GHG emissions avoided	46 739	tonnes CO ₂ eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (bottom-up)	100 161.44	tonnes CO ₂ eq (see Special Notes above)
Lifetime indirect GHG emissions avoided (top-down)	-	tonnes CO ₂ eq (see Special Notes above)



5.9 TERMS OF REFERENCE

UNDP-GEF TERMINAL EVALUATION TERMS OF REFERENCES NAMIBIA ENERGY EFFICIENCY PROGRAMME IN BUILDINGS PROJECT (NEEP)

1. INTRODUCTION

In accordance with the GRN, UNDP/GEF M&E policies and procedures, a Terminal Evaluation of the medium-size project of the Namibia Energy Efficiency Programme in Buildings” (NEEP) implemented through the Ministry of Mines and Energy and the Renewable Energy and Energy Efficiency Institute (REEEI) is to be undertaken in 2013. The project started on May 2010 and is in its final year of implementation. *The Ministry of Mines and Energy (MME) in partnership with the United Nations Development Programme (UNDP)*, seeks the services of consultants to undertake a Terminal Evaluation for this project. These Terms of References (TORs) set out the expectations for this terminal evaluation. The essentials of the project to be evaluated are as follows:

Project Title:	Namibia Energy Efficiency Programme (NEEP) in Buildings			
GEF Project ID:	PIMS 4110		<u>at endorsement (Million US\$)</u>	<u>at completion (Million US\$)</u>
UNDP Project ID:	00075195	GEF financing:	859,000	
Country:	Namibia	IA/EA own:	90,900	
Region:	Southern Africa	Government:	3,094,000	
Focal Area:	Climate Change	Other:	2,159,000	
FA Objectives, (OP/SP):	To promote energy-efficient technologies and practices in appliances and buildings.	Total co-financing:	5,313,000	
Executing Agency:		Total Project Cost:	6,112,000	
Other Partners involved:	Polytechnic of Namibia, UNDP, GEF, MET, ECB, NIA, DRFN, HRDC, NHE, Nampower Erongo RED, Osona West Party, Arandis Town Council	ProDoc Signature (date project began):		19 August 2010
		(Operational):	Planned closing date: 01 July 2013	Revised closing date: 31 December 2013





2. PROJECT BACKGROUND INFORMATION AND OBJECTIVES

Namibia is a large energy importer as the country imports about 56% of its electricity needs from the SAPP member states, of which 89% comes from South Africa. Over 90% of South Africa's electrical power is from coal-based power generating units. Since the surplus generation capacity in South Africa is running out, Namibia is particularly vulnerable to an electricity supply shortage. Namibia's power utility, NamPower, predicted that residential electricity demand will continue to increase by more than 10% over the course of the coming two to three years. In fact, energy consumption in the entire country has increased by an average of 4% per year between 1997 and 2003, 20% per year between 2003 and 2004, and 13% between 2004 and 2005. The Government of Namibia is actively exploring ways of enhancing power supply and promoting efficient use of available electricity resources to mitigate against economic disruption. Addressing this challenge requires a concerted effort to both increase the available electricity generation (supply-side), and ensure a more efficient utilization of the existing resources (demand-side). The introduction of energy efficiency measures in existing and new buildings can be expected to not only reduce electricity demand (thus saving costs) and improve energy security, but also generate employment in 'green jobs' and serve as a cost-effective GHG emission reduction measure.

The NEEP project is designed to lift the barriers to reduce Namibia's energy-related GHG emissions through the nationwide adoption of energy-efficient technologies and practices in the commercial and residential building sector, with a focus on government office buildings, hospitals, hotels, schools and possibly a sample of residential buildings. This objective would be achieved through a series of key activities, including: (i) assistance and capacity building to local authorities to formulate appropriate regulations (standards and labeling of building appliances) and adoption of building codes for energy savings; (ii) the provision of auditing and energy marketing services to stimulate the demand and supply of EE services and technology in the country, particularly through the introduction of mandatory audits in public and commercial buildings and subsidized implementation of EE measures in at least 20 existing buildings; and (iii) the strengthening of institutional capacity and knowledge sharing platforms on EE in buildings that will facilitate market transformation and the adoption of EE technologies and best practices.

