MARKET TRANSFORMATION THROUGH THE INTRODUCTION OF ENERGY EFFICIENCY STANDARDS AND THE LABELLING OF APPLIANCES IN SOUTH AFRICA

TERMINAL EVALUATION REPORT

Prepared by

Dalibor Kysela

Evaluation Consultant

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Acronyms and Abbreviations

APR	Annual Project Review
AWP	Annual Work Plan
ARR	Annual Review Report
CFL	Compact Fluorescent Lamp
CGCSA	Consumer Goods Council of SA
CLASP	Climate Change Local Area Support Programme
CO	Country Office (UNDP)
CO2eq	Carbon dioxide equivalent
DPE	Department of Public Enterprise
DoE	Department of Energy
DMRE	Department of Mineral Resources and Energy
DSM	Demand-Side Management
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DTIC	Department of Trade, Industry & Competition
EE	Energy Efficiency
Eskom	Electricity public utility company in South Africa
ETBU	Electro-Technical Business Unit
ETL	Electro-Technical Laboratories
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
IPAP	Industrial Policy Action Plan (the 2010/2011 plan is termed the IPAP2)
LoA	Letter of Authority
MEPS	Minimum Energy Performance Standard
NBI	National Business Initiative
NEEA	National Energy Efficiency Agency
NEPAD	The New Partnership for Africa's Development
NERSA	National Energy Regulator of South Africa
NIPF	National Industrial Policy Framework
NGO	Non-Governmental Organisation
NRCS	National Regulator for Compulsory Specifications
PIR	Project Implementation Review
QPR	Quarterly Progress Report
RSA	Republic of South Africa
S&L	Standards and Labelling
SABS	South African Bureau of Standards
SANAS	South African National Accreditation System
SANEDI	South African National Energy Development Institute

SANERI	South African National Energy Research Institute
SANS	South African National Standard
SEAD	Super-Efficient Appliance Labelling Design
SECO	Swiss Economic Development Cooperation
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

Glossary of Evaluation-related Terms

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

Acknowledgement

To be inserted

EXECUTIVE SUMMARY

Project Information Table

Project Title	Market Transformation through Energy Efficiency Standards and Labelling of Appliances in South Africa		
UNDP Project ID (PIMS #):	3277	**PIF Approval Date:**	16 March 2009
GEF Project ID (PMIS #):	2692	**CEO Endorsement Date:**	25 July 2011
ATLAS Business Unit, Award # Proj. ID:		**Project Document (ProDoc) Signature Date (date project began):**	September 2011
Country(ies):	South Africa	**Date project manager hired:**	April 2013
Region:	Africa	**Inception Workshop date:**	May 2013
Focal Area:	GEF-4 Climate Change	**Midterm Review completion date:**	May 2015
GEF Focal Area Strategic Objective:		**Planned closing date:**	30 September 2016
Trust Fund [indicate GEF TF, LDCF, SCCF, NPIF]:	GEF TF	**If revised, proposed op. closing date:**	30 March 2020
Executing Agency/Implementing Partner:	Department of Energy		
Other execution partners:	Department of Trade and Industry		
Project Financing	***at CEO endorsement (US$)***	***At Terminal Evaluation (US$)***	
GEF financing:	4,375,000	*To be inserted*	
In-kind contribution	0		
Government	4,766,418		
Other partners (SECO)	4,000,000		
Total co-financing	8,766,418		
PROJECT TOTAL COSTS	13,141,418		

Project Description

The main objective of the project is to remove the most significant barriers impeding the widespread uptake of energy efficient residential appliances through establishment and implementation of a mandatory energy labelling and standards programme and further attempt to push the energy efficiency levels beyond the mandatory standards through an educational and awareness campaign.

The second objective of the project is to assist households in making a contribution towards the RSA Government overall target of 12% demand reduction by 2015 and improving energy security.

Summary of project results

The project provided a comprehensive review of policies and regulatory framework in order to support introduction of energy-efficient household appliances. Appliance manufacturers and importers of the 12 selected appliance classes were consulted for development of test procedures, MEPS and related regulations. This consultative process with manufacturers was followed in determining the energy efficiency classes for the selected appliances.

MEPS for 11 of the 12 appliances were developed and promulgated in 2014 - 2015 and the outstanding MEPS for electric geysers was promulgated in 2016. However, there have been several challenges that led to postponed enforcement of the promulgated MEPS, namely long turnaround time for issuing of Letters of Authorisation for new appliances by NRCS and unreadiness of the national testing laboratories for verification of MEPS. Also, some sectors of the industry (air-conditioners and water heaters) requested a longer period to prepare for compliance.

There were relatively few energy efficiency specific market surveillance activities undertaken by NRCS. Verification activities relating to energy efficiency are currently restricted to the regulator. For a major part of the project implementation period, the turnaround time for appliance registration through issuance of LoA was very long. Substantive improvements are expected from recent introduction of an on-line electronic database of energy-efficient products. However, there was a notable delay in the launching of the EE product database for on-line registration of applications. Delayed launching of the EE product database contributed to the backlog of registration applications faced by NRCS.

Although the project assisted in strengthening the SABS testing laboratories, there are persisting gaps in the national capacity performance testing of certain products against the specifications. SABS testing laboratories are under a major overhaul and private laboratories do not invest in the required equipment. SABS does not currently have the testing equipment to be able to conduct necessary checks for some appliances, and they require a supply agreement with the NRCS for consistent volumes to justify the investment in equipment for the new VC.

The challenge of not having enough accredited testing facilities in the country makes it difficult for the NRCS Electro-Technical Business Unit to sample and take products for testing. Due to the currently evident testing backlogs, test results can take very long. This constitutes a bottleneck affecting the NRCS MVE processes for energy efficiency regulation. The few

accredited local testing facilities are not even in a position to provide the required testing services for all the products covered under energy efficiency compulsory specifications.

Insufficient market surveillance by NRCS does not ensure continuous flow of testing samples essential for funding of the required laboratory testing facilities. In order to achieve the required EE class levels, the participating industry is required to make substantial financial inputs for registration of new EE products. The cost to the industry can be reduced by effective regulation and frequent market surveillance.

The mass publicity campaign in newspapers, radio, and television was undoubtedly the key piece to raise consumer awareness about benefits of energy efficient appliances and contributed to recognition of the EE label by the appliance end-users. Although it was commenced relatively late and lasted only for a short period, the campaign proved to be effective after all. However, the fact that related training of the retailers' staff was delayed for almost 2 years after the development of the training module shows insufficient coordination and harmonization in implementation of the campaign and the retailers' staff training.

For extension of the S&L Project to a new set of electrical appliances, eight electrical product categories were subject to an impact assessment and further considered for preparation of the implementation plan. A 5-year roadmap was prepared for development and implementation of MEPS including preparation of technical regulations and energy efficiency standards as well as developing or upgrading national testing capacities.

Despite the satisfactory rating the project effectiveness, some of the initial barriers impeding the wide-spread uptake of energy efficient residential appliances still persist, namely capacity barriers for enforcement of the EE standards, awareness barriers, as well as cost barriers related to the low purchasing power of some income segments of the consumers sector. Delayed and insufficient implementation of EE standards for certain appliances and consequent accumulation of old inefficient appliances in the market could hamper this project's future results.

Sustainability and progress to impact

There is a consensus between the electro-technical divisions of SABS and NRCS on the need to continue improving the current working relationship between their organisations. In this regard, DMRE, DTIC, NRCS and SABS have been negotiating a Framework Agreement through which the above parties will interact with each other in order for further promotion, provision of support and information in order to assist the future implementation of the S&L interventions.

UNDP on behalf of the RSA Government has been finalizing a Project Document for GEF CEO endorsement for a follow-up project on energy efficient LED lighting and distribution transformers. The new project could be endorsed later in 2020 and its implementation will substantively enhance chances for financial commitments of the agencies involved in the S&L Project to sustain the results of the latter project in the future.

The communication and public awareness campaign under the project started relatively late but has gained momentum in the last couple of years of the project. The awareness raising campaign

and related promotional programmes should continue beyond the project time boundary since achieving full market transformation and shift towards energy efficient appliances requires a cultural change that requires continued efforts.

Although the S&L Project was effective in achieving a majority of the expected results after all, due to the implementation delays it was not possible to determine the actual impact that the project has had over the project time on transforming the appliances' market and reducing the electricity demand and CO_2 emissions. However, the project commissioned several studies aiming at estimates of medium- to long-term impacts of the introduction of mandatory EE standards.

The project produced a study to assess the energy savings impact and the multiple benefits of the implemented S&L Project in South Africa. According to the study, the set of MEPS approved under the VC9008 are expected to achieve 2.15 TWh of savings by 2020 and 5.55 TWh by 2030. Furthermore, the study established that implementation of energy efficiency standards will reduce CO_2 emissions by 3.7 Mt in 2030 and 5.8 Mt in 2040. Additional environmental benefits include avoiding particulate emissions, sulfur oxide (SOx) emissions, and nitrogen oxide (NOx).

Table below shows multiple benefits from implementation of EE standards.

2030	**2040**
5.5 TWh of annual electricity savings	9.6 TWh of annual electricity savings
15.1 billion rand of annual energy bill savings, representing an average annual bill saving of 683 rand per household	24 billion rand of annual energy bill savings, representing an average annual bill saving of 978 rand per household
Reduction of 3.7 million tons of CO2 emissions	Reduction of 5.8 million tons of CO2 emissions
Water savings of 6.5 billion litres	Water savings of 8.3 billion litres
Reduction of 2.5 million tons of coal burned	Reduction of 3.2 million tons of coal burned
Avoiding emissions of the following atmospheric pollutants: • 4 kt of particulate emissions • 4.3 Mt of SOx emissions • 23 kt of NOx emissions	Avoiding emissions of the following atmospheric pollutants: • 6 kt of particulate emissions • 5.0 Mt of SOx emissions • 25 kt of NOx emissions

Summary of evaluation ratings

The summary of evaluation ratings[1] according to the required evaluation criteria is displayed in the Box 1 below.

Box 1: Summary of TE ratings

Evaluation Criteria	Evaluator's Rating
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Moderately Satisfactory (MS)
Overall quality of monitoring and evaluation	**Satisfactory (S)**
Quality of UNDP Implementation	Moderately Satisfactory (S)
Quality of Execution - Executing Agency	Satisfactory (S)
Overall quality implementation / execution	**Moderately Satisfactory (MS)**
Relevance	**Relevant (R)**
Effectiveness	**Satisfactory (S)**
Outcome 1	Satisfactory (S)
Outcome 2	Satisfactory (S)
Outcome 3	Moderately Satisfactory (MS)
Outcome 4	Moderately Satisfactory (MS)
Outcome 5	Moderately Satisfactory (MS)
Outcome 6	Satisfactory (S)
Efficiency	**Moderately Satisfactory (MS)**
Overall Project Objective rating	**Satisfactory (S)**
Overall likelihood of sustainability	**Moderately Likely (L)**
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-political	Moderately Likely (ML)
Environmental	Likely (L)

[1] Performance ratings of GEF projects are given in Annex 5.

Summary of conclusions and recommendations

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

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

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

	Recommendation
1.	UNDP CO in cooperation with DMRE, SANEDI and SABS should perform a bottleneck analysis of their existing procurement systems and identify necessary steps towards streamlining the procurement practices for goods and services under donor projects
2.	DMRE should formalize the handover of the project to SANEDI and make available funding for human resources and office space necessary to execute the coordination of S&L activities including update of the national EE standards and prompt NRCS and SABS to action when necessary at least until approval of the follow-up project
3.	DTIC should consider strengthening the NRCS regulatory function for the S&L programme through detaching the mandate for energy efficiency regulation and MVE activities from regulation of safety and allocation of the EE regulation mandate to a separate section within the NRCS fully dedicated to implementation of this mandate
4.	DTIC should consider modernization of the NRCS LoA processing system in order to match the online appliances database
5.	NRCS should conclude a service level agreement with the SABS testing facilities for expedite testing of samples for verification purposes
6.	SABS should address human resources capacity constraints to allow for improved efficiency of the testing services through increasing human resources allocation to ETL, and wherever possible, manual processes should be replaced by fully automated processes
7.	NRCS should consider development of a strategy for regulation of energy efficiency to specify how the regulator will conduct the various energy efficiency MVE activities
8.	NRCS should consider assistance of industry associations for complementary monitoring of the electro-technical market through complementing the existing publicly accessible product database or register with energy efficiency data and allow thus the industry associations to spot cases of non-compliance on the market
9.	The Government should produce a popular informational leaflet about benefits of energy efficient household appliances for distribution in primary/secondary educational institutions throughout the country and consider introduction of the topic of energy efficiency into teaching curricula at appropriate levels
10.	For the follow-up project, the implementing partners should ensure involvement of the Department of Environmental Affairs (DEA) on issues such as disposal of outdated appliances and recycling, as well as monitoring of environmental impacts

Recommendations to improve programming and preparation of projects

	Recommendation
11.	UNDP CO should: i) Ensure that position of PM for a development assistance project is not vacant for more than 3 months ii) Review its internal administrative rules and ensure PM access to the on-line project management systems
12.	UNDP CO should ensure that initial review of the result framework for development assistance projects is conducted at the Inception Workshop and that a formal management response is provided for all MTR and TE recommendations.
13.	UNDP CO should ensure that updated information on actually materialized co-financing for GEF projects is reported in the last two PIRs
14.	UNDP CO should ensure that all relevant documentation related to implementation of development projects is stored and accessible in a dedicated repository of project documents

INTRODUCTION

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

This document presents results of the Terminal Evaluation of the UNDP/GEF project "Market Transformation through Energy Efficiency Standards and Labelling of Appliances in South Africa". As a standard requirement for all projects financed by GEF, this terminal evaluation has been initiated by the Lead Implementing Agency, in this case UNDP Country Office (CO) in RSA. The evaluation was conducted in accordance with the GEF Monitoring and Evaluation Policy[2], the Guidelines for GEF Agencies in Conducting Terminal Evaluations[3], and the UNDP Evaluation Guidelines[4].

Objective of the evaluation

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

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

Scope and methodology

The evaluation covers all activities undertaken in the framework of the project. The time scope of the evaluation is the implementation period of the project, namely from September 2011 to March 2020. The geographic scope of the evaluation is the Republic of South Africa (RSA).

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

Preparatory phase: The first step in the evaluation was a desk review of the most important documents covering project design and implementation progress that provided the basic information regarding the activities carried out to attain the desired outcomes and outputs and

[2] The GEF Monitoring and Evaluation Policy, Global Environmental Facility, November 2010
[3] Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects, Global Environmental Facility, April 2017
[4] Evaluation Guidelines, UNDP, January 2019

the actual achievements. The review was followed by preparation of questions and discussion points aiming at gathering information from chosen respondents about attitudes, preferences and factual information linked to the performance indicators in the evaluation matrix.

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

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

Evaluation Field Mission: Evaluation field mission to South Africa was conducted in order to conduct perform face-to-face consultations and individual/group discussions with the project stakeholders who have project responsibilities. This included the UNDP Country Office, national Project Implementing Partner (the Department of Energy), cooperating Implementing Partner (Department of Trade and Industry), agencies affiliated to the two Departments (NRCS and SABS), representatives of the industry and of NGOs.

The purpose of the mission was to verify the information from the project implementation reports, collect missing data and learn about the opinions of stakeholders and project participants.To the extent possible, visit of relevant project sites to make directs observations of selected project outputs were also conducted during the evaluation mission. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with different stakeholders, were used to corroborate or check the reliability of the collected information.

The preparation of the evaluation field missions was done in close coordination with the Project Manager and UNDP Country Office (CO) in order to agree the timing of the mission as well as schedules of visits of the key informants. To the extent possible, visits of relevant project sites to make directs observations of selected project outputs were also conducted during the evaluation missions. The mission also served the purpose of collecting some additional documents to support the evidence base of the evaluation.