The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**. A set of questions covering each of these criteria have been drafted and are included with this TOR (refer to [Annex E](#)). The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

3. OBJECTIVES OF THIS TERMINAL EVALUATION (TE)

The objective of the TE is to gain an independent analysis of the progress of the project so far. The TE will identify potential project design problems, assess progress towards the achievement of the project objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP-GEF projects), and make recommendations regarding specific actions that should be taken to improve the project. The TE will





assess early signs of project success or failure and identify the necessary changes to be made. The project performance will be measured based on the indicators of the project's logical framework (see [Annex A](#)) and climate change mitigation Tracking Tools.

The TE must provide evidence based information that is credible, reliable and useful. The review team is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular Ministry of Mines and Energy (MME), REEEI, the GEF operational focal point, UNDP Country Office, UNDP GEF Technical Advisor based in the region and key stakeholders. Interviews will be held with the following organizations and individuals at a minimum:

- UNDP staff who have project responsibilities;
- Executing agencies (including but not limited to senior officials and task team/ component leaders: The Permanent Secretary; the Director of Energy (National Project Director), the Director of REEI, key experts and consultants in the subject area;
- The Chair of Project Steering Committee
- Project stakeholders, to be determined at the inception meeting; including academia, local government and CBOs
- Energy Audited Buildings
- Energy Audits capacity building Beneficiaries (students)

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

4. EVALUATION CRITERIA & RATINGS

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

Evaluation Ratings:			
1. Monitoring and Evaluation	rating	2. IA& EA Execution	rating
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution – Executing Agency	





Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	rating	4. Sustainability	rating
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental :	
		Overall likelihood of sustainability:	

5. PROJECT FINANCE / COFINANCE

The Evaluation will also assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal report.

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





6. MAINSTREAMING

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

7. IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.³¹

8. CONCLUSIONS, RECOMMENDATIONS & LESSONS

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

9. IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Namibia. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, coordinate with the Government etc.

10. TERMINAL EVALUATION DELIVERABLES

Deliverable	Content	Timing	Responsibilities
Inception	Review team clarifies timing and	No later than 2 weeks	Review team submits

³¹A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROtI Handbook 2009](#)



Report	method of review	before the review mission	to REEEI and UNDP Country Office
Presentation	Initial Findings	End of review mission	To PMU, MME and UNDP Country Office
Draft Final Report	Full report (as template in annex E) with annexes	Within 3 weeks of the review mission	Sent to REEEI, MME and UNDP CO, reviewed by RTA, PCU, GEF OFP...
Final Report	Revised report with audit trail detailing how all received comment have (and have not) been addressed in the final review report).	Within 1 week of receiving comments on draft	Sent to REEEI, MMWE and UNDP CO.

11. IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this review resides with the MME/REEI in Windhoek, Namibia. The MME will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the review team. The NEEP project team will be responsible for liaising with the review team to set up stakeholder interviews, arrange field visits.

In preparation for the review mission, the Project Coordinator, with assistance from UNDP country office, will arrange for the completion of the Climate Change mitigation tracking tools. The tracking tools will be completed/endorsed by the relevant implementing agency or qualified national research /scientific institution, and not by the international consultant or UNDP staff. The tracking tools will be submitted to the TE review team for comment. These comments will be addressed by the project team, and the final version of the Tracking tools will be attached as annexes to the TE review report.

12. TIMEFRAME

The total duration of the review will be 4 weeks starting 20 November 2013 according to the following plan:

Activity	Timeframe
----------	-----------

Preparation	20 – 25 November 2013 (5 days)
Review mission and debriefing	25 Nov – 5 Dec 2013 (10 days)
Draft review report	5 – 10 December 2013 (5 days)
Finalisation of final report	10 – 18 December 2013 (8 days)

13. TEAM COMPOSITION

The evaluation team will be composed of 1 international and 1 counterpart national consultant. The international consultant will be designated the Team Leader and will be responsible for finalizing the report. The international consultant must have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The national consultant must have in-depth knowledge of Renewable Energy and Energy Efficient in Namibia. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications and experience:

- ✓ Minimum 5 years of relevant professional experience in the evaluation sector, preferably in developing countries;
- ✓ Knowledge of GEF focal area objectives and projects;
- ✓ Previous experience with results-based monitoring and evaluation methodologies;
- ✓ Proven technical knowledge in renewable energy and energy efficiency technologies and practices; and
- ✓ Ability to calculate and validate GHG emission reductions

14. PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
20	Following submission and approval of the 1 st draft final evaluation report, complete in all assessments and free of any factual or grammatical errors (timeliness will impact payment schedule)

40	Following submission and approval of an advanced Draft FE report, complete in all assessments and free of any factual or grammatical errors (timeliness will impact payment schedule)
40	Following submission of Final TE Report with all comments incorporated, in five hard copies and 1 electronic copy, complete in all assessments and free of any factual or grammatical errors (time taken will impact final payment and a proportional fee will be deducted from the final agreeable amount if any of the deadlines are not met. Approved by RTA, UNDP CO and MME

15. APPLICATION PROCESS

Applicants are requested to apply online (<http://www.reeei.org.na/> and <http://jobs.undp.org>) before the 15 November 2013. All applications including [P11 form](#), CV, technical and financial proposals should be submitted to the below address in a sealed envelope/email emailed to: reeei@polytechnic.edu.na indicating the following reference “International or National Consultant for NEEP Terminal Evaluation” or by email at following address ONLY: by **16:30 on 15 November 2013**. Incomplete applications will be excluded from further consideration.

To: Director: Renewable Energy & Energy Efficiency Institute; Namibia Energy Efficiency Program (NEEP) in Buildings
Polytechnic of Namibia, Main Campus; 13 Storch Street; Private Bag 13388; Windhoek–Namibia

Recommended Presentation of Proposal: Introduction about the consultant/CV; Proposed methodology and work plan, financial proposal, including proposed fee and all other travel related costs (such as flight ticket, per diem, for international consultant etc).

Criteria for Evaluation of Proposal: The selection will be made based on the educational background and experience on similar assignments. The price proposal will weigh as 30% of the total scoring

16. ANNEXURES

Annex A: Project Log Frame/Result Framework

Narrative	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
GOAL: Promote climate change mitigation	Direct annual emission reduction resulting from the investment in EE measures in buildings.	0 tCO ₂ /year avoided.	230,157 tCO ₂ cumulatively avoided. (June 2013: 230,157 tCO ₂ translate to a load of 80 MW's of capacity taken of the grid at 5hours/day over three years. Conservative statistical figures assume that there is just over 2.5MW's of PV connected country wide assuming that these installations have been online for the past three years it will only avoided 7,159 tCO ₂ .)	Project final report as well as annual surveys of energy consumption & reductions for each pilot building Statistics on number of buildings where EE measures are implemented	All stakeholders needed for technical or financial resources are available to enable the achievement of the project objective. Statistical data could prove difficult to obtain as some retailers and installers do not keep historical data
OBJECTIVE: Promote nationwide adoption of energy-efficient technologies and practices in commercial and residential buildings, and therefore reduce GHG emissions.	Reduction in total energy usage in the commercial and residential building sectors. Market penetration of energy-efficient technologies and practices in buildings.	0 MWh/ year of energy savings in the building sector. Lack of energy-efficient technologies and practices on the building sector market.	1,828 MWh/year of energy savings in the building sector. (The potential savings that can be realised if the proposed recommendations from the Energy Audits are carried out buildings total 3.646 MW/annum) (Through programmes supplementing the NEEP project a number of Solar Water Heaters where installed in public buildings with savings amounting to 2,060TW/h)	M&E report. Annual surveys in the building sector. Energy Audit reports.	Concerns and interest in energy issues will increase during and after the project implementation. Proactive participation of Government, building owners, financial institutions, engineers, equipment suppliers and manufacturers.