The mission to South Africa started with a briefing by the project team. Interviews with key stakeholders and project participants were planned in advance with the objective to obtain a critical sample of stakeholders' views during the time allocated to the evaluation mission. The interviews aimed at soliciting responses to predetermined questions using semi-structured interviews based on the discussion points in a conversational form. The interviews were designed to obtain in-depth information about the key informants' impressions and experiences in the project implementation related to the standard project evaluation criteria as well as cross-cutting issues (gender and social inclusion). Through this approach, information obtained in the document review phase was verified and some missing data were obtained including opinions

of stakeholders and project participants. As some important stakeholders and/or beneficiaries could not be visited during the evaluation missions, their responses were solicited via other means such as e-mail communications or skype calls. The mission concluded with a presentation of initial findings to the UNDP DRR and the project team.

The itinerary of the evaluation mission and list of people interviewed during and after the evaluation mission are provided as respective Annexes 3 and 4 to this report.

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

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

Structure of the evaluation report

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

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

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

Limitations of the evaluation

A main constraint for this terminal evaluation is that due to the longer implementation period of the project and three extensions (8.5 years instead of the originally planned 5 years) some documentation from early years of the project as well as staff involved at that time were not available. Therefore, TE was only able to obtain full information and feedback from the documents covering the last 4 years of the project implementation and it was not possible to assess reactions and experience of the project stakeholders and beneficiaries that had been involved since the project inception but were no longer associated with the project at TE.

The second limitation relates to the fact that within the standard format of the evaluation field mission it was not possible to visit peripheral stakeholders such as industry and consumer associations to obtain their assessment of the project achievements. This was partially mitigated through participation of the evaluator at the last meeting of the Project Steering Committee that was organized during the evaluation mission with presence of representatives of some peripheral stakeholders.

PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

Project Context

At 50 billion tons, the coal reserves of RSA are the sixth largest on Earth, making it the world's fifth largest coal producer. These abundant coal deposits, compared with only small deposits of natural gas and oil, also mean that the country relies heavily on coal for most of its energy and electricity needs.

Historically inefficient and often wasteful use of energy was acknowledged in the National Energy Efficiency Strategy. In 2006, the country had the 42nd biggest GDP in the world but was the world's 21st largest consumer of energy. This analysis provided two explanations for the current South African energy situation, the first being the high energy intensity of the economy and the second focused on wasteful use of energy.

A breakdown of the energy use by sector identified residential sector as the third largest energy consumer in the country. The 2007 metering campaign of electricity consumption per appliance established that water heaters, domestic refrigeration, lighting and cooking appliances were the largest household electricity consumers.

Electricity tariffs in South Africa remained low compared to global prices, even when taking into account cost vs. disposable income ratios. This had encouraged the local and overseas manufacturers as well as importers of electrical appliances to maintain the distribution and sales of old inefficient devices.

To reduce electricity consumption from domestic refrigeration, a voluntary labelling programme for refrigerators was introduced in 2005, however, it was not successful. The initiative was voluntary because necessary legislation had not been in place for a mandatory programme, but it was considered as a first signal to the market (industry and consumers) to start preparing themselves for the impending mandatory regulations.

In 2010, an Energy Efficiency Action Plan was developed by the Department of Energy (DoE) and the Department of Trade and Industry (DTI)[5] with support from the UNDP. The plan signalled the intention for development and the implementation of a mandatory combination of two regulatory tools: labelling and introduction of Minimum Energy Performance Standards (MEPS) for selected electrical appliances. The appliances included in the plan are refrigerators, freezers and their combinations, water heaters, air conditioners and heaters, washing machines, driers and their combinations, dishwashers, hot plates and ovens. This action plan was one of several initiatives taken in order to reach the South African Energy Efficiency Strategy's target of 10% reduction of energy demand in the residential sector by 2015.

The RSA Government was aware of the threat posed by climate change and of its responsibility to act to reduce emissions. The 2009 national GHG inventory showed that energy supply and consumption was responsible for 78.9% of the country's total GHG emissions, due to the

[5] The DoE and DTI Ministries have had their names changed. They are the Department of Mineral Resources and Energy (DMRE) and the Department of Trade, Industry & Competition (DTIC).

country's almost exclusive use of fossil fuels to drive an energy intensive economy. This prompted the Government to conduct research and take policy action to determine how it can reduce its reliance on non-renewable energy sources. The Government also prepared a long-term mitigation strategy with scenarios and possible climate change mitigation measures until 2050.

Brief Description of the Project

The main objective of the project is to remove the most significant barriers impeding the widespread uptake of energy efficient residential appliances through establishment and implementation of a mandatory energy labelling and standards programme and further attempt to push the energy efficiency levels beyond the mandatory standards through an educational and awareness campaign.

The second objective of the project is to assist households in making a contribution towards the RSA Government overall target of 12% demand reduction by 2015 and improving energy security.

The project request was received by GEF on 16 March 2005. For elaboration of the project, a Project Preparatory Grant (PPG) was approved on 16 March 2009. The project was approved for implementation as a 5-year project on 25 July 2011 and was endorsed by the two principal Departments of the RSA Government (DoE and DTI) on 20 October and 11 November, respectively.

The GEF project grant approved for the project amounts to 4,375,000 US$ complemented with 8,766,418 US$ expected total co-financing composed of contributions from the RSA Government and Swiss Economic Cooperation (SECO). The total resources committed to the project at inception was thus 13,141,418 US$.

The project was designed for implementation according to the National Implementation Modality (NIM) by DoE. The latter was designated as the Executing Agency since it had formulated the Energy Efficiency Strategy and under the 2008 Energy Act it has the legal mandate to implement this project. Furthermore, DoE has the necessary legal relationships with the required national agencies under the control of DTI. DoE assumed full responsibility for the effective use of the project resources and delivery of the results.

Project Baseline Data

Awareness barriers

Lack of knowledge and understanding of appliances' energy efficiency improvement opportunities amongst consumers**:** Because of historically low electricity prices, consumers did not have to be concerned about the cost of energy and the appliances' payback period. For purchase of an energy efficient appliance, consumers were requested to pay an extra-cost for a product with lower operational cost. However, from the yet 'uneducated' buyer's perspective, the operational cost is hard to measure since it could not be identified in a monthly electricity bill that only shows total household electricity consumption. This underscores the importance

of disseminating information amongst end-users on opportunities to save electricity and money by buying efficient appliances.

Uncertainty about market demand of highly efficient appliances: The lack of information and awareness amongst consumers of the energy efficiency opportunities of appliances resulted in a low demand and subsequently low supply of highly efficient products. This was confirmed by the failure of the voluntary S&L program introduced in 2005. Meanwhile from local manufacturers' perspective, the market for efficient appliances in SA was not yet mature and they view labelling as an action that would unfairly advantage energy efficient imports. Local manufacturers also appeared to be unaware that increasing the efficiency of some appliances doesn't automatically necessitate high capital investments for upgrade of their manufacturing equipment.

Information and policy barriers

Lack of market data: At the project preparatory phase, the manufacturers were not required to report their sales data to the DTI. This made appliances market analysis in RSA difficult if not impossible. Consequently, the average efficiency of appliances included in DoE / DTI work plan was unknown. The only efficiencies available were in the Report on Capacity Building in Energy Efficiency and Renewable Energy, published by the Department of Minerals and Energy in 2003.

Lack of appropriate regulations: Although RSA had the necessary policies in place for the widespread promotion and adoption of energy efficiency, it was unable to implement and enforce them to the extent of making a material impact. As energy efficiency had been considered as part of the overall energy policy in RSA, the only action taken was the voluntary labelling programme for refrigerators in 2005. Having launched the programme, little or no effort was put into promoting and monitoring the programme and no research was conducted on impact of the programme.

Capacity barriers

Insufficient capacity to design and implement a S&L program: Although institutions needed for the successful design and implementation of the S&L programme existed in RSA, there was an overall lack of specialist skills in these institutions. Some testing facilities existed, but their available equipment was not suited for appliance energy efficiency testing. An audit of existing public and private testing facilities was therefore required to formulate an accurate assessment of the testing equipment and training needed for implementation of a successful S&L programme.

Limited institutional capacity and coordination: Although DoE was mandated and ultimately accountable for the implementation of the Energy Efficiency Strategy across all the sectors, in practice this was not the case. For example, ESKOM under the Department of Public Enterprises was almost exclusively responsible for implementing and managing all energy saving programmes that qualify for a rebate. The DTI also had interest in the S&L program through the Industrial Policy Action Plan 2 (IPAP2) and developed the Energy Efficiency Action Plan jointly with DoE. The country had little experience in implementing and monitoring of such programme

Lack of procedures for compliance checking: The National Regulator for Compulsory Specifications (NRCS) had developed and implemented a compliance procedure for health and safety issues, but not for energy requirements. This created an urgent need to develop S&L market surveillance, compliance and enforcement procedures based on the international best practices and to train staff to conduct this work.

Financial barriers

Low price of electricity: Despite four high consecutive tariff increases in 2007 - 2010, prices of electricity in 2010 still remained amongst the lowest in the world. The cheap energy prices and abundant supply over an extended period caused proliferation of a 'cheap energy' attitude and energy was considered as a minor input cost relative to raw materials and labour. Energy efficiency had therefore never been seriously considered in personal or business decisions.

Low purchasing power of the majority of South African households: Low monthly income of South African households resulted in passing on appliances to impoverished households. This practise extended the overall lifespan of the appliance. Moreover, there was low public awareness of the need for energy efficiency and lack of the necessary product knowledge to make an informed decision.

Project theory of change

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

In order to address the above listed baseline deficiencies, the project seeks to:

- Use and strengthen the existing framework to implement the S&L programme;
- Develop labelling specifications and MEPS thresholds for selected products;
- Develop the necessary capacity, upgrade skill levels and create awareness amongst consumers;
- Implement the necessary market surveillance, compliance and enforcement procedures;
- Ensure implementation of a holistic evaluation process and dissemination of key findings and lessons learned;

The core of the project intervention strategy based on the dual mechanisms of mandatory minimum energy performance standards (MEPS) and energy efficiency labelling, together with the regulatory, logistical and communications frameworks this requires. Therefore, the project was designed to address the policy, information, technology and financial barriers that prevent introduction and widespread uptake of energy efficient appliances. The project funds were earmarked for assistance to the Government, national agencies and the private sector to successfully introduce and implement the mandatory S&L program and, at the same time, implement relevant training and technical assistance. The project particularly targets importers and retailers (actors who play an important role in influencing the purchase decision of

consumers) by setting up a comprehensive awareness and information dissemination campaigns.

Expected results

Table 1 below provides a summary of the project baseline and expected results.

Table 1: S&L Project baseline and expected results

Baseline	Expected results
Insufficient policy/regulatory framework to implement S&L program	Policy/ institutional/ regulatory framework on energy efficient appliances is gazetted and enacted into law under the National Energy Act by end of 2013
Labeling specifications and MEPS are unknown	By 2012, reach an agreement with stakeholders on energy classes and MEPS requirements for the 12 products included in DoE & DTI action plan
No accredited testing facilities	Accreditation of testing facilities (public & private) and enforcement institution
No standard testing procedures	Adaptation of International/EU test procedures to the South African climatic and usage conditions when needed
No awareness of appliance energy efficiency standards and labels	At least 50% of consumers and retailers contacted (within the sample group) become more aware of appliance energy efficiency standards and labels and retailers provide evidence of marketing efforts to support the scheme
None	Minimum number of products sold in the market (ratio TBD for each appliance type) which don't comply with the S&L requirements
None	All those skilled South African professionals trained demonstrate appropriate level of knowledge

Project components

The project consists of 6 interdependent and interrelated substantive Outcomes and 13 substantive outputs. All 6 substantive Outcomes have to be addressed to remove barriers and ensure a successful implementation of the S&L programme are summarized in Table 2 below.

Table 2: Components and outcomes of the project

Outcome No. and Description	Output No. and Description
OUTCOME 1: Policy and regulatory framework for the S&L program: Strengthen structures and mechanisms for appliance energy efficiency standards and labels (S&L)	**Output 1.1:** Review of existing policies and regulations. Provide feedback and advice for any corrective or new action to be taken to reduce project risks **Output 1.2:** Evaluation of financial incentives such as the rebate program operated by the Eskom DSM for purchasing efficient appliances. Development of new financial incentives if needed.
OUTCOME 2: Define labeling specifications and MEPS thresholds for the 12 products considered by the DoE & DTI for S&L regulation	**Output 2.1:** Conduct market and engineering analysis for the products selected for S&L regulation **Output 2.2:** Adopt labeling specifications and MEPS thresholds for the 12 products selected for S&L regulations
OUTCOME 3: Strengthen the capacity of institutions and individuals involved in the S&L program	**Output 3.1:** Strengthen institutions (testing facilities, enforcement institution...) **Output 3.2:** Strengthen employee skills
OUTCOME 4: Awareness raising campaign for standards and labels, targeting manufacturers, distributors, retailers and end-users	**Output 4.1**. Test and adopt Label design **Output 4.2.** Develop communication campaign towards manufacturers, importers, distributors, retailers and consumers about appliances' energy efficiency **Output 4.3.** Develop and deliver training programs for distributors and retailers staff
OUTCOME 5: Implementation of S&L Market Surveillance & Compliance (MSC) regime to ensure energy performance standards is met	**Output 5.1.** Development of MSC procedures for regulated products **Output 5.2.** Integration of product energy performance compliance checking with local manufacturers and country pre-import inspections
OUTCOME 6: Development of Monitoring and Evaluation (M&E) capacity	**Output 6.1.** Replication of S&L program for new set of products **Output 6.2**: Implementation of Monitoring and Evaluation methodology for S&L programs

Main project stakeholders

The Project Document identified a number of main stakeholders to be directly involved in implementation of the project.

The Department of Energy (DoE)[6] – responsible for availability of diverse energy resources in sustainable quantities and at affordable prices in order to support economic growth and deliver universal access to energy. DoE was further responsible for ensuring the supply of liquid fuels, nuclear energy, power generation, energy planning, renewable energies and contingency

[6] The Department of Mineral Resources and Energy (DMRE) was established in June 2019 by the merger of the Department of Energy and the Department of Mineral Resources.

energy supply, and was the home of the Designated National Authority which manages applications for all CDM projects.

The following organizations fall under the DoE:

- The South African National Energy Development Institute (SANEDI) - a research institute promulgated by the Energy Act;
- The South African National Energy Research Institute (SANERI) – a public entity entrusted with the coordination and undertaking of public interest energy research, development and demonstration;
- The National Energy Efficiency Agency (NEEA) – division of SANERI responsible for promotion of energy efficiency projects;

The Department of Trade and Industry (DTI)[7] - one of the biggest government ministries, aiming at phase out energy inefficient equipment from the South African market and involved in the energy efficient appliance labeling program through IPAP2 and the Energy Efficiency work plan developed jointly with DoE.

The following organizations fall under the DTI:

- The South African Bureau of Standards (SABS) - the national standardization organization with over sixty years of experience in its core function of developing national standards and maximising the benefits of international standards through adoption. The public testing facilities fall under the SABS.
- The National Regulator for Compulsory Specifications (NRCS) – a statutory DTI institution with a role to ensure adherence to all compulsory specifications mandated by law and mandate for market surveillance, compliance and enforcement;
- The South African National Accreditation Agency (SANAS) - the single national accreditation body giving formal recognition to laboratories (under ISO 17025), certification bodies (under ISO 17021 and 17024), inspection bodies (under ISO 17020), proficiency testing scheme providers, as well as Good Laboratory Practice (GLP) testing facilities.

The Department of Science and Technology (DST) - tasked with maximising the impact of science and technology and promotion of research into energy efficiency in appliances;

The Department of Public Enterprise (DPE) – in charge for state owned enterprises such as Eskom - the public utility company, responsible for generation, transmission and distribution of electricity to industrial, mining, commercial, agricultural and residential customers and redistributors, such as municipalities. The Eskom's Demand Side Management (DSM) division responsible for interventions to change the configuration or magnitude of the load shape in the residential, commercial, industrial and agricultural sectors.