			Increase of energy-efficient technologies and practices in the building sector.		
OUTCOMES					
Component 1: Improvement of regulations and building codes for energy saving in buildings developed.	Improvements made by the Government in the National EE policy, regulatory framework, and building codes.	Actual energy policy and regulatory framework as well as building codes are not addressing EE.	New policy and regulatory framework for EE in buildings, including building codes addressing EE ready for adoption by Parliament. (June 2013: Codes and standards for RE&EE in Buildings proposed, however new policy will not be ready for adoption in Parliament as other aspects relating to safety, health, water etc are outdated and would have to be revised before a new revised building code can be debated in Parliament)	Publication of adapted policy and regulatory framework for EE in buildings, including improved building codes.	Government staff is willing to commit sufficient time for revising and developing regulations and building codes addressing EE standards and recommendations. The existing building code in Namibia is on par with world standards on other items such as health, safety, water etc.
Output 1.1: Improved policy and regulatory framework for EE in buildings, including building codes.	Formulation of a Strategic Action Plan on EE by MME (in co-operation with REEEI) in new and old buildings. Identification, revision and development of building codes.	Strategic Action Plan on EE in new and old buildings non-existent. EE standards and recommendations non-existent in actual building codes.	Adoption Strategic Action Plan on EE in new and old buildings. (June 2013: The REEEI with the MME are busy formulating an Strategic Action Plan on EE in buildings and will be finalized in November 2013.) Adoption of new national building codes including EE standards and recommendations. (June 2013: Codes and standards for RE&EE in Buildings proposed, however new policy will not be ready)	Approved Strategic Action Plan on EE. Approved new national building codes.	MME and REEEI staffs are willing to commit sufficient time for meeting and developing the Strategic Action Plan on EE in buildings. Technical resources are available to guide the development of the new standards and recommendations in building codes.

			for adoption in Parliament as other aspects relating to safety, health, water etc are outdated and would have to be revised before a new revised building code can be debated in Parliament)		
Output 1.2: Detailed and compiled a list of recommended EE appliances and materials for the building sector recommended for taxes and excise duty reduction.	Detailed study on potential EE technologies and socio-economic survey. Design of policy instruments, standards, and financial incentives Reinforcement of compliance enforcement capabilities.	Study on potential EE technologies and socio-economic survey non-existent. Lack of incentives to promote energy-efficient technologies and practices and encourage EE financing. Lack of compliance enforcement capabilities focussing on EE in buildings.	A detailed study on potential EE technologies and socio-economic survey is conducted. June 2013: Study completed in Aug 2012 by a Namibian Consulting group. The Study identified a list of potential and available EE technologies and appliances that have been rated according to the Energy Star rating for further assessment on possible recommendation for tax and duty excise reductions in Namibia. The study identified the lack of policy instruments regulating the use of EE & RE technologies and principles in buildings as a major barrier. It sighted the SANS 204 as an available instrument that the authorities could make part of the building code regulations. The study also recommended further targeted awareness, educational and behaviour change campaigns. The design of policy instruments, standards and financial incentives by	Compilation of potential EE technologies and socio-economic impact monitoring report. The document presenting the design of policy instruments, standards, and financial incentives. Project implementation report. EE policy instruments report Proceedings of workshops and attendance registers.	Data are available for sales monitoring of EE appliances and materials in the building sector as well as the various technologies already installed in buildings. Government staff is willing to commit sufficient time for identifying the needs of the different stakeholder in order to develop different policy instruments, standards, and financial incentives to encourage EE. Government staff is willing to commit sufficient time for participating in training activities and deepen their knowledge on EE in buildings. Technical resources are available to organize training activities.

			<p>the Government to promote energy-efficient technologies and practices, and encourage EE financing.</p> <p>Strengthening capacities and knowledge inside the Government policy unit to enable the regulation of compliance enforcement.</p> <p>(June 2013: A number of training sessions conducted for stakeholders including personal from the Department of Works (DoW) and the Ministry of Mines and Energy on policy enforcement of SWH's and other EE appliance)</p>		
<p>Output 1.3:</p> <p>EE projects developed and implemented in institutional, commercial and residential buildings (as demonstration projects).</p>	<p>Demonstration of EE benefits for buildings through pilot projects.</p>	<p>No pilot project has been implemented in Namibia to demonstrate the benefits and the effectiveness of EE technologies.</p>	<p>Twenty pilot projects are developed and implemented in institutional, commercial, and residential buildings (including a Zero Emission Building at Erongo RED Headquarters).</p> <p>More than 20 buildings with embedded electricity generation installed in the last three years</p> <p>A "Demonstration Energy Efficiency House" at the Polytechnic is near completion and will be commissioned in 2014.</p> <p>The MME's "green" headquarters in Swakopmund will be commissioned in 2014.</p>	<p>Mid-term evaluation of pilot projects.</p> <p>Final evaluation of pilot projects.</p> <p>Publications such as Etango, newspaper articles etc</p>	<p>The co-financing budget from public and private entities involved in the pilot projects is available.</p> <p>Government staff is willing to support EE promotion in the building sector.</p>
<p>Component 2:</p> <p>Provision of auditing and energy marketing services organization.</p>	<p>Evaluation of capacity needs and local capacity availability in the industry.</p>	<p>No evaluation has been conducted.</p>	<p>National evaluation on capacity needs for provision of auditing and energy marketing services organization.</p> <p>June 2013: Study to be commissioned in July 2013, results expected in</p>	<p>Report on capacity needs assessment.</p> <p>Annual surveys in the building sector.</p>	<p>Government and industries are willing to commit sufficient time in the capacity needs assessment and in increasing their capacity in order to</p>

			November 2013.		respond to project needs.
Output 2.1: Stimulation of demand and supply for energy saving services and technology.	Enhanced capacity to undertake energy audits in buildings. Program of certification for non-existent auditors.	Capacity to undertake energy audits in non-existent building. Program of certification for non-existent auditors.	At least 40 local auditors are recruited and receive training on energy audits in building. June 2013: 60 locals received training on energy audits in buildings. At least 70% of local auditors participate in the certification program. June 2013: Only 55% of the trainees passed the exam, these are currently busy with the process of certifying	List of training attendees. List of certified recommended auditors.	Local energy experts are willing to provide time and receive training on energy audits. Local auditors are willing to accept the benefits of the certification.
Output 2.2: Mandatory audits undertaken in public and commercial buildings.	Number of energy audits and feasibility analysis undertaken in public and commercial buildings. Number of buildings where EE measures have been implemented.	Lack of energy audits and feasibility analysis undertaken in buildings. Lack of buildings where EE measures have been implemented.	At least 40 energy audits and feasibility analysis undertaken in buildings. June 2013: A total of 12 energy audits were conducted in public and commercial buildings through NEEP funding, and an additional 7 through stakeholder co-funding. EE measures implemented in at least 20 buildings. More than 20 buildings with embedded electricity generation installed in the last three years A “Demonstration Energy Efficiency House” at the Polytechnic is near completion and will be commissioned in 2014. The MME’s “green” headquarters in Swakopmund will be commissioned in	Energy audit reports and feasibility analysis studies for each building. Projects implementation report. Publications such as Etango, newspaper articles etc	Owners of selected public and commercial buildings are willing to welcome auditors for conducting energy audit in their building. Owners of selected public and commercial buildings are willing to invest time and money to implement the EE measures recommended in energy audits.

			2014.		
Component 3: Increased institutional capacity and awareness.	Institutional sector awareness and understanding of the concept of EE in buildings.	Lack of institutional capacity and awareness on EE in buildings.	<p>Significant increase in institutional capacity and awareness.</p> <p>(June 2013: A number of training sessions conducted for stakeholders including personal from the Department of Works (DoW) and the Ministry of Mines and Energy on policy enforcement of SWH's and other EE appliance)</p> <p>Centre of competence in RE&EE currently being established, this centre will provide a platform for training and demonstration.</p> <p>The 2013 annual survey in the building sector. report which will be finalised in August 2013 will highlight the effectiveness of awareness campaigns.</p>	<p>Report on awareness campaign effectiveness.</p> <p>Annual surveys in the building sector.</p>	The Government is willing to commit sufficient time in developing opportunities and campaigns to increase institutional capacity and awareness.
Output 3.1: Increased institutional capacity and awareness, and information on EE in buildings.	<p>Increase in public awareness of national and local policy makers and commercial developers.</p> <p>Database and website setup at the Namibian REEEI.</p> <p>Establishment of a green building rating system.</p>	<p>Lack of knowledge on EE in buildings.</p> <p>Database and website on EE in buildings non-existent.</p> <p>Standards for best practices in buildings non-existent.</p>	<p>Public is aware of the new policy and regulation framework as well as EE in general.</p> <p>June 2013: Targeted localities (Rosh Pinah – Skorpion mine, Tsumkwe, Oshana, Ohangwena, Omusati and Oshikoto Region) were visited with the aim of raising awareness on EE & RE in buildings.</p> <p>Adoption of database and website created by the Namibian REEEI.</p> <p>The REEEI website continues to be a</p>	<p>Report on awareness campaign effectiveness.</p> <p>Existence of database and website.</p> <p>Publication of a green building rating system.</p>	<p>The awareness campaign was effective enough to allow consumers to have the benefits of EE in mind when it is time to take a decision about their building facilities.</p> <p>The Namibian REEEI is willing to invest sufficient time in creating resourceful information on EE in buildings.</p> <p>Data and results on best practices in green building are</p>