Independent testing facilities - responsible for certification of products;

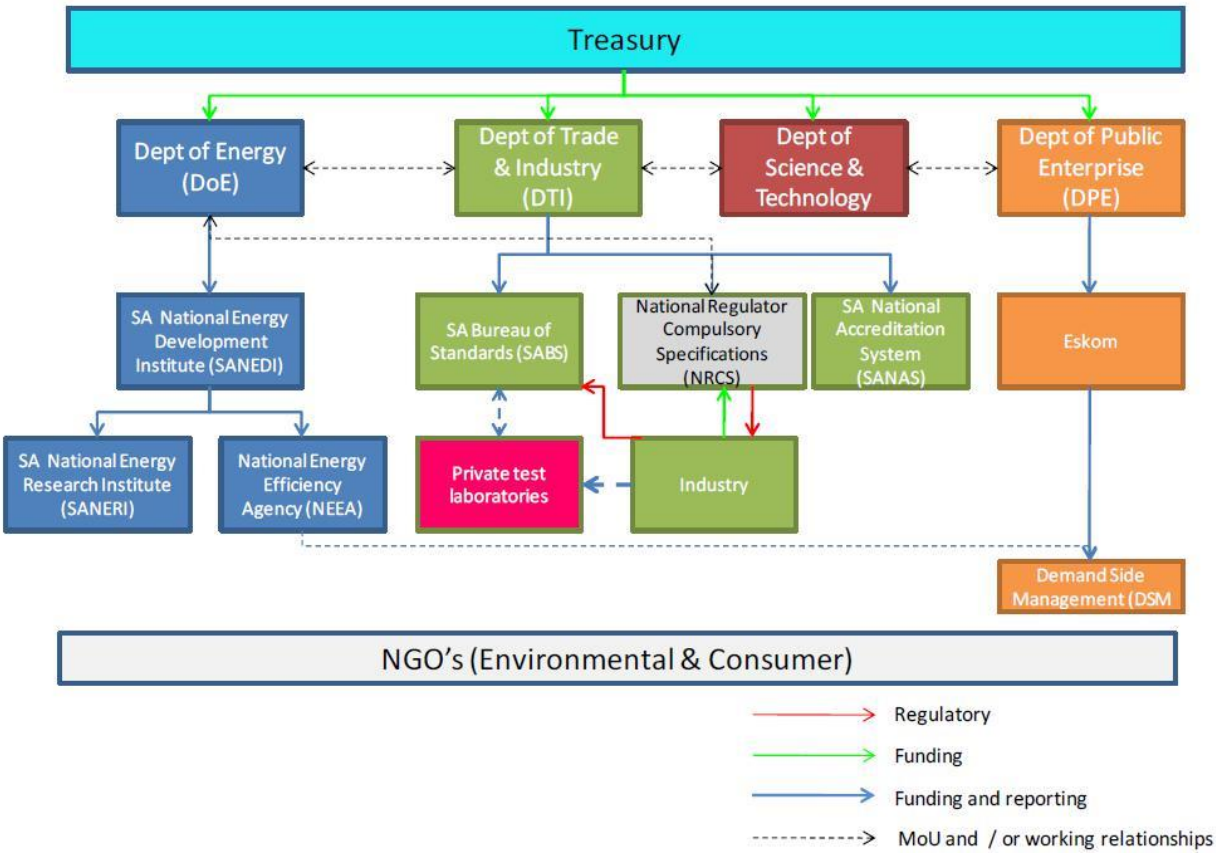
[7] Now the Department of Trade, Industry & Competition (DTIC) established in June 2019 by the incorporation of the Department of Economic Development (EDD) into the Department of Trade and Industry.

Consumer Goods Council of SA (CGCSA) - a non-profit organization representing over 11,000 member companies in the retail, wholesale and manufacturing of consumer goods.

The Swiss Economic Development Cooperation (SECO): - a bilateral development agency of the Swiss Government responsible for planning and implementation of economic and trade policy measures in developing countries, promotion of stable economic framework conditions, strengthening competitiveness and trade diversification and mobilizing Swiss and foreign investment;

The roles of the national stakeholders involved in the S&L programme in South Africa are illustrated on Display 1 below.

Display 1: Main stakeholders involved in the S&L project



FINDINGS

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

Analysis of the project results framework

The purpose of the project is to reduce GHG emissions caused by household appliances' electricity consumption by facilitating transformation of the electrical appliances' market in South Africa through introduction of two regulatory tools - Minimum Energy Performance Standards (MEPS) and Information Labels. The main objective of the GEF project is to remove the most significant barriers impeding the widespread uptake of energy efficient residential appliances.

As mentioned at the end of the previous section, the project results framework is composed of 6 substantive Outcomes and total of 13 substantive Outputs. Each Outcome addresses a particular barrier to the efficient appliances' uptake. There are logical links between the project overall project objective and the six substantive Outcomes.

Specifically, Outcome 1 is related to review of the policy framework, the institutional arrangements as well as evaluation of financial incentives needed for the widespread uptake of energy efficient appliances in the market. Outcome 2 is dedicated to market and engineering analyses as well as to labelling specifications and MEPS thresholds for the 12 products selected for S&L regulation.

Outcome 3 is devoted to strengthening capacity of institutions and individuals involved in the S&L program while Outcome 4 addresses communication and awareness raising of appliance manufacturers, distributors, retailers and consumer end-users.

Outcome 5 was designed for development and implementation of Market Surveillance and Compliance (MSC) procedures and Outcome 6 for replication of activities implemented under Outcomes 1 to 5 and for implementation of Monitoring & Evaluation (M&E) methodology for the S&L programs

Despite the apparent logical structure, a more detailed analysis of the project results framework revealed several internal inconsistencies within the logframe. The terminal evaluator seconds to the results of the logframe assessment reported in the Mid-Term Review (MTR) Report that highlighted absence of specific time deadlines for indicator targets under several Outcomes.

Although the project results matrix contains a column for mid-term targets for the project performance indicators, this column was left void in the entire results matrix and it is therefore assumed that the aim was to achieve all results by the end of the project. The absence of mid-term project targets precludes use of the results matrix for prioritization of results and appears to be one of the main deficiencies in the project design.

Furthermore, numerous internal inconsistencies were found in the project results matrix, such as incorrect definition of targets at the level of Outputs, mixing activities with performance

targets, and misplacing or listing completely irrelevant performance targets. The inconsistencies are summarized in Table 3 below.

Table 3: Internal inconsistencies in the S&L project results framework

Project result	Indicator Target	Comments
Output 1.2: Evaluation of financial incentives such as the rebate program operated by the Eskom DSM for purchasing efficient appliances. Development of new financial incentives if needed.	Number of existing rebate programs Increase market share of efficient appliances	The target is not appropriate for measurement of achievement of the Output as it is not relevant for the selected indicator.
Output 2.1: Conduct market and engineering analysis for the products selected for S&L regulation	Cost benefits analysis conducted for the 12 products selected for S&L regulation Number of Market research and industry studies conducted Market transformation benefits demonstrated to stakeholders Propose energy classes and MEPS thresholds applicable for the South African market	There is only one target to measure the three proposed indicators and it is not relevant for measurement of any of the three indicators.
Output 3.1: Strengthen institutions (testing facilities, enforcement institution...)	Number of testing facilities audited Number of testing facilities upgraded Number of testing facilities accredited Accreditation of enforcement institution Upgrade the existing facilities Ensure test facilities are operational, sufficient & available for compliance checking	This is not correct target to measure the proposed performance indicator. The target should be concrete numbers of the testing facilities.
Output 3.2: Strengthen employee skills	Necessary intergovernmental forums established to ensure coordinate effort Number of employees trained 4 performance targets	All four performance targets are in fact activities and relate to the 2nd indicator. No target for measuring the first indicator.
Output 4.2. Develop communication campaign towards manufacturers, importers, distributors, retailers and consumers about appliances' energy efficiency	Number of dissemination activities offered to each category Number of people covered by dissemination activities Ensure consumers distinguish between MEPS & extra financial benefits of exceeding MEPS voluntarily	The target is not suitable for measurement of any of the two proposed indicators and is defined as activity
Output 4.3. Develop and deliver training programs for distributors and retailers' staff	Number of trainings delivered Numbers of trainers involved Retailers and distributors able to deliver S&L message to end-users	The target is not suitable for measurement of the proposed indicators
Output 5.2. Integration of product energy performance compliance checking with local manufacturers and country pre-import inspections	MSC procedures implemented Develop database of S&L products	Proposed indicator not suitable to measure progress towards achieving the Output. The target is not suitable for measurement of the proposed indicator and is defined as activity
Output 6.1. Replication of S&L program for new set of products	Work plan to replicate the S&L for new set of products Extend S&L program for other appliances and equipment	The target is not suitable for measurement of the proposed indicator and is defined as activity
Output 6.2: Implementation of Monitoring and Evaluation methodology for S&L programs	Number of staff trained on M&E of S&L programs Launching of metering campaigns and data collection studies Make M&E activities part of the whole process Record lessons learnt	The targets are not suitable for measurement of the proposed indicators and are defined as activity

It follows from Table 3 that incorrectly formulated performance targets were found for 9 of the 13 project Outputs. Moreover, no time frame for achievement of the performance targets was specified at the Output level.

Although the structure of the results framework was consistent with the project's theory of change and the design of individual Outcomes and Outputs was aligned with the overall Project Objective, a majority of the indicators proposed for measurement of achievement of the project results were not formulated according to the SMART criteria, particularly the indicators proposed to measure achievements of Outcomes that were not clearly translated into operational terms. There was lack of clear relation between the indicators and their performance targets and indicators for Outcomes 3-6 were not time-bound. Apart from the global environmental benefits, the project results framework did not intend to capture broader development impacts and cross-cutting issues.

In summary, the project results matrix contains several inconsistencies that hindered the reporting on project progress, in particular the PIRs, and use of the results matrix as a tool for monitoring the project progress.

Risks and assumptions

Identification of risks enables the implementing partners to recognize and address challenges that may limit the ability of the project to achieve the planned performance outcomes. The Project Document provides an overview of risks to achievement of the project's goals including risk ranking as well as corresponding risk mitigation measures, as shown in Table 4 below.

Table 4: Risks of the S&L project identified at the project inception

Risk	Assessment	Reason for ranking and mitigation
Legislative risk	Low-Med	The South African parliament has passed and adopted the Energy Act (2008) and the Energy Efficiency Strategy was adopted in 2005 (reviewed 2008). It stipulates the mandatory implementation of a labeling and standards program for household appliances to reach the target of 10% of energy demand reduction in the residential sector. The DoE and DTI have also developed a mutual energy efficiency action plan. The document has been made public and is out for stakeholder comments. Delays may occur during the process due to individual industrial interests but the regulatory framework is unlikely to experience delays that will affect the project. The project must be observant of the processes and provide the necessary support as required. No mitigation is necessary
Institutional risk	Low - Med	To have a measurable impact of S&L program, experience has demonstrated that a multi-sectoral approach is required. The risk remains that institutional rivalries, or lack of communication, will slow down cooperation among ministries. A further concern is the capacity issues being experienced at the DoE. This is being addressed within the department and they have committed to rectifying the situation. Some of the steps taken to date include the appointment of director for energy efficiency and a chief technical advisor for building sector energy efficiency. Further resources and project prioritization within the department has been pledged. The project will mitigate this risk with frequent stakeholder consultations, which will facilitate ongoing policy dialogue between public and private sector stakeholders and provide a forum to harmonize the programs of participating ministries. The PSC will be chaired by the Director for Energy Efficiency at the DoE or a someone at a similar of higher level.
Technical risk	Low - Med	The successful implementation of this project requires an increase in the technical capacity of DoE, SABS and NRCS employees, as well as public and private sector testing capacity. The DoE will also be required to have the necessary skills and will coordinate stakeholders and ensure that the information campaign is neutral and communicates the objectives of the project accurately. This risk is being mitigated by having project outcomes that will assist these institutions to develop the necessary in-house technical skills through appropriate capacity-building measures. The project also provides monitoring and evaluation tools which will disseminate the institutional knowledge for replication of S&L programs to other appliances.
Funding risk	Med	The S&L project has strong backing from the government, but much of the funding pledged is either in-kind, for specific studies or available via levies introduced after the regulations come into effect in year 3.The SECO funding this becomes extremely important to pay for project management costs and activities during the first two years of the project. SECO is not able to provide a definitive commitment at this stage but all indications are that the pledged funding for the project will be formally approved by the project start date. The private sector has also indicated that it will pay for studies to assist the sector in adaptation (see business risk). The ministries involved have also committed to submit an application to Treasury for funds in their next budget cycle (2013 onward).
Business risk	Low - Med	Some private sector actors, especially local manufacturers, have shown significant resistance to the implementation of the program, citing job losses as a potential outcome. Business Unity South Africa (BUSA), which is responsible for representing and lobbying business to labor and government, recognizes the national need for energy efficiency and has indicated it is prepared to fund studies (cost benefit analyses) and to further assist in finding ways to overcome these challenges. While being sensitive to industry concerns, government is resolved to implement the S&L program and made clear that businesses will have to adapt to the S&L program if continued operation in SA is desired.
Consumer risk	Low	While it is true that consumers have a poor understanding of energy efficiency in general, this is starting to change because of the electricity crisis and high tariff increases. A sustained communications campaign and financial incentives to purchase efficient appliances, as well as the decision to make the program mandatory, will mitigate this risk.
Market maturity	Low	A marketing engineering analysis will be conducted to ensure that the appropriate minimum standards and energy classes are introduced, thus striking a balance between ensuring the program delivers sufficient energy savings and not being so aggressive as to implement regulations which face resistance and non-compliance.

According to the standard practice of GEF-funded projects, the level of risks should be rated in terms of impact and probability.

Five out of the total seven risks identified at the project inception stage did not require any mitigation. However, the funding risk, identified as potential lack of co-financing, materialized early on when SECO withdrew its pledged support of 4,000,000 US$ in 2014 following dissatisfaction with the lack of progress in implementation. Although no measures were proposed to mitigate this risk, the impact of the SECO funding withdrawal was in reality partially offset by depreciation of the local currency (ZAR) and by leveraging additional resources from DTI and other stakeholders as shown in the paragraph on co-financing.

The consumer risk described as lack of understanding of energy efficiency by general public was supposed to be mitigated through sustained communication campaign and provision of financial incentives for purchases of energy-efficient appliances. A mitigation measure was adopted through appointment of a communications service provider to assist the project with the communications campaign. However, although in reality a communication service provider had been appointed, the awareness raising campaign for standards and labels was delayed until May 2018 and the pre-campaign surveys indicated poor understanding of the EE label by the general public.

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

Operational and financial risks identified during the project implementation were related to insufficient capacity among both public and private testing laboratories. This was partially mitigated by extended support of the Government to the public testing laboratories within SABS. There was only limited support for the private sector testing laboratories following DMRE decision that the project was not to provide financial or other support to private testing laboratories.

Although the risk of poor understanding of energy efficiency issues by consumers was identified at the project inception, it was ranked “Low”. However, lack of consumer awareness related to delayed start of the communication and awareness activities proved to have negative impact on progress towards achievement of the project objectives.

It is the opinion of the evaluator that the risk identification and management was performed to the extent possible with the exception of the insufficient capacity of the testing laboratories that should have been identified at the PIF/PPG stage when the testing laboratories had been visited by the project preparation team. Also, the consumer risk should have been ranked Medium or even higher.

Lessons from other relevant projects incorporated into project design

The project was prepared as one of the very first projects on the topic of standards and labelling for energy efficiency and therefore no lessons from other relevant projects were available for consideration during the project preparatory phase.