			<p>good repository of information and a web master was appointed to review and assist with updating data of the site on a monthly basis. data on EE appliances, principles, best practices in buildings are available on the site.</p> <p>Adoption of standards for best practices in buildings. Standards are set exceeding the mandatory requirements.</p> <p>(June 2013: Codes and standards for RE&EE in Buildings proposed, however new policy will not be ready for adoption in Parliament as other aspects relating to safety, health, water etc are outdated and would have to be revised before a new revised building code can be debated in Parliament)</p> <p>The Green Building Council Namibia (GBCNA) held its mini-convention in April 2013 where various stakeholders were invited to participate by showcasing their EE & RE products, appliances and inventions. The event was also used to introduce the concept of “green buildings” to the participants and showcase the activities of the GBCNA. The event which was officially opened by the Deputy Minister of Mines and Energy was a huge success and will be an annual event of the GBCNA.</p> <p>Associated Working Group, which was formed to establish and register</p>		available.
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			<p>the GBCNA with local authorities, has been meeting twice a month and has since the last reporting period:</p> <p>Registered the GBCNA as a trust with the high court of Namibia</p> <p>Developed a business plan with the support of PricewaterhouseCoopers (PwC) Namibia</p> <p>Contextualised the green star building rating tool for Namibia and its currently using the tool to rate Namibia's first green star rated building</p>		
Component 4: Monitoring, feedback and evaluation.	Development of a strategy to monitor and evaluate the project.	Monitoring, feedback, and evaluation strategy non-existent.	Adoption of programme monitoring, feedback and evaluation strategy.	The adopted Strategy Plan.	Government staff is willing to commit sufficient time in elaborating a Strategy Plan to verify and present the project outcomes.

Annex B: List of Documents to be reviewed

- Project Document
- Project Inception Report
- Project implementation reports (APR/PIR's)
- Quarterly progress reports and work plans of the various implementation task teams
- Annual Audit reports
- GEF CCM TT; Financial scorecards
- The Mission Reports and Lessons learnt study



- h. M & E Operational Guidelines, all monitoring reports prepared by the project; and
- i. Financial and Administration guidelines.
- j. UNDP GEF Evaluation Report Format
- k. UNDP Quality Criteria for Evaluation Report
- l. Ethical Code of Conduct for Evaluation in UNDP
- m. Evaluation Policy of UNDP
- n. Guidance for conducting terminal evaluations of UNDP-supported, GEF-financed projects
- o. Norms of Evaluation in the UN system
- p. Project operational guidelines, manuals and systems
- q. Minutes of Project Steering Committee Meetings
- r. Minutes of Project Coordination Unit meetings
- s. The GEF Completion Report guidelines;
- t. UNDP Monitoring and Evaluation Frameworks;
- u. Green Building Council Trust deed document
- v. Green Building Council of Namibia Marketing strategy
- w. Green Building Council of Namibia Associated Working Group meeting minutes
- x. Annual National Survey on Energy Efficiency 2011
- y. Annual National Survey on Energy Efficiency 2013
- z. Baseline study 2011
- aa. Potential Energy Efficiency Technology and Socio –Economic Survey
- bb. Revision of National Building Code to Incorporate Renewable Energy Technologies and Energy Efficiency Principles.
- cc. Energy Efficiency Audit reports: UN House, Windhoek; Woermann Brock Supermarket, Aegams, Windhoek; Nedbank Business Centre, Windhoek; Brendan Shimbwaye Building, Windhoek; Woermann Brock, Walvis Bay;





Windhoek Country Club; Cohen Building Windhoek; Bank of Namibia, Windhoek; Maerua SuperSpar, Windhoek; Kalahari Sands Hotel, Windhoek; Protea Hotel Pelican Bay, Walvis Bay; Sanlam Centre



Annex C: Terminal Evaluation Rating Scale

Progress towards results: use the following rating scale

Highly Satisfactory (HS)	Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (U)	The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.