Planned stakeholder participation

The Project Document called for involvement of a number of Government agencies with respective mandates relevant for development and implementation of energy efficiency S&L systems. Professional and Trade Associations were also expected to participate in the project. The entry point for involvement of the key project stakeholders were meetings of the Project Steering Committee (PSC) that oversaw all activities of the project.

Annex 4 of the Project Document lists organizations that had been consulted during the preparatory phase. Participation of Government stakeholders mandated in the energy production, standardization and regulation, namely DoE, DTI, SABS, and NRCS, was well justified in the project design. Although the Project Document envisaged involvement of the Department of Science and Technology (DST), there was no visible partaking of the latter. No involvement in the project was planned for the Department of Environmental Affairs (DEA) that is the national focal point for the UN Convention on Climate Change (UNCCC). This is surprising given the fact that the project objective is to reduce greenhouse gas (GHG) emissions and thus directly related to the DEA mandate.

Replication approach

The replication approach outlined in the project design is primarily focused on expanding the energy efficiency standards and regulations to additional household appliances (Outcome 6). This is based on the conducive policy environment in terms of commitment to GHG reduction and promotion of energy efficiency in the country as well as on relative maturity of the private sector market. All this was considered a solid foundation for replication and scaling up of the current intervention regionally. However, the Project Document does not contain any strategy for replication and/or scaling-up beyond RSA.

UNDP comparative advantage

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

> *"UNDP role is translating broad worldwide agendas into specific action in particular national contexts and domesticate global goals in a way that is relevant to particular national environments and plans. And we do this by being the implementing partner that*

supports the capacity of multiple stakeholders and governance structures to take national ownership of them".[8]

The essence of UNDP's comparative advantage for the GEF-funded projects is embedded in its global network of country offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation. In addition to UNDP proven track record on promoting, designing and implementing activities consistent with the GEF mandate and national sustainable development plans of the developing countries, UNDP also has extensive inter-country programming and implementation experience.

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

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

UNDP's specific strengths include a proven ability to influence policy and develop national capacities through its focus on cross-sectoral approaches and collaboration with a wide range of national stakeholders. In this regard, UNDP has built a very good reputation with diverse stakeholders in the four project beneficiary countries. Such high esteem was found very conducive for facilitating access to and cooperation with the project partners and stakeholders in the implementation phase of this project.

Linkages between project and other interventions within the sector

The S&L Project is a follow-up to the first programme on standards and labelling for energy efficiency of refrigerators that was launched in 2005 for voluntary participation by the industry. Despite many stakeholder consultations, the uptake of the programme by the industry was very low. A detailed assessment of this approach prompted the Government to consider putting in place mandatory regulations, standards and labels to more effectively drive adoption and transformation of the market.

There were no visible linkages with other development assistance interventions within the energy sector.

Management arrangements

GEF Implementing Agency

The UNDP CO in RSA acted as the Implementing Agency for the project. The Project Document envisaged establishment of a Project Management Unit (PMU) within the Executing

[8] UNDP Resident Representative in South Africa, Ms Nardos Bekele-Thomas;

Agency (DoE) for the day-today management of the project. PMU was to be led by a properly qualified and experienced Project Manager (PM) to be appointed by UNDP CO to manage the project.

In 2011, around the time when the S&L Project was approved, the UNDP CO allegedly underwent a major reorganization that included appointment of a new Country Director and a new Head of the Energy and Environment cluster under whose auspices the S&L Project falls. Reportedly, the internal restructuring had a negative effect on the PM recruitment and the first PM was appointed only in April 2013, 18 months after the official starting date of the project. MTR conducted in April-May 2015 could not get more concrete reasons for the delays in the PM recruitment.

From April 2013 until August 2015, PMU that was housed inside DoE, consisted only of the single PM that worked closely with the Energy Efficiency Initiatives (EEI) team, under the Clean Energy Division (CED). An Administrative Assistant was to be recruited to provide administrative support to PMU. As the latter was not considered a full-time position, it was proposed that the Executing Agency would provide a resource person for this function. Since the project faced serious implementation issues in the initial phase, the coordinator of the GEF Small Grants Programme was assigned in 2014 to support PMU. The Administrative Assistant was recruited after MTR in August 2015, initially hosted by DoE and later transferred to UNDP CO.

The first PM resigned in November 2016 and the position was left vacant until appointment of a successor PM at the beginning of April 2017. The second PM after a couple of months on building relationships with all project stakeholders, notably accelerated implementation of the project and brought a majority of planned activities to successful completion.

Since the inception, the project was backstopped by the UNDP Regional Technical Advisor. However, due to staff exchanges, the RTA support was weak in the early years of the project. Since 2017, the project received stronger backstopping by the Head of Energy cluster at the Bureau for Policy and Programme Support (BPPS) of UNDP HQ in New York.

Executing Agency/Implementing Partners

Department of Energy (DoE) assumed responsibility for execution and ultimate delivery of the project. The Department of Trade and Industry (DTI) and its affiliated agencies (SABS and NRCS) were the cooperating implementation partners leading activities associated with development of standards and monitoring, control and market surveillance systems.

In line with experience gained in other S&L projects, the project was to be broken up into two key components - implementation and compliance and PMU was to be staffed accordingly with technical experts:

- A Project Enforcement Coordinator, based at NRCS, to develop and implement the required MSC procedures, with responsibility for training the NRCS compliance officers on how to enforce and ensure that manufacturers and suppliers comply with the mandatory regulations;

- A Project Test Coordinator, based at SABS, to provide assistance on the adaptation of testing procedures and accreditation of public and private laboratories;

Reportedly, the implementation partners, including SABS and NRCS, were reluctant to enlist the assistance of external experts, partly due to intellectual property rights concerns. Consequently, external recruitment for the above coordinator positions was not conducted and internal staff members of the two agencies were assigned to the above coordinator roles.

In addition to the above, the Project Document envisaged recruitment of a part-time International Expert on S&L initiatives to provide support, input and advice when needed. This position was to be funded from the SECO co-financing contribution but was never materialized due to withdrawal of SECO co-financing for the project.

It appears that understaffed PMU was one of the reasons for the sluggish progress in implementation of the project in its initial phase. This was further aggravated by the lack of external expertise for the enforcement and testing and collectively these deficiencies negatively affected the overall functionality as well as the coordination function of PMU within the project.

Project Steering Committee

PM managed the project under overall guidance of the Project Steering Committee (PSC) that was established to oversee and guide the project implementation processes, monitor the project progress, and to support the project in achieving targeted outputs and outcomes. PSC membership included all relevant project stakeholders, namely officials of DoE, DTI and their affiliated agencies, representatives of two industry associations, namely the South Africa Domestic Appliance Association (SADA) and the Electro-Technical Industry Association (ETIA) as well as a representative of the National Consumers Forum, a non-profit autonomous organization dedicated to protection and promotion of consumer rights and interests. In the beginning of the project, SECO participated as member of PSC but later dropped after withdrawal of their co-financing contribution to the project.

Since the beginning of the project, PSC was chaired by the Chief Director of the CED. In the initial project period, the PSC meetings were organized roughly on a quarterly basis. With this frequency of meetings, the Chief Director of CED was unable to participate in all meetings and in such cases chairing of the meetings was delegated to different people, including the Director of EEI and DTI officials. This resulted in some inconsistencies in the project governance. As recommendations concluded at PSC meetings needed to be presented to DoE senior management for approval, this impaired ownership of the PSC decision-making. This was noted by the MTR and the reviewer recommended to assign the chairpersonship responsibility of the PSC to the Director of EEI with the Chief Director of CED would provide regular strategic advisory support.

Information about PSC meetings between the actual project inception in 2013 and MTR in spring 2015 was taken from the MTR Report as minutes of the individual PSC meetings from the above period were not available at TE. According to the MTR report, PSC convened 12 times during the first two years of the project. At TE, PSC minutes were available only for the period 2017 – 2019. In this period, PSC convened total 12 times: 6 meetings in 2017, 4 meetings

in 2018 and 2 meetings in 2019. The frequency of the PSC meetings was bimonthly on average in the first two years of the project and in 2017-2019.

Overview of the PSC meetings in the last three years of the project is in Table 5 below.

Table 5: Summary information on meetings of the Project Steering Committee in 2017-2020

No.	Date	No.	Date
1	29 March 2017	7	8 March 2018
2	18 May 2017	8	3 May 2018
3	5 July 2017	9	5 July 2018
4	10 August 2017	10	1 November 2018
5	14 September 2017	11	11 April 2019
6	8 December 2017	12	20 June 2019

The most recent PSC meeting was held on 6 February 2020 during the TE mission with participation of the evaluator.

Although in theory the role of a Steering Committee is complex, the two main guiding principles by which a PSC should function are as follows:

- Support the Project Manager
- Give Strategic Direction to the project implementation

The evaluator found the established managerial arrangements in line with the Project Document and considers them adequate for the size and complexity of the project. Review of available PSC meeting minutes and direct observation in the most recent PSC meeting gave information about a range of technical and organizational issues that had been discussed at the PSC meetings and allows to make a conclusion that PSC sufficiently fulfilled its advisory and support function to PMU. However, it appears that PSC acted mostly in a reactive manner and contributed much less to a strategic orientation to the project.

Adaptive management

GEF evaluations assess adaptive management in terms of ability to direct the project implementation through adapting to changing conditions outside of control of the project implementing teams. The adaptive approach involves exploring alternative ways to meet project objectives and implementing one or more of these alternatives.

According to the rules of the UNDP National Implementation Modality (NIM), the GEF grant funds would be advanced by UNDP to DoE as the implementing partner, based upon the budget approved for the annual work plan. However, for the first two years of implementation, DoE and UNDP CO could not reach agreement on the modality of transferring the GEF funds and, consequently none of the GEF funds had been disbursed to the Implementing Partner's account until .

Despite concerted efforts by the UNDP CO to resolve the stale mate of the cash disbursement modality, including assignment of the coordinator for the Small Grants Programme to support the PMU in 2014, this issue was finally settled in August 2015. However, the delays have had a negative impact on efficiency and effectiveness of the project implementation.

Due to the significant time loss, a decision was taken to focus on the most important issues and embark on a critical path methodology to work planning. Activities which would result in further delays if not achieved in time had been mapped over a critical path and this approach provided so that the PSC members and other decision-makers can more clearly see where to focus available resources.

Partnership arrangements

The project implementation brought together all relevant Government-level stakeholders, namely DoE, DTI and their affiliated agencies. This contributed to creation of an informal alliance that acted as a driver for development of Minimum Energy Performance Standards (MEPS) and related labels. At the time of the TE mission, there was a motion to formalize the partnership by signing a formal Framework Agreement between DoE and DTI on matters related to the EE standards and labelling.

With respect to the other stakeholders, the project has organised a working group, consisting of the Government-level, non-governmental as well as private sector stakeholders. Despite deliberate attempts to engage the key appliance manufacturers and importers, the project could not bridge a communication gap between the Government-level and the private sector stakeholders. Participation by the private sector in the working group meetings declined over time, apparently due to frustration of the private sector by the lack of communication from the Government agencies, in particular NRCS.

Further partnerships were created through provision of technical advisory support to SABS appliance-testing laboratories by the UK-based company Intertek in the first years and by the VDE Testing and Certification Institute, based in Germany, in the later phase of the project.

The Project Document envisaged establishment of a funding partnership through the co-financing contribution by SECO. Unfortunately, this partnership had not been realized as SECO withdrew its co-financing commitment in 2014 due to dissatisfaction with the lack of progress in project implementation.

Project finance

The GEF grant for this project was approved at 4,375,000 US$ and together with expected co-financing of 8,766,418 US$ the total cost of the project at inception was 13,141,418 US$. Table 6 below displays the breakdown of expenditures by the years of the project implementation period.

Table 6: Expenditures by years of implementation in US$ (as of 31 December 2019)

To be updated with early 2020 data

	2013	2014	2015	2016	2017	2018	2019	2013-2019
Total GEF	88,954.92	166,209.14	301,653.58	887,547.09	429,507.40	1,210,423.91	831,325.31	3,915,621.35
%	2.27%	4.24%	7.70%	22.67%	10.97%	30.91%	21.23%	100.00%

It follows from Table 7 that there were relatively lower levels of spending in the first three years of the project implementation (2013-2015) when altogether 556,817.64 US$ (14.22 % of the total GEF grant) was spent. After resolution of the funds transfer standstill in summer 2015 the spending escalated to 22.67% in 2016 but dropped to about 11% in 2017. The plunge reflects the period when the PM position was vacant in the first half of 2017. The fact that more than half of the expenditures was realized in 2018-2019 signifies the momentum the project implementation gained since the appointment of the 2nd PM.

Table 7 below provides comparison of the planned and actual expenditures by the project components.

Table 7: Planned and actual expenditures by the project components (US$)

Component	Planned	Actual	%
Outcome 1	181,400	566,091	312.07
Outcome 2	614,000	697,771	113.64
Outcome 3	2,046,100	931,929	45.55
Outcome 4	506,500	846,474	167.12
Outcome 5	200,000	268,003	134.00
Outcome 6	500,000	90,061	18.01
Outcome 7	327,000	501,784	153.45
Total	4,375,000	3,902,113	89.19

As of 11 February, there was unspent amount of 472,887 US$.

Table 7 shows major differences between the planned and actual expenditures under Outcome 1 and Outcome 3. While the actual expenditures for policy and regulatory framework (Outcome 1) were more than three times higher than planned, actual expenditures for strengthening of institutions (Outcome 3) was only less than half of the plan. This financial imbalance demonstrates the findings in the section Effectiveness below that the project has delivered well on the side of the policies but the delivery was less satisfactory on the side of the institutions. Low level of disbursements under Outcome 6 reflects the reality that Output 6.2 was not implemented in the timeframe of the project.

However, it has to be noted that attribution of expenditures to individual Outcomes was done by UNDP Accounts/Procurement department without input of PM who had no access to the UNDP Atlas platform hence some expenditures could have been misallocated to incorrect Outcomes.

Nevertheless Tables 6 and 7 demonstrate sound financial management of the project.

The S&L Project was designed to attract co-funding from various levels of the Government as well as from private sector. Table 7 below compares the planned co-funding at the project inception with the actually achieved co-funding at the completion of the project.

Table 7: Comparison of planned and actual co-financing by source (US$)

	Planned	**Actual**
GEF	4,375,000	3,902,113
DoE	252,132	
DTI	4,514,286	2,230,000
SECO	4,000,000	-
Industry	-	
Other	-	60,000
Total	**13,141,418**	**6,192,113**

Table to be amended with more information

Monitoring and evaluation: design at entry and implementation

M&E design at project entry

The Monitoring & Evaluation (M&E) Framework was in details described in the Project Document. The Framework consisted of the Project Inception Workshop, meetings of the Project Steering Committee, quarterly and annual Project Implementation Reports as well as the Mid-Term Review and the Terminal Evaluation.

The M&E plan was found well designed with allocation of the total indicative cost for the project M&E at the level of 160,000 US$ that is 3.7% of the total GEF grant.

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

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

M&E at implementation

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

Inception Workshop: According to the original Project Document, it was assumed to hold a project Inception Workshop (IW) within the first two months after the official start of the project involving relevant Government counterparts, co-financing partners, the UNDP CO and representation from the UNDP/GEF Regional Coordinating Unit. The objective of IW was to help the Project Team to understand and take ownership of the project's goals and objectives,

as well as to finalize the preparation of the project's first annual work plan on the basis of the project's log-frame.

According the MTR Report, IW was held in May 2013, i.e. one month after recruitment of the first PM. However, IW minutes were not available at TE and the MTR Report does not provide any details about IW deliberations.

Annual Project Reports/Project Implementation Reviews (APRs/PIRs): The most important instrument in the monitoring process were Project Progress Reports (PPRs) prepared *ad-hoc* for the PSC meetings and Project Implementation Reviews (PIRs) prepared regularly with annual periodicity at the end of each GEF fiscal year (July to June). While PPRs were narratives summarizing progress achieved and highlighting issues for discussion by PSC, PIRs provided a detailed account of progress made towards achieving the project performance targets set in the project results framework. As PIRs for the 2013 - 2015 period were not available at TE, their assessment was taken over from the MTR. The MTR report stated the project results framework had not been fully integrated as a monitoring tool in the first two PIRs preceding MTR. It appears that the PIR format could have been changed during the project implementation. PIRs covering the post-MTR phase (the GEF fiscal years 2016, 2017, 2018 and 2019) all have a uniform structure and contain detailed reporting on progress towards performance targets at outputs, outcomes as well as the project objective levels. In line with the requirements, PIRs contain ratings and comments on project progress provided by PM, UNDP CO as well as the lead Implementing Partner.

GEF Tracking Tools: Due to the lack of continuity in the project management from the side of UNDP CO the GEF Tracking Tools at inception and at MTR were not available to the evaluator. The GEF Tracking Tool at project closure was still under preparation at the TE stage.

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

An independent Mid-Term Review (MTR) was planned to be undertaken at mid-point of the project. The data collection phase of MTR was April – May 2015 with the MTR mission to RSA conducted on 13 – 20 April 2015. The final MTR Report was completed in May 2015.

Terminal Evaluation: The Project Document stipulated TE to be conducted at least three months prior to the project completion date. The TE was commissioned in December 2019 and the TE mission to RSA conducted on 2-11 February 2020.

Feedback from M&E activities used for adaptive management

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

Mid-Term Review (MTR) of the S&L Project produced total 15 recommendations, out of which 7 recommendations were related to corrective actions for the design, implementation, monitoring and evaluation of the project, another 7 recommendations established measures to follow up or reinforce initial benefits from the project, and 1 recommendation proposed future directions underlining main objectives of the project.

In order to ensure effective use of evaluation findings and recommendations and ensure that there are considered follow-up actions, the Commissioning Unit and Project Team should draft a management response to MTR. The purpose of the MTR management response is to outline how the Project Team and other stakeholders, as appropriate, will respond to the recommendations included in the MTR report. Management responses should include detailed key actions that highlight which agency or unit is responsible for recommended actions and the deadlines for their completion. After the management response is developed, it is uploaded to the UNDP Evaluation Resource Centre (ERC) by the commissioning UNDP CO.

Although MTR produced total of 15 recommendations, ERC recorded managerial responses to only 5 recommendations (No. 1-5 in the MTR report). The reason for the limited managerial response could not be established due to the long time that had elapsed since MTR and the UNDP staff turnover during that period.

As a part of MTR, the reviewer conducted a detailed critical analysis of the project's logframe and suggested several modifications to the indicators and target values while keeping the project Objective and Outcomes unchanged. MTR Recommendation No. 6 called for a critical review of the performance indicators by the project stakeholders (PMU, DoE, DEA) but it was not followed by a formal managerial response. Recommendations No. 7-15 addressed various technical issues of the project and were not followed by a managerial response either.

As a standard practice, if new indicators or revisions to existing indicators are proposed by MTR, it should be decided with the Project Board if those changes should be approved and added to the project's logframe and that systems are in place to monitor new indicators[9]. Since the PSC meeting minutes from immediately after MTR were not available for TE, it could not be established whether the revision of indicators was discussed by PSC at all. Discussion on the subjects of the technical Recommendations No. 7-15 is recorded in the available minutes of the PSC meetings in 2017-2018, however, the records show that these topics were discussed on an *ad-hoc* basis only without any reference to MTR.

A summary of the MTR recommendations is in Table 8 below.

[9] Project Level Monitoring: Guidance for Conducting Midterm Reviews of UNDP-supported, GEF-financed Projects, UNDP-GEF, 2014

Table 8: List of MTR recommendations

	Recommendation	Recipients
	Corrective actions for the design, implementation, monitoring and evaluation of the project	
1.	The implementing agency and implementation partners should expedite the process of finding a resolution to the impasse regarding the cash disbursement modality of the project. Given the current constraints on the electrical energy grid in the country, there should be sufficient political will to facilitate resolving these administrative inefficiencies. This issue has been outstanding since the time of project inception in mid-2013 and, although there have been several proposed resolutions made by the implementing agency, the arrangements remain unresolved. In the opinion of the reviewer, further delays would result in an inability to efficiently utilise the committed GEF grant within the approved timeframe. In this context, a deadline should be set (e.g. 30 June 2015), after which time UNDP should consider all available options, including suspension or even cancellation of the project.	DoE, DTI UNDP
2.	Considering the limited availability of the Chief Director of the Clean Energy Division of the DoE, the chairpersonship of the PSC should be delegated to the Director of Energy Efficiency Initiatives in the Clean Energy Division of the DoE, and the Chief Director should be regularly informed and consulted for strategic advice. The terms of reference of the PSC should be amended to reflect this change. This recommendation is primarily an organisational adjustment, recognising that the DoE will continue to be obliged to follow the relevant requirements stipulated under the Public Finance Management Act, with respect to executing the project.	DoE, UNDP
3.	Consistent with the previous recommendation, the project manager should report directly to the Director of Energy Efficiency Initiatives. The terms of reference of the project manager should also be amended to reflect this change. The position of project administrative assistant should be considered to be maintained for the duration of the project operational implementation period; extension of the administrative assistant position should be evaluated at the end of the 6-month provisional employment period.	DoE, UNDP, PMU
4.	The MTR evaluator recommends granting a one-year, no-cost time extension until September 2017. This recommendation is based upon: (1) allowing sufficient time to implement the communication strategy; (2) the standard on air conditioners is scheduled to be issued by June 2015, and the regulation will likely follow shortly after that; (3) the SABS testing laboratory for air conditioners, currently being upgraded, is expected to obtain accreditation by June 2016; and (4) sufficient time will be required for monitoring and evaluating the results of the implementation of the S&L regulations. Granting a no-cost time extension should be conditional upon reaching a resolution regarding the cash disbursement modality by 30 June 2015.	UNDP, DoE, dti, PMU
5.	A cumulative workplan, extending to the proposed project closure date of September 2017, should be worked out, in order to rationalise the implement-able activities within the given timeframe and the associated costs required.	PMU, DoE, dti, UNDP
6.	A critical review of the project performance indicators should be made, including the estimations of reductions in electricity demand and greenhouse gas emissions. These reduction targets should be rationalised against the actual baseline conditions in 2011 and set for a timeframe that is consistent with the DEA's UNFCCC reporting requirements. It would be advisable to re-calculate the estimations of GHG emissions avoided, using a baseline year of 2005, when the project was first conceptualised and which is also the year when the National Energy Efficiency Strategy was initiated. Other targets in the logical results framework should also be made more specific.	PMU, DoE, DEA
7.	Instead of project-specific working groups, the mandate of functional, technical committees, e.g. SABS/TC 072 and/or SABS/TC 075 should be expanded to include energy efficiency issues, and participation on these committees should be increased to include more industry and consumer protection representation. During the remaining timeframe of the project, these technical committees should be convened more frequently than the current twice per year arrangement, and the issues surrounding the roll-out of the new energy efficiency regulations should be addressed in such a forum.	DoE, PMU
	Actions to follow up or reinforce initial benefits from the project	
8.	The following actions are recommended to facilitate a pragmatic implementation of the new energy efficiency regulations. 8a: After each phase of Regulations VC9006 and VC9008 are implemented, allow a 12-month transition period, during which time in-house testing reports would be accepted, thus allowing more time for the independent testing laboratories to upgrade their capacities and obtain required accreditation; 8b: Assist NRCS in overcoming its backlog, possibly with external support or by increasing the number of in-house evaluators over a provisional period of time, which should also be extended for the timeframe when an increased number of requests for LOAs will be submitted in response to the new energy efficiency regulations; 8c: Facilitate the process of ensuring there is sufficient access and capacity with respect to independent testing laboratories, including private ones. This might entail increasing awareness on existing financial assistance programmes, initiating new financial assistance initiatives, and/or supporting partnerships with foreign, experienced laboratories, etc.	NRCS, SABS, PMU
9.	The project team should obtain the proposed levy schedule from NRCS and assess the self-funding model for the MSC program. The fact that NRCS has a significant backlog of work and has extended the time for issuing letters of authority from 21 working days in 2013 to 120 working days in 2014, indicates that the efficiency of NRCS in implementing the safety-related MSC programme is low, and, hence, the likelihood that it will be able to finance the expanded MSC programme to cover energy efficiency is also low.	NRCS, PMU
10	The MTR reviewer has the following recommendations with respect to the draft terms of reference (TOR) for the communications service provider: 10a: The targets agreed upon for the indicators under Outcome 4 of this project should be integrated into the communications TOR; 10b: It might be sensible to stratify the communication strategy with respect to lower income and middle/higher income segments; 10c: Considering that there is not yet an agreement among DoE managers with respect to what type of incentive schemes to pilot first, it would be advisable to implement the communication campaign in phases; 10d: Institutional branding should also be included as an objective for the communication strategy; 10e: The communication service provider should also be asked to address gender issues in the strategy; 10f: The draft TOR does not mention how social media and the Internet in general will be utilised for the strategy. The TOR should include basic expectations regarding this. As the communication campaign will likely not be a once-off initiative, so it is advisable to address the issue of ownership; e.g., whether the DoE will host the communication activities onto its social media and internet sites. 10g: The communication strategy should also be developed to interface with the S&L monitoring plan that will be produced under Outcome 6 of this project. For example, the communication service provider could contribute to the design of the periodic consumer and industry surveys that will be included in the monitoring and evaluation plan. 10h: UNDP and GEF branding guidelines should, of course, be respected. In particular, the GEF should be accorded recognition for its role in supporting the EE S&L programme.	DoE, PMU, SABS, NRCS
11	The project should further facilitate the analysis and development of incentive programmes. 11a: Recruit an economist with international best practice experience, and have this expert work together with national experts who have a better understanding of what types of incentives might be best suited in South Africa, in working out a thorough economic analysis of incentive alternatives. 11b: Complement the energy efficiency programme aimed at public buildings – e.g., by introducing a programme to replace electric water heaters, which would also help support local manufacturers to implement required product upgrades to fulfil the new S&L regulations for appliances.	DoE, dti, PMU
12	A knowledge management strategy should be developed and implemented. The strategy should complement the communication campaign, but also be synergised with the priorities of the UNDP CO and the GEF climate change portfolio. Furthermore, the project manager should be assisted in receiving more guidance regarding GEF climate change mitigation knowledge resources.	UNDP, PMU
13	The project should evaluate how to best add value to the MOA among Government agencies regarding coordination and streamlining information management systems associated with energy efficiency. For example, a potential project activity might be mapping out the current energy efficiency related information management systems, and identify logical interfaces, so that there is sufficient compatibility and adaptability built-in.	PMU, DoE
14	The replication strategy of the project should be expanded; e.g., by advocating regional integration of the S&L programme. This might be accomplished by organising a regional workshop for Southern African countries that would focus on dissemination of information and lessons learned on the S&L programme in South Africa. Not only would such a workshop help facilitate replication in other Southern African countries, but it could also provide an occasion for testing laboratories and industrial sector stakeholders to share information and build new partnership arrangements that might lead to increased business opportunities. A potential partner in implementing such a regional activity is the Sustainable Energy for All (SE4ALL) initiative, launched by the UN Secretary General and represented in Africa by the SE4ALL Africa Hub, hosted by the African Development Bank (AfDB) and supported by the UNDP, the African Union Commission (AUC), and the NEPAD Planning and Coordination Agency (NPCA).	UNDP, PMU, DoE
	Proposals for future directions underlining main objectives	
15	As many of the same manufacturers and importers impacted by the new S&L regulations also need to respond to extended producer responsibility (EPR) requirements, the project could provide added value to operationalisation of EPR in South Africa by: (1) incorporating EPR initiatives within the incentive alternatives being considered for the S&L programme; (2) including EPR issues in the S&L communication strategy under discussion; (3) advocating for better coordination between technical committees working on EE and EPR concerns; and (4) including EPR matters in the proposed regional workshop discussed in the previous recommendation.	PMU, DEA, DoE, dti

The evaluator concludes that the managerial response to the operational Recommendations No. 1-5 followed the standard practice. Nevertheless, as discussed above in the section Analysis of the project results framework, the indicators and target values contain several inconsistencies that hindered the reporting on project progress. The critical review of the project performance as contained in MTR Recommendation No. 6 would have been beneficial not only for post-MTR monitoring of the progress in implementation but also for TE since incorrectly formulated indicators and/or their target values impede evaluation of achievement of the project Outcomes and the Objective.

The extent of monitoring of environmental and social risks identified through the UNDP Social and Environmental screening procedure could not be fully established as the PIRs from the first 4 years of the project implementation were not available for TE. Since 2016, there was limited monitoring of the risks to the project as documented in Critical Risk Management of the 2016 and 2018 PIRs.

As discussed under Management arrangements above, the evaluator found that PSC was used as an effective tool for participatory monitoring of project progress as the PSC membership included all key project stakeholders with the exception of the Department of Environmental Affairs (DEA) that became involved only in the last couple of years of the project implementation. Since the GEF Operational Focal Point for RSA is located in DEA, for a substantial part of the project implementation period there was no direct linkage to GEF OFP.

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

UNDP and implementing partner implementation / execution

The project followed the management arrangements presented in the Project Document that were based on a common scheme for project management arrangements under the UNDP National Implementation Modality (NIM) established and implemented in the way that ensured transparency and accountability for the results and use of GEF resources, while at the same time they fostered national ownership of the project through continued alignment of the project to the national needs and priorities.

The designated national entities had duly fulfilled their roles of the National Implementing Partners and had provided overall guidance and leadership for soliciting support of officials at operational levels of the Government as well as for raising awareness of the project profile and objectives in the country. However, the support to the project was in some cases fragmented and intermittent due to frequent changes at the senior management level. In 2015-2017, successive appointment of four Ministers to serve DoE resulted in frequent internal downstream management changes. In the said period, the DoE project focal point was diffused amongst three individuals. The ministerial appointment in May 2017 led to internal restructuring of the Clean Energy Directorate and to concentration of the project focal point in a single individual.

Similar problems were experienced in SABS as the arrival of a new SABS project manager in 2016 initially brought stability and significant improvements for the entire organization but his

resignation in May 2018 triggered a period of internal instability that led to downstream personnel changes affecting also the project. For example, the management of the SABS Electro-Technical Laboratories (ETL) Department experienced two changes in a relative quick succession.

Relevant UNDP policies for recruiting personnel for development projects, where UNDP itself serves as the Implementing Partner, stipulate that UNDP provides personnel contracting services to support execution or implementation of the projects. In line with these policies, UNDP CO contracted the full-time Project Manager and coordinator (PM) for the project.

PM was contracted using the Independent Consultant (IC) modality with the Job Description (JD) Annex 3 of the original Project Document for PM. However, once the 2nd PM assumed his duties in April 2017, he found several restrictions to effective fulfillment of his duties and responsibilities according to JD. In particular, due to the rules related to the IC modality, PM did not have access to the UNDP administrative databases such as the Project Management Module (PMM) in the Atlas electronic platform.

Amongst other features, the Atlas PPM allows to perform the following tasks:

- Establish and update the Output/Outcome targets in the result and resource framework;
- Establish and update the activities plan based on the M&E framework;
- Enter and update/follow-up the project monitoring and communication plan;
- Enter, update and track the risks elements (Risks Log);
- Perform budget revisions in a simplified process;

The Project Assistant was initially recruited using the IC modality and located within DMRE without access to Atlas. Upon transfer of PA to UNDP CO, the contractual modality was converted to the Service Contract (SC). This change ensured access to the financial data in Atlas but required a period of time for PA to become fully acquainted with the Atlas platform.

Due to the continued restricted access to PPM, PM was left fully dependent on other individuals for discharging the above tasks. Lack of direct access to the financial data reduced both effectiveness and efficiency of the PM work and produced occasional frustration.