Adaptive management AND Management Arrangements: use the following rating scale

Highly Satisfactory (HS)	The project has no shortcomings and can be presented as “good practice”.
Satisfactory (S)	The project has minor shortcomings.
Moderately Satisfactory (MS)	The project has moderate shortcomings.



Moderately Unsatisfactory (MU)	The project has significant shortcomings.
Unsatisfactory (U)	The project has major shortcomings.
Highly Unsatisfactory (HU)	The project has severe shortcomings.



Annex D: Co-financing table

Sources of Co-financing ³²	Name of Co-financer	Type of Co-financing ³³	Amount Confirmed at CEO endorsement / approval	Actual Amount Materialized at Closing
GEF financing:		Cash	859,000	
IA/EA own:	UNDP	In-kind	90,900	
Government:	Ministry of Mines and Energy	Cash	3,094,000	
Private Sector	Polytechnic of Namibia (REEEI)	Cash	1,130,000	
Private Sector	Erongo RED	Cash	800,000	
Private Sector	Osona West	Cash	129,000	
Private Sector	Arandis Town Council	Cash	100,000	

³² Sources of Co-financing may include: Bilateral Aid Agency(ies), Foundation, GEF Agency, Local Government, National Government, Civil Society Organization, Other Multi-lateral Agency(ies), Private Sector, Other

³³ Type of Co-financing may include: Grant, Soft Loan, Hard Loan, Guarantee, In-Kind, Other

		TOTAL	6,112,000	
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Explain “Other Sources of Co-financing”:

ANNEX E: EVALUATION QUESTIONS

Note: These are still preliminary questions and are for indicative purposes only. The final questions will only be finalized, in consultation with the Project Coordinator at the start of the terminal evaluation

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, regional and national levels?			
<ul style="list-style-type: none"> Has the project contributed to wider adoption of energy efficient in public, private and residential buildings in Namibia 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
<ul style="list-style-type: none"> Have there been mandatory audits undertaken in public and commercial buildings. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Has there been stimulation of demand and supply for energy saving services and technology. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Have there been improvements made by the Government in the National EE policy, regulatory framework, and building codes? 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

	<ul style="list-style-type: none"> Has the institutional capacity and awareness, and information on EE in buildings increased? 	•	•	•
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?				
	<ul style="list-style-type: none"> Were the funds administered cost-effectively and in accordance with the requirements of the UNDP and GRN procurement guidelines? 	•	•	•
	<ul style="list-style-type: none"> Is there a database of project information (spatial data, reports, training records, minutes, minutes of meetings, M&E reports, maps, etc.) being maintained and updated by the project? 	•	•	•
	<ul style="list-style-type: none"> Have the project partners and co-financing institutions actively participated in and supported the project activities? 	•	•	•
	<ul style="list-style-type: none"> Has the project closely aligned its activities with the national, regional and local strategies and programs? 	•	•	•
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"> To what extent will the responsible public institutions continue to have the political will, capacity and resources to improve the energy and energy efficiency in buildings? 	•	•	•
	<ul style="list-style-type: none"> How secure is the long-term financial sustainability of the energy sector. 	•	•	•
	<ul style="list-style-type: none"> What is the likelihood of existing renewable 	•	•	•

	energy stakeholders preventing the further expansion of renewable energy adoptions and use?			
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"> Has there been increased market penetration of energy-efficient technologies, practices, products, and materials in the public, residential and commercial building markets. 	•	•	•

Annex F:
Table of
Contents
for the

Terminal Evaluation Report

- i. Opening page:
 - Title of UNDP supported GEF financed project
 - UNDP and GEF project ID#s.
 - Review time frame and date of review report
 - Region and countries included in the project
 - GEF Operational Program/Strategic Program
 - Implementing Partner and other project partners
 - Review team members
 - Acknowledgements
- ii. Executive Summary
 - Project Summary Table
 - Project Description (brief)
 - Review Rating Table
 - Summary of conclusions, recommendations and lessons