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

OVERALL RESULTS (ATTAINMENT OF OBJECTIVES)

The information presented in this section was sourced from the various project implementation reports and verified with information collected through interviews with key informants during the evaluation mission to RSA. Additional sources of information were various studies and technical reports produced by the project. The list of documents consulted is provided as Annex 5 to this report.

Relevance

The questions discussed under this section are to what extent is the project linked to the national development priorities of RSA and how is it in line with the GEF operational programmes and UNDP strategic priorities.

The S&L Project is directly or indirectly linked to several RSA policy documents and action plans related to climate change and reduction of the country's reliance on non-renewable energy.

The Electricity Regulation Act (2006) introduced a new regulatory framework for the electricity industry, with additional obligations to existing licensees to comply with energy efficiency standards and demand side management.

The National Energy Efficiency Strategy (first published in 2005, reviewed in 2009) spelled out intention to enhance decision makers' awareness of issues such as running costs and environmental costs to be be achieved by the adoption of appropriate standards, awareness and education and by the use of instruments such as appliance labeling.

The National Energy Act (No. 34, 2008) made a specific reference to S&L through regulations regarding labelling for energy efficiency purposes of household appliances, devices and motor vehicles and development energy efficiency standards for specific technologies, processes, appliances, devices and motor vehicles.

The National Regulator for Compulsory Specifications Act (No. 5 of 2008) was promulgated to administer and maintain compulsory specifications as well as technical regulations in the interest of public safety, health, environmental protection and fair trade.

The Policy on Energy Efficiency and Demand Side Management (2010) was developed to stimulate energy efficiency through enabling regulations and institutional governance structures, as well as introducing targeted financial incentives.

The Industrial Policy Action Plan 2 (IPAP2 – 2010) stated that it would target significant interventions in green and energy saving industries and development of energy efficiency work plan stipulating introduction of a mandatory S&L programme.

The National Climate Change Response Green Paper (2011) set ambitious targets for improved energy efficiency knowledge and understanding in the various sectors via awareness campaigns, demonstration programs, audits and education. The Paper made commitment to develop and implement mandatory labelling for household appliances and to introduce

Minimum Energy Performance Standards (MEPS) for appliances and equipment, as well as proposals for mandatory energy rating labelling.

Furthermore, the project is linked to the following international agreements signed by RSA:

The United Nations Framework Convention on Climate Change (UNFCCC), where SA committed to reduce its CO2 emissions by 34% till 2020 and 42% by 2025.

The Super-Efficient Appliance Labelling Development (SEAD), which is a global collaborative effort aiming to assist national governments to accelerate the establishment, expansion and updating of equipment and appliance efficiency standards and labelling programs.

The S&L Project is also aligned with the GEF strategies for climate change mitigation programming. The GEF Operational Strategy (1995) and Operational Programmes (developed from 1996 to 2000) that served as the basis for programming for GEF-1 and GEF-2 emphasized removing barriers to broader adoption of energy efficiency and renewable energy technologies. The GEF-3 strategic priorities began to shift the focus upstream toward creating conducive policy and market environments for technology diffusion.

The GEF-4 Strategic Programme 1: Promoting Energy Efficiency in Residential and Commercial Buildings continued to put emphasis on market transformation and market-based approaches through promotion of energy efficiency in residential and commercial buildings. Expected outcomes included increased market penetration of energy-efficient technologies, practices, products, and materials in the residential and commercial building markets with indicators of success such as tons of CO2e avoided, the adoption of energy efficiency standards, and the estimated quantity of energy saved. This Strategic Programme covered the entire spectrum of the building sector, including the energy-consuming systems and appliances used for heating, cooling, lighting, including appliances and office equipment.

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

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

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

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

RSA is one of 7 countries where UNDP implements interventions under the U4E initiative. Also, the S&L Project is in line with the UNDP Country Programme Action Plan for South Africa for 2013-2017 where it falls under the Priority Area 2: Climate Change and Greening South Africa's Economy.

In relation to the UN Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development, energy is being recognized as a key enabler for development through establishment of SDG Goal 7: *Ensure access to affordable, reliable, sustainable and modern energy for all.* Its indicator 7.3 calls to double the global rate of improvement in energy efficiency by 2030. Universal access to energy, a higher share of renewable energy and massive improvements in energy efficiency are now part of the top global priorities for sustainable development. In addition to direct relation to SDG7, energy efficiency is indirectly related to other SDGs as summarized in Table 9 below.

Table 9: Relation of energy efficiency to UN SDGs[10]

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

[10] Compiled from Transforming our World: the 2030 Agenda for Sustainable Development (UN, 2015), Indicators and a Monitoring Framework for the Sustainable Development Goals, Sustainable Development Solutions Network (SDSN)

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

Effectiveness & Efficiency

The principal questions to be discussed in this section are whether and how the project outcomes as well as its objective have been achieved and whether the project results have been delivered with the least costly resources possible. The further text will also highlight positive and negative, foreseen and unforeseen changes and effects produced by the project intervention.

In the series of tables below, the project results and achievements have been summarized and compared against the target indicators listed in the project's logical framework. The initial information about the project results/achievements was extracted from the project's PIRs and verified and updated through interviews and meetings held during the TE mission to RSA. Additional information was supplemented from the project-related documentation provided by the S&L Project Manager.

Tables 10 – 15 list the indicator targets for the individual outputs, summarize the delivery status at the Terminal Evaluation and provide rating for the Outputs' delivery. Each table contains an overview of the actually achieved project results in bullet points followed by a short narrative with additional insight and details on how and why the results have or have not been achieved. At the end, the narrative also explains the basis for rating of each project outcomes. The text following each table summarizes some important facts related to the project results that could not be captured in the tables but were considered important for the justification of the rating of the project outcomes.

Table 10: Deliverables for Outcome 1

Result	Indicators	End of Project Targets	Delivery Status at TE	Rating
OUTCOME 1: Policy and regulatory framework for the S&L program: Strengthen structures and mechanisms for appliance energy efficiency standards and labels (S&L)	Evidence of applicable S&L implementing regulations gazetted and enacted Evidence that relevant regulations are disseminated to key industry stakeholders	Policy/ institutional/ regulatory framework on energy efficient appliances is gazetted and enacted into law under the National Energy Act by end of 2013		
Output 1.1: Review of existing policies and regulations. Provide feedback and advice for any corrective or new action to be taken to reduce project risks	Number of stakeholders engaged in consultations Ensure any other program (energy or environmental) is identified to avoid confusion amongst consumers	Majority of stakeholders review S&L implementation regulations & approve final proposal of energy classes and MEPS thresholds S&L program extended to new set of products	Four studies on assessment and evaluation of market-based economic incentive policies (2014-2018) Three industry stakeholder workshops for review of appliance energy classes (2015)	S
Output 1.2: Evaluation of financial incentives such as the rebate program operated by the Eskom DSM for purchasing efficient appliances. Development of new financial incentives if needed	Number of existing rebate programs	Increase market share of efficient appliances	Study to identify new set of electrical appliances (2019) Review of MEPS and legislation for new appliances initiated Incentive campaign with Massmart (2019)	

Output 1.1: A study commissioned by GIZ around the project inception concluded that RSA has adequate policies and regulatory framework to support introduction of energy efficiency in household appliances. This conclusion was accepted by PSC with a proviso that new policies for incentives may need to be considered in the future.

For development of mandatory Minimum Energy Performance Standards (MEPS), manufacturers and importers of the selected white goods and audio-visual equipment were consulted in the process development of test procedures and the setting of MEPS and related regulations. Three consultation workshops were held with manufacturers for determination of the energy efficient class for electric geysers and led to agreement with the energy class B for geysers.

The project supported four studies on assessment and evaluation of market-based policies based on economic incentives. The studies identified a number of incentive schemes and assessed the related costs and benefits. The rationale for the studies were several challenges impeding effective implementation of the new energy efficiency requirements and consensus amongst all affected stakeholders that the compulsory implementation of MEPS should be supported by well-structured economic incentives and other policy instruments in order to make energy efficiency investments more attractive to both the manufacturing industry and appliance end-users.

Three industry stakeholder workshops were held for review of the appliance energy classes. The workshops were followed by a study to identify new categories of electrical appliances for inclusion in the project that was completed in 2019. Approval of the study findings and recommendations by the Government triggered the process of revision of MEPS and related legislation for new appliances. As this work goes beyond the project time boundary, it has been part of handover of the project to DoE.

Output 1.2: A study supported by the project recommended four appliance replacement or early retirement incentive programmes, namely i) an electric geyser replacement scheme, ii) a light bulb replacement plan, iii) a 340l fridge/freezer combo replacement programme and iv) free-standing freezer replacement. After careful consideration of the available budget and time it was decided to allocate the entire budget to the promotion of LED lighting.

In 2019, energy efficiency labelling promotion campaign was conducted with the country's biggest retailer Massmart (Walmart). Customers could receive a shopping voucher worth 400 ZAR upon purchase any of the Massmart A+ rated products. online and in store. More than 30 products from the washing machines and refrigerators product classes were selected across all manufacturers and across all price categories.

The campaign lasted for two weeks, from 21 May to 3 June 2019 and resulted in increased sales across the two selected product categories. While in the same period in 2018 about 800 units were sold, the campaign almost doubled the sales to 1,500 sold units.

Overall Assessment of Outcome 1: The project provided a comprehensive review of policies and regulatory framework in order to support introduction of energy-efficient household appliances. Appliance manufacturers and importers of the 12 selected appliance classes were consulted for development of test procedures, MEPS and related regulations. This consultative

process with manufacturers was followed in determining the energy efficiency classes for the selected appliances.

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

Table 11: Deliverables for Outcome 2

Result	Indicator	End of Project Targets	Delivery Status at TE	Rating
OUTCOME 2: Define labeling specifications and MEPS thresholds for the 12 products considered by the DoE & DTI for S&L regulation	Energy classes and MEPS thresholds for the 12 products included in DoE & DTI action plan	By 2012, reach an agreement with stakeholders on energy classes and MEPS requirements for the 12 products included in DoE & DTI action plan		
Output 2.1: Conduct market and engineering analysis for the products selected for S&L regulation	Cost benefits analysis conducted for the 12 products selected for S&L regulation Number of Market research and industry studies conducted. Market transformation benefits demonstrated to stakeholders.	Propose energy classes and MEPS thresholds applicable for the South African market	South Africa Geyser: Cost-Efficiency Technical Study (2014) Energy Efficiency label design and launching (2016) Cost-Benefit Analysis of technology neutral regulations to introduce minimum energy performance standards for general lighting (2019)	S
Output 2.2: Adopt labelling specifications and MEPS thresholds for the 12 products selected for S&L regulations	Labeling energy classes and MEPS adopted	Implementation of energy classes and MEPS thresholds Agreement with stakeholders on schedule to phase out inefficient appliances	VC 8043 - Compulsory Specification for Incandescent Lamps (February 2014) VC 9091 - Compulsory Specification for Single-Capped Fluorescent Lamps (May 2014) VC 9008 - Compulsory Specification for Energy Efficiency and Labelling of Electrical and Electronic Apparatus (November 2014) VC 9006 - Compulsory Specification for Hot Water Storage Tanks for Domestic Use (2016) VC 90XX - Draft Compulsory Specification for General Service Lamps	S

Output 2.1: Market and engineering analyses were completed for the selected appliance categories listed below:

- Air Conditioners
- Electric lamps
- Washer-dryer combination
- Washing machines
- Tumble dryers
- Audio & video equipment
- Electric geysers
- Electric ovens
- Fridge-freezer combination
- Freezers
- Fridges
- Dish washers

Of the twelve appliance categories, geysers were the only residential appliances with existing MEPS requirements. However, MEPS for geysers had been put in place over 30 years ago and

in the current context of energy efficiency it was considered low and ineffective. A study commissioned by the Fund for Research into Industrial Development, Growth and Equity (FRIDGE) in 2012 aimed to recommend of more stringent MEPS for geysers but yielded inconclusive results due to limited participation by geyser manufacturers. Therefore, a detailed techno-economic study including cost effectiveness was commissioned by the project with the objective to determine the projected cost to manufacturers and consumers to reduce electric geyser standing losses to varying degrees and formulate a MEPS supported by analysis of net financial impacts to consumers.

The proposed MEPS thresholds were defined and discussed with relevant manufacturers and other affected stakeholders. MEPS for appliances were as follows:

- A/C Class B
- Standby Audio and Visual
- Large electric ovens Class B
- Small electric ovens Class A
- Refrigerators Class B
- Freezers Class C
- Dishwashers Class A
- Washer-dryer combinations Class A
- Tumble dryers Class D
- Electric geysers Class B

The study on engineering and economic impacts of introducing energy efficient electric geysers was conducted by the Lawrence Berkeley National Laboratory (LBNL). As the national testing laboratories were unable to participate in the study, LBNL invited to participate the Electrical Engineering Faculty of the Stellenbosch University that had previously been actively involved in geyser or solar water heating testing, measurement and verification activities. The study concluded that efficiency of electric geysers can be improved to energy class B. This was a level higher than the energy class C recommended during the FRIDGE study. The study served as basis for preparation of Regulation VC9006.

MEPS were introduced through compulsory specifications administered by the National Regulator for Compulsory Specifications (NRCS). MEPS determine the minimum energy levels and as such prohibit market penetration of appliances with energy performance below the set minimum performance levels. MEPS for a majority of the selected appliances were promulgated through Regulation VC9008 and for hot water storage tanks for domestic use, locally known as geysers, through Regulation VC9006. MEPS for electric lamps were promulgated under two separate specifications. Regulation VC8043 covers the more efficient incandescent lamp and lays down requirements for light output (lamp efficacy) and a life requirement of >1000 h. Regulation VC9091 covers compact fluorescent lamps (CFLs).

The project stakeholders established that the regulation of lighting products in South Africa has not kept pace with the rapid advancements in lighting technology and international best practice and was not achieving the objective of removing the least efficient, lowest quality and potentially hazardous lamps from the market. Compact Fluorescent Lamps (CFLs) and Incandescent and Halogen Lamps (ICLs) are currently regulated separately, the respective

compulsory specifications VC9091 and CV8043 stipulate only basic safety and performance requirements. There are currently no safety and performance standards for LEDs. Self-ballasted LEDs (<50w) are not regulated and are only subject to voluntary standards.

Therefore, the project commissioned a cost-benefit analysis (CBA) of the proposed regulation to set MEPS for household lighting products. The technologies covered by the proposed MEPS include ICLs, CFLs, high-intensity discharge, light-emitting diodes (LEDs), and any other household light sources. The intention is that the new regulation will replace the above referenced existing compulsory specifications for CFLs and ICLs and extend the regulation to cover newer technologies such as LEDs.

The study yielded a draft Compulsory Specification for General Service Lamps (VC 90XX) that covers the safety requirements, energy efficiency and functional performance for general lighting, including both directional and non-directional lamps, and all shapes and finishes. The key technical requirements in VC 90XX fall within four main categories: energy-efficiency (efficacy); functional performance; product safety; and product information (labelling).

Output 2.2: A window for public comments on Regulation VC 9008 that covers 10 of the listed appliance categories and include the use of the label was closed in April 2014 with no significant comments made that would change the MEPS imposed by the Regulation. For implementation of VC9008, a phased approach was chosen. The 1st Phase (effective date May 2015) for requirements for audio-visual appliances with standby power < 1 Watt, the 2nd phase (effective date August 2015) for labelling and energy class requirements for white goods, such as laundry products, electric ovens, refrigerators, dishwashers, and the 3rd phase (effective date May 2016) for labelling and energy class requirements for air-conditioners and heat pumps for heating space.

A consultative process for adoption of amended MEPS for geysers took longer time due to practical issues associated with upgrading MEPS to class B, namely that the increased insulation layer on the geyser units, which was essentially the only practical way to achieve the required class B rating, increases width of the geyser units and thus presents installation challenges in majority of the existing residential housing stock.

The energy efficiency label design was conducted through a process overseen by the Label and Specifications Working Group. The label design was completed in August 2015 but the actual launch of the label was nine months later, in May 2016.

Overall Assessment of Outcome 2: The project was instrumental for introduction of MEPS and for elaboration of a product labelling system for the selected 12 categories of electrical appliances.

MEPS for 11 of the 12 appliances were developed and promulgated in 2014 - 2015 and the outstanding MEPS for electric geysers was promulgated in 2016. However, there have been challenges with the issuing of Letters of Authorisation by the NRCS that led to the postponement of the enforcement of the promulgated MEPS.

Based on the above, the achievement of Outcome 2 is rated Satisfactory (S).

Table 12: Deliverables for Outcome 3

Result	Indicator	End of Project Targets	Output Delivery Status at TE	Rating
OUTCOME 3: Strengthen the capacity of institutions and individuals involved in the S&L program.	Number of institutions audited and capacities upgraded Number of staff trained	Accreditation of testing facilities (public & private) and enforcement institution Adaptation of International/EU test procedures to the South African climatic and usage conditions when needed		
Output 3.1: Strengthen institutions (testing facilities, enforcement institution...)	Number of testing facilities audited Number of testing facilities upgraded Number of testing facilities accredited Accreditation of enforcement institution	Upgrade the existing facilities Ensure test facilities are operational, sufficient & available for compliance checking.	Audit of SABS testing facilities by Intertek (2015) Pre-accreditation assessment of SABS laboratories by SANAS (2016) Accreditation of SABS testing laboratories for VC9008 Phase 2 appliances Assessment of SABS water heater test laboratory by international consultant (2017) Assessment of SABS testing laboratories by VDE (2019) Support to Test Africa water heater testing laboratory SABS water heater and refrigerator laboratories operational (2019)	MS
Output 3.2: Strengthen employee skills	Necessary intergovernmental forums established to ensure coordinate effort Number of employees trained	Train the required number of people based on sales & number of units to be tested per year Train all staff involved on testing and enforcement on accreditation requirements & constraints Adoption of conversion factors for testing considering the South African conditions Train the required number of inspectors for trade inspections and compliance checking	Training of SABS technicians by Intertek (2015) Study tour of SABS staff to the UK (2015) Study visit of NRCS staff to South Korea International workshop with participation of S&L project managers from Ghana, Kenya, India and China (2015) Training of SABS technicians by VDE (2019)	

Output 3.1: A survey on the readiness of the national testing facilities was conducted during the second quarter of 2014. The results indicated that the South African Bureau of Standards (SABS) as well as two private sector testing laboratories, Gerotek and Test Africa, had been upgrading their facilities in anticipation of the new energy efficiency testing requirements. SABS appeared to be ahead in terms of the required test equipment and staff preparation for testing. Gerotek and Test Africa indicated that they would need assistance from the project for gap analysis and staff training. Test Africa cited lack of capital to procure the required test equipment for all tests as their testing ability was limited to testing of audio-visual equipment, ovens and geysers for which they already had obtained SANAS accreditation.

The assistance available from the project was limited to technical assistance and capacity building and did not cover procurement of testing equipment. In 2014, SABS approved a business case for upgrading its testing laboratories with the total amount equivalent to 1,3 million US$. The two private testing facilities indicated that they had been unable to find capital investment for some instrumentation.

The project procured consulting services of a UK-based test facility, Intertek, to assess the extent of requirements for the SABS testing facilities' upgrade and assisted with the design of the air-conditioner test chamber. Intertek also helped SABS to meet training requirements for

standby power that was effectual for obtaining accreditation in November 2014. Although agreement to extend the projects assistance to the other two test facilities, Gerotek and Test Africa, was reached in 2015, later the Government took a political decision to limit the assistance from the S&L Project only to public testing facilities.

Laboratory accreditation for testing VC9008 Phase 2 appliances (electric ovens, tumble dryers, dishwashers, refrigerators, freezers, washer-dryer combinations, washing machines) was given to SABS Electro-Technical Laboratories (ETL) in July 2016 with exclusions. Nonetheless, the exclusions relate to the provision of complete tests and do not restrict the UTL from provision of the required energy efficiency tests.

Around that time SABS appointed a new and more experienced manager that brought stability and significant improvements to ETL. Unfortunately, the manager's resignation in May 2018 resulted in further delays in implementation of this project component.

From 2017, ETL has been capable of fully testing water heaters in line with the national standard but experienced challenge of high volumes of the testing requirements. Since the ETL geyser laboratory was not able to handle the testing volumes created by implementation of Regulation VC9006, the project contracted a specialist consultant to evaluate the laboratory and identify necessary procedural improvements and required equipment. The assessment, which included a detailed costing, was delivered in December 2017 and a funding application was submitted by SABS to the project to pay for additional testing equipment. Due to the specialized nature of the equipment and services required, the procurement was delegated to SABS. However, notable delays occurred in the procurement which was one of the reasons for the request for the 3rd extension of the project.

In parallel, due to the long backlog for water heaters testing at SABS, the project paid for a second test bench at a private testing laboratory (Test Africa). This not only increased Test Africa's capacity for water heater testing but also prompted SABS to improve their testing service in this field and, ultimately, facilitated a more reliable and timely testing of water heaters.

In 2019, the project contracted VDE Association for Electrical, Electronic and Information Technologies (Germany) to train SABS laboratory technicians and to calibrate their test equipment. Dishwasher and ovens laboratories were waiting for physical test conditions to be stabilised (room temp as AC system has failed). Functionality of the laundry testing laboratory is being addressed with VDE.

For air-conditioners, there is no testing facility available at ETL since a completely new building facility will be required to accommodate this testing facility. The challenge is that there are not enough business cases that would justify establishment of this such a facility in light of low substantial demand for such testing services.

Uncertainty about the quantity of business cases for testing was also a challenge for allocation of human resource capacities for preparation of new testing facilities. For preparation of the dishwasher and laundry testing facilities, ETL was not able to allocate sufficient own staff due to initially low demand for the testing and had to use students as a temporary measure.

ETL is undergoing a major infrastructure overhaul with a capital and operational budget in excess of 20 million ZAR allocated by its parent Ministry. However, the full benefits of the modernization will be realized after the project closure.

In order to implement the new EE regulations, NRCS 6 additional inspectors to the existing staff of its evaluation section and used a risk-based approach (RBA) for processing applications for LoA that enabled low-risk applications to be processed in shorter turnaround times. This approach enabled to issue about 4,000 LoAs (recently approximately1,500 per year).

Output 3.2: Training of SABS staff on refrigeration, dish washers and standby power testing was provided by Intertek. The training was a part of the train-the-trainer programme in which trained senior staff members conduct in-house training of their colleagues. In addition, one SABS staff participated in training on air conditioners and visited other test facilities to gather technical information on the design of the air conditioner test chamber.

The NRCS capacity development activities were divided into the following categories:

a) Training of inspectors on the technical requirements of energy efficiency standards, exposure to energy efficiency testing procedures by witness testing, engagements with manufacturers of energy efficient appliances on the technical requirements and regulatory authorities,

b) Study visits to understand the policy frameworks in use, technical and innovation infrastructure linkages, and components of successful energy efficiency programmes deployed in targeted countries,

c) Benchmarking of international best practice in energy efficiency enforcement regimes. Study tours were used as for gaining in-depth knowledge about the energy efficiency policies, technical infrastructure linkages, enforcement systems, experiences and energy efficiency performance, and served as a basis for establishing relationships for the future training of NRCS inspectors. For example, inspectors were trained in South Korea and the UK, after initial study visits to the two countries.

By recruitment and training of new inspectors over a period of two years, NRCS added 6 new inspectors in April 2019 and increased the capacity of inspectors responsible for LoAs from 7 to 13.

Four NRCS officials participated in a study visit to South Korea. The visit had the following objectives: i) To introduce NRCS staff/inspectors to energy efficiency mandatory requirements and product labelling, ii)To familiarise inspectors with energy efficiency test procures and verification of compliance, iii) To observe and actively participate in market surveillance and enforcement activities to ensure compliance with energy efficiency regulations.

Two workshops with local and international experts on economic incentives and compliance enforcement were held on August 27-28 2015. The workshop participants included representatives from NRCS, CLASP, SEAD, University of Pretoria, National Treasury, the DTI, DoE and S&L project managers from Ghana, Kenya, India and China.

A four-day study tour to the UK was undertaken in July 2015. Participants selected from PSC and the Working Groups established under the PSC were introduced to policies supportive of introduction of EE standards and potential incentives for manufacturers and consumers. They

also shared experiences on monitoring and enforcement regimes under the S&L Project discussed areas of future collaboration in key project areas.

In addition to the above, there were several other capacity building activities, including NRCS attendance of a training course and discussion at the European Council for Energy Efficient Economy (ECEEE) in Brussels paid by the project participation in the Energy Efficiency in Domestic Appliances and Lighting (EEDAL) conference (paid by own NRCS funding). Also, officers from the DMRE modelling and from SANEDI attended training in the Lawrence Berkeley National Laboratories (LBNL) on LEAP. The project also invited experts from LBNL to provide training in RSA as well as trainers from the Collaborative Labeling and Appliance Standards Program (CLASP) and IEA.

Overall assessment of Outcome 3: While there has been notable improvement in the readiness of SABS testing facilities and NRCS capacity for MVE, there are still persisting concerns of the affected industry representatives with regards to the existing capacities of the two agencies to introduce and enforce MEPS regulations.

Although the project assisted in strengthening the SABS testing laboratories, there are persisting gaps in the national capacity performance testing of certain products against the specifications. SABS testing laboratories are under a major overhaul and private laboratories do not invest in the required equipment. SABS does not currently have the testing equipment to be able to conduct necessary checks for some appliances, and they require a supply agreement with the NRCS for consistent volumes to justify the investment in equipment for the new VC.

Since the start of the program, the LoA turnaround time has been reduced from over 120 days to an average of approximately 70 days. Despite the recent improvements in the registration of applications for LoAs, there was only little evidence of a systematic and periodical market surveillance activities by NRCS. For example, the air-conditioning baseline study found that about 25% of the air-conditioners on the market did not have LoA. Although the matter was communicated to NRCS, there was no investigation of this issue.

No products had yet been sent for testing against the existing lamp VCs. SABS currently does not have necessary testing equipment to be able to facilitate the checks for the new MEPS for LEDs, and they would require a supply agreement with NRCS for testing application volumes that would justify the investment in the equipment for the new VC.

Lack of MVE activities by NRCS allows unregistered products to appear on the market and distorts the overall perception of the MEPS enforcement system. Moreover, insufficient market surveillance does not ensure continuous flow of testing samples essential for funding of the required laboratory testing facilities. Furthermore, the NRCS Act reportedly does not allow for penalties (fines) to be levied directly by NRCS on non-compliant suppliers. Inability to use penalties as part of the enforcement process, sends wrong signals to importers of non-compliant products.

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

Table 13: Deliverables for Outcome 4

Result	Indicator	End of Project Targets	Delivery Status at TE	Rating
OUTCOME 4: Awareness raising campaign for standards and labels, targeting manufacturers, distributors, retailers and end-users	Consumers and retailers become more aware of appliance energy efficiency standards and labels and retailers via sampling and surveys	At least 50% of consumers and retailers contacted (within the sample group) become more aware of appliance energy efficiency standards and labels and retailers provide evidence of marketing efforts to support the scheme		
Output 4.1: Test and adopt label design	Number of dissemination activities offered to consumers and retailers Number of consumers (particularly low incomes) and retailers covered by dissemination activities	At least 50% of consumers and retailers contacted (within the sample group) are able to understand the meaning of the label and its benefits	Consultation workshop on EE label design (2015) A Guide for Energy Efficiency Labelling (2016) EE label launched by the Minister of Energy (May 2016) Market surveillance by NRCS (2017) Market research by Vital Light SA (2019)	S
Output 4.2: Develop communication campaign towards manufacturers, importers, distributors, retailers and consumers about appliances' energy efficiency	Number of dissemination activities offered to each category Number of people covered by dissemination activities	A statistically relevant sample of households will be drawn on to determine the market penetration & effectiveness of the project Ensure consumers distinguish between MEPS & extra financial benefits of exceeding MEPS voluntarily At minimum the staff of top 10 manufacturers, distributors are aware about S&L programs	Communications and awareness plan (2016, revision 2017) Communication and awareness campaign release (May 2018) A dedicated S&L website www.savingenergy.org.za Free mobile application on Google and iPhone Social media campaign Lighting awareness campaign	MS
Output 4.3: Develop and deliver training programs for distributors and retailers' staff	Number of trainings delivered Numbers of trainers involved	Retailers and distributors able to deliver S&L message to end-users	A training module for retail staff on energy efficiency and use of the energy efficiency label (2016) Training workshops for retailers and distributors (2018) On-line training facility (2018)	S

Output 4.1: Before the start of the project, DoE conducted a survey in 2011 to test the EU-based label if the energy efficiency label of the time was easy to comprehend and able to be used as a tool for decision-making. The study concluded that was acceptable, consumers were able to understand its purpose and they could discern between the most efficient and least efficient appliances. In 2015, a service provider contracted by the project reviewed the design of the label in consultation with key stakeholders, including the established project WG on Specifications and Labelling. The process concluded with a workshop in September 2015 with participation of manufacturers, retailers and distributers. To support the label roll-out, a Guide for Energy Efficiency Labelling was prepared to assist manufacturers and distributers with understanding their obligations regarding EE labels and to determine the correct dimensions for the label printouts.

The label was officially launched by the Minister of Energy in May 2016. Research work was conducted afterwards to ascertain whether 50% or more of consumers and retailers are able to understand the meaning of the label and its benefits. Initial one-month long market surveillance of retail floor sales staff conducted by NRCS in 2017 in all major cities found that recognition

and understanding of the label was only at 15%. This finding demonstrated the urgent need for additional training and media campaign.

The project contracted a consulting company to conduct market research in order to establish results of the social media campaign competition and survey for energy efficiency. Across the sample of 5064 responses, 79.3% of respondents indicated awareness of the Energy Efficient label and proved a positive impact for the S&L programme for energy efficiency.

Output 4.2: The project experienced serious delays in appointment of a service provider to assist with development and implementation of a communications plan. The reason for the delays was lack of agreement on the funds transfer modalities between the Executing Agency (DoE) and UNDP in the first two years of the project implementation. In August 2015, after finally reaching agreement on the funds transfer modality, DoE formally requested UNDP to assist with the procurement of the communications company.

In October 2015, the project appointed a service provider for developing and implementing a communications and awareness plan. The latter plan was finalized in March 2016 and outlined components and steps of the awareness and communications campaign. It was expected the awareness and communication campaign could be executed by the Government Communication and Information Services (GCIS) agency. But excessive delays in contract negotiations and concerns about GCIS institutional capacity prompted PSC to abandon this approach and appoint an independent media coordinator to take responsibility for the implementation of the communication plan.

The media coordinator, appointed in October 2017, reviewed and refined the existing plan for the communications campaign. However, rollout of the campaign took longer than expected and the campaign commenced in May 2018. It consisted of the following:

- A dedicated S&L website www.savingenergy.org.za
- A free mobile application on Google and iPhone
- Half-page advertisements in weekend and daily newspapers
- Interviews with DoE officials in national and local newspapers and in national radio broadcasts
- A two-week online media advertising campaign (15-30 June 2018)
- Lighting awareness campaign in early 2020

The campaign culminated with a visit of the Minister of Energy in a major appliance store in Johannesburg and a press conference with participation of Minister and the UNDP Resident Representative. This was followed by the launch of the mobile application and unveiling of the mascot of the EE programme “Captain Energy”. The project also established presence on social media (Facebook and Twitter) and made available short promotional and educational videos on these electronic platforms.