- iii. Acronyms and Abbreviations
- 1. Introduction
 - Purpose of the review
 - Scope & Methodology
 - Structure of the review report
- 2. Project description and development context
 - Project start and duration
 - Problems that the project sought to address
 - Immediate and development objectives of the project
 - Baseline Indicators established
 - Main stakeholders
 - Expected Results
- 3. Findings
 - 3.1 Progress toward Results:
 - Project Design
 - Progress
 - 3.2 Adaptive Management:
 - Work planning
 - Finance and co-finance
 - Monitoring systems
 - Risk management
 - Reporting
- Management Arrangements:
 - Overall project management
 - Quality of executive of Implementing Partners
 - Quality of support provided by UNDP





Conclusions, Recommendations & Lessons

Corrective actions for the design, implementation, monitoring and evaluation of the project

Actions to follow up or reinforce initial benefits from the project

Proposals for future directions underlining main objectives

Best and worst practices in addressing issues relating to relevance, performance and success

Annexes

ToR

Itinerary

List of persons interviewed

List of documents reviewed

Questionnaire used and summary of results

Relevant tracking tools

Co-financing table

Annex G: List of stakeholder's names to be consulted

1. UNDP staff who have project responsibility

UNDP – Martha Naanda

2. Implementing executing and strategic partners:

National Project Director – Mrs. Selma-Penna Utonih

MET – Mr. Theo Nghitila

Ministry of Mines and Energy – Mr. Noddy Hipangelwa

Nampower – Miss Lahja Amaambo

UNDP – Ms. Martha Naanda





DRFN – Mrs. Viviane Kinyaga

NIA –Ms. Nina Maritz

NHE – Carl Schroder

Ministry of Works Transport and Communication – Mr. F Muketi

Electricity Control Board – Ms Charity Nsofu

Arandis Town Council – Mr. Collin Namene

Ministry of Regional and Local Government, Housing and Rural Development (MRLGHRD) – Mr M. Thaniseb

Polytechnic of Namibia – Al-Mas Sendegeya

3. National Consultants:

Emcon Consulting Engineers – Glenn Howard

VO Consulting – Mr. Detlof Von Oertzen

Mangrove – Ms. Leefa Ndilula

Camco – Mr. Jonathan Curren

NHUD – Mr. George Kazonguizi

Survey Warehouse – Mr. Franco Venter

4. Energy Audits Capacity Building Beneficiaries (students)

Nampower – Tangeni Shivute

Rehoboth Town Council – Roeber Jochen

Namibia Standards Institution – Moses Muundjua

Oshakati Premier Electric – Kweyo Willem

Windhoek Country Club Resort – Paddy Brearley

Bank of Namibia – Ismael Luanda

Woermann Brock Walvis – Ingo Woermann





ANNEX H: 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 wrong-doing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.





Evaluation Consultant Agreement Form³⁴

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

Name of Consultant: _____

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 aton

Signature: _____

Annex I: Ethics Statement

This Evaluation is guided by, and has applied, the following principles:

Independence The Evaluator is independent and has not been engaged in the Project activities, nor was he responsible in the past for the design, implementation or supervision of the project.

Impartiality The Evaluator endeavoured to provide a comprehensive and balanced presentation of strengths and weaknesses of the project. The evaluation process has been impartial in all stages and taken into account all the views received from stakeholders.

Transparency The Evaluator conveyed in as open a manner as possible the purpose of the evaluation, the criteria applied and the intended use of the findings. This evaluation report aims to provide transparent information on its sources, methodologies and approach.

Disclosure This report serves as a mechanism through which the findings and lessons identified in the evaluation are disseminated to policymakers, operational staff, beneficiaries, the general public and other stakeholders.

³⁴www.unevaluation.org/unegcodeofconduct





Ethical The Evaluator has respected the right of institutions and individuals to provide information in confidence and the sources of specific information and opinions in this report are not disclosed except where necessary and then only after confirmation with the consultee.

Competencies and Capacities The credentials of the Evaluator in terms of his expertise, seniority and experience as required by the terms of reference are provided in an annex; and the methodology for the assessment of results and performance is described.

Credibility This evaluation has been based on data and observations which are considered reliable and dependable with reference to the quality of instruments and procedures and analysis used to collect and interpret information.

Utility The Evaluator strived to be as well-informed as possible and this ensuing report is considered as relevant, timely and as concise as possible. In an attempt to be of maximum benefit to stakeholders, the report presents in a complete and balanced way the evidence, findings and issues, conclusions and recommendations.