A survey undertaken in January 2019 with over 5500 consumers established that about 90% of the respondents identified the label and 85% found it useful. This was a notable improvement on the situation in 2017 and proved effectiveness of the awareness campaign. However, the survey also found the highest level of awareness in the upper income markets and proposed that

lower income markets would need more active campaigning to boost awareness in this sector of the population.

Output 4.3: A training module for retail staff on energy efficiency and use of the energy efficiency label was designed to prepare retail sales personnel to understand the energy efficiency labelling and to advise on consumer benefits of using energy efficient appliances. The content of the training module was included in a pocket brochure to provide quick access to the information for sales staff.

Although conduct of the training was prioritized to precede the communication and media campaign, the training was not undertaken in 2016 as expected. The reason for the delay were procurement issues related to appointment of a qualified company to conduct the training. Only 2 proposals were received as a response of the ToR issued by UNDP and the winning bid was disqualified at the request of DoE. After the ToR was re-advertised, a service provider was finally appointed in Q3 2017. The consultant reviewed and further developed the training module and delivered via free training workshops for the retailers' staff. Furthermore, an online training facility was made available for individuals who were not able to attend the workshops. The training was completed in May 2018.

Overall Assessment of Outcome 4: The mass publicity campaign in newspapers, radio, and television was undoubtedly the key piece to raise consumer awareness about benefits of energy efficient appliances and contributed to recognition of the EE label by the appliance end-users. Although it was commenced relatively late and lasted only for a short period, the campaign proved to be effective after all. However, the fact that related training of the retailers' staff was delayed for almost 2 years after the development of the training module shows insufficient coordination and harmonization in implementation of the campaign and the retailers' staff training.

Based on the above findings, the overall achievement of the Outcome 4 is rated Moderately Satisfactory (MS).

Table 14: Deliverables for Outcome 5

Result	Indicator	End of Project Targets	Delivery Status at TE	Rating
OUTCOME 5: Implementation of S&L Market Surveillance & Compliance (MSC) regime to ensure energy performance standards is met	MSC procedures adopted and implemented Number of models/product excluded from the S&L program	Minimum number of products sold in the market (ratio TBD for each appliance type) which don't comply with the S&L requirements		
Output 5.1: Development of MSC procedures for regulated products	MSC procedures adopted	Dissemination of MSC procedures Train NRCS staff on MSC activities and compliance procedures	Study tours of NRCS inspectors to UK, Brazil and Australia (2015) One-month surveillance of market (2017) Study on impact of VC 9006 by the Stellenbosch University (2019) Market surveillance on VC9006 appliances (August – November 2019)	MS
Output 5.2: Integration of product energy performance compliance checking with local manufacturers and country pre-import inspections.	MSC procedures implemented	Develop database of S&L products	Baseline data study for 12 appliances Energy Efficiency Product Database Applicant User Manual for the database Consultative workshop and training on usage of the database	MS

Output 5.1: The original plan developed in 2014 was to appoint the UK National Measurement Office for assistance with development of the NRCS market surveillance and compliance procedures. As this plan did not materialise, NRCS conducted an internal audit of their MSC system. The audit was not successful and the project initiated a process to appoint an external service provider to fulfil the role of the Enforcement Coordination Officer to work with NRCS.

In February/March 2015, four NRCS inspectors participated at training at Intertek Laboratories in the UK that included visit of the National Measurement Office. This was followed by a study tours to Brazil later in the year that included a LED manufacturing plant and a testing facility. In addition, the team was involved in conducting market surveillance for the EE label in Rio de Janeiro retailers. NRCS managers and an inspector together with representatives from DMRE visited the national EE standards regulator, a testing laboratory a water heater manufacturing plant.

In June 2017, NRCS undertook a market surveillance operation in all major cities in South Africa. The operation found serious deficiencies in the implementation of the appliances' labelling, including poor understanding of the label by retail staff and lack of compliance with the labelling procedures. Only about 10-15% appliances were found compliant while the rest either did not have the correct label or did not have one at all. The PMU responded by prioritizing the communication and awareness campaign and further training of retailers and distributors (Outputs 4.2 and 4.3, respectively).

The project contracted the Stellenbosch University to conduct a study to investigate the impact of the new regulation VC 9006 on the hot water storage industry and to establish reasons for lack of compliance with VC 9006 that included two stakeholder workshops with manufacturers, importers, industry bodies, NRCS, SABS and short-term insurance industry.

In August 2019, NRCS started a market surveillance campaign on VC 9006 appliances (geysers) and engaged with all geyser manufacturers in order to assess their readiness to manufacture energy efficiency Class B geysers and supervising the market for sale of existing stock of non-compliant products (Class D and C). Major retailers were inspected across the country and sanctions were administered on non-compliant products as provided for under the NRCS Act. Follow-up inspection with retailers was conducted in November 2019 in conjunction with the National Consumer Commission, a consumer regulator. The review resulted in confiscation of non-compliant geysers.

Another event of market surveillance by NRCS resulted in capture of non-compliant incandescent lamps and compact fluorescent lamps and destruction of 1,254 million lamps in the period August 2019 - February 2020 at a crushing plant in Pietermaritzburg.

Despite the above activities, representatives of the industry raised concerns regarding the NRCS effectiveness, namely about the frequency of market surveillance and verification as well as ability to enforce the existing regulations. The lack of enforcement was recognized by DoE who formally communicated with CEO of the regulator and its parent ministry to raise its concerns about the regulator performance and commitment to date. Moreover, DoE contracted a legal adviser to evaluate and comment on the existing legal framework governing compliance. The legal analysis found the 2008 NRCS Act deficient for the purposes of S&L and provided recommendations for consideration of Ministers in charge of DoE and DTI. Based on the recommendations, it was proposed to conclude a Framework Agreement between DoE and the other implementing partners to provide a legal framework for each of the partners to execute their allocated duties and functions.

Output 5.2: This output was implemented in two phases. The first phase consisted of determination of baseline for the projected electricity demand reduction and related GHG emission reductions resulting from improvements in energy efficiency of listed appliances. The baseline project went through a consultative process with key project stakeholders to determine the database use cases. Energy data collected during the baseline study was used to calculate energy and GHG emission reduction.

The second phase focused on developing specification and methodology for populating the database in the form of a database input template for required data for the selected 12 appliance categories. Training on the use and querying of the database and a consultative workshop with manufacturers to discuss requirements for annual submission of data on selected appliances were held in February 2015 following the handover of the database to DoE.

The database enables on-line registration of appliances with much less intervention from personnel. Manufacturers submit the registration online and regulators provide feedback on-line, thus reducing the time that had previously been spent on back-and-forth communications by postal or electronic mail. In comparison with the previously used reviewing and updating hard copy materials, the on-line registration database significantly reduces staff time required for processing applications, e.g. verifying product data against standard requirements. Consequently, staff of the regulator is able to devote more time to processing other aspects of registration and enhance thus the overall efficiency of the process.

DoE authorised NRCS to facilitate the product registration processes and to undertake monitoring, verification and enforcement functions. NRCS is therefore responsible for administration, maintenance, and enforcement of compulsory specifications and technical regulations in the field of energy efficiency. Historically, NRCS has administered the regulation of health and safety standards and the administration of Energy Efficiency Standards has been thus added to NRCS's core business. NRCS collects all fees payable in relation to registration and sale of regulated products and applies the fees to the administration task.

Overall assessment of Outcome 5: There were relatively few energy efficiency specific market surveillance activities undertaken by NRCS. Verification activities relating to energy efficiency are currently restricted to the regulator. Currently, there are no other verification channels from the regulator side, such as publicly accessible databases or a visible mark of approval on a product that could be employed by retailers and consumers to check's supplier conformity.

For a major part of the project implementation period, the turnaround time for appliance registration through issuance of LoA was very long. Substantive improvements were expected through introduction of an on-line electronic database of energy-efficient products. However, there was a notable delay in the launching of the EE product database for on-line registration of applications. Although the database had been developed back in 2015, it was not maintained because the project implementation partners could not reach agreement as to the responsibility for maintenance of the database. Late launching of the EE product database contributed to the backlog of registration applications faced by NRCS.

The challenge of not having enough accredited testing facilities in the country makes it difficult for the NRCS Electro-Technical Business Unit to sample and take products for testing. Due to the currently evident testing backlogs, test results can take very long. This constitutes a bottleneck affecting the NRCS MVE processes for energy efficiency regulation. The few accredited local testing facilities are not even in a position to provide the required testing services for all the products covered under energy efficiency compulsory specifications.

Based on the above findings, the overall achievement of the Outcome 5 is rated Moderately Satisfactory (MS).

Table 15: Deliverables for Outcome 6

Result	Indicator	End of Project Targets	Delivery Status at TE	Rating
OUTCOME 6: Development of Monitoring and Evaluation (M&E) capacity	Skilled South African professionals trained on M&E of energy projects	All those skilled South African professionals trained demonstrate appropriate level of knowledge		
Output 6.1: Replication of S&L programme for new set of products	Work plan to replicate the S&L for new set of products	Extend S&L program for other appliances and equipment	Review of South Africa's Appliance Energy Classes and Identification of the Next Set of Electrical Equipment for Inclusion in zhe National Standards and Labelling Project: New Electrical Appliances (September 2018) 8 Industry stakeholders workshops (April 2019)	S
Output 6.2: Implementation of Monitoring and Evaluation methodology for S&L programmes	Number of staff trained on M&E of S&L programs Launching of metering campaigns and data collection studies	Make M&E activities part of the whole process Record lessons learnt	None	

Output 6.1: There were no activities on this Outcome in the early years of the project period and implementation commenced only at the end of the first project extension period in summer 2017.. For extension of the S&L Project to a new set of electrical appliances, the work on review of South Africa's appliance energy classes and identification of the new set of electrical equipment started in fall 2017. A consortium of consultants appointed for this task conducted market and engineering analysis as well as an international review of policies for potential products. The most suitable electrical equipment categories that could be covered by new future MEPS in South Africa were identified and assessed using a staged approach from initial screening and profiling of shortlisted electrical equipment through identification of suitable and desirable MEPS and impact assessment to elaboration of an implementation plan.

From an initial list of more than 70 potential products, the initial screening shortlisted thirteen electrical products for new MEPS consideration. Upon the completion of the screening, the study examined the market and industry profiles for all the thirteen shortlisted electrical products as well as identified the suitable MEPS levels based on global practices. The output from the assessments and suitable MEPS level identification exercise for the thirteen products was presented to PSC who narrowed the shortlist to eight electrical product categories that were subject to an impact assessment and further considered for preparation of the implementation plan.

The following 8 appliance categories were selected for extension of the S&L approach:

- Electric motors
- Chillers
- Computers
- Pool pumps
- Distribution transformers
- Televisions
- Commercial refrigerators
- External power supplies

A 5-year roadmap was developed for development and implementation of MEPS including preparation of technical regulations and energy efficiency standards as well as developing or upgrading national testing capacities.

Output 6.2: This Output was not implemented by the S&L project. It will be addressed by a follow-up GEF-funded, UNDP implemented project on high-efficiency LED lighting and distribution transformers. It also expected that the financing for the follow-up project will assist in addressing the other 7 appliance categories listed above.

Overall assessment of Outcome 6: The work under Output 6.1 reviewed the market and industry specifics, as well as providing MEPS recommendations for eight electrical appliances/equipment. Implementation the new MEPS is envisaged to yield substantial energy and GHG emission savings in South Africa.

Based on the above findings, the overall achievement of the Outcome 6 is rated Satisfactory (S).

Achievement of the Project Objective:

The overall objective of the project was to reduce greenhouse gas (GHG) emissions caused by the electricity consumption of household appliances in South Africa by facilitating a comprehensive transformation of the home appliance market through the introduction of a combination of two regulatory tools – Minimum Energy Performance Standards and Information Labels (S&L) – and a series of associated awareness-building and monitoring activities.

Status of achievement of the Objective is summarized in Table 16 below.

Table 16: Status of achievement of the project objective

PROJECT OBJECTIVE			
Indicator	**End of Project Targets**	**Delivery Status at TE**	**Rating**
KWh of electricity demand reduction in the residential sector by year 5 of project implementation Tons of CO2 emissions reduction by year 5 of the project implementation	Increase awareness of energy efficiency Increase market share of high-efficient appliances Reduce electricity demand by 4.41 TWh over the project time Reduce CO_2 emissions by 4.54 $MtCO_2$ over the project time and by	South Africa's Appliance Energy Efficiency Standards and Labeling Program: Impact Assessment (2019) Estimated energy savings 2.15 TWh by 2020 and 5.55 TWh by 2030 Estimated CO_2 reductions 3.7 Mt in 2030 and 5.8 Mt in 2040	S

Although the S&L Project was effective in achieving a majority of the expected results after all, due to the implementation delays it was not possible to determine the actual impact that the project has had over the project time on transforming the appliances' market and reducing the electricity demand and CO_2 emissions. However, the project commissioned several studies aiming at estimates of medium- to long-term impacts of the introduction of mandatory EE standards.

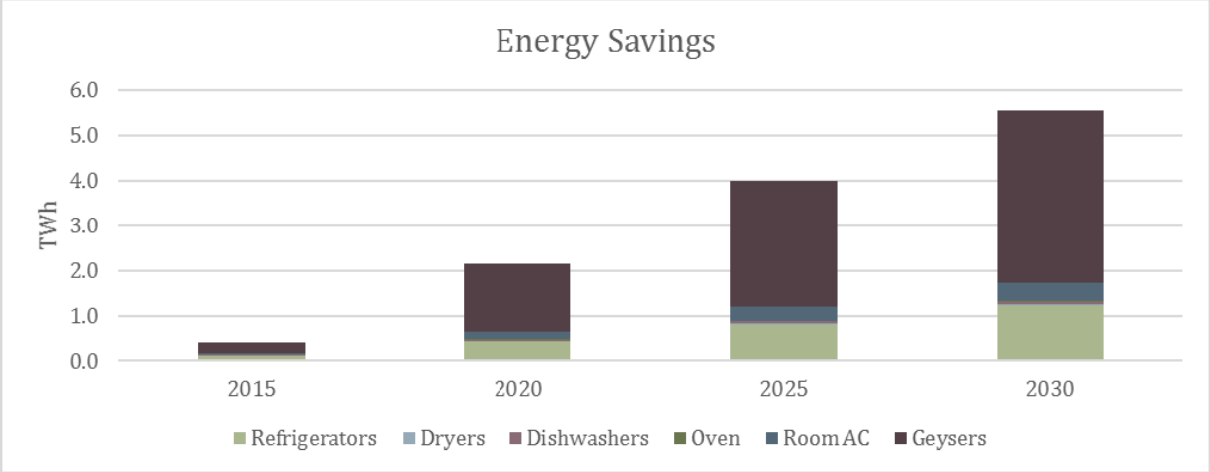
The lifetime direct GHG emissions avoided in the Project Document target of 4,543,576 tonnes CO2eq was based upon expected reductions over the 5-year timeframe of the project. In 2014, an estimate of lifetime direct GHG emissions avoided (5,490,000 tonnes CO2eq) was made

based on a post-project forecasted scenario by the year 2030[11]. Another report published by DEA estimated the total potential emissions abated from "Energy Efficient Appliances – Residential Buildings" at 47,676 ktCO2e for the period from 2000 to 2050.

The baseline and energy efficiency scenarios were based on a detailed analysis of the market share of different energy efficiency grade levels. The DMRE and UNDP conducted several studies to determine the market share of the efficiency level for each piece of equipment covered by the standards implemented in 2016. In 2019, the project in collaboration with the Lawrence Berkeley National Laboratory under the Super-efficient Equipment and Appliance Deployment (SEAD) initiative, produced a study to assess the energy savings impact and the multiple benefits of the implemented S&L Project in South Africa[12].

According to the study, the set of MEPS approved under the VC9008 are expected to achieve 2.15 TWh of savings by 2020 and 5.55 TWh by 2030, as shown in the Display 2 below.

Display 2: Estimated energy savings from implementation of EE standards



It follows from Display 1 that improvement of energy efficiency of water heaters (or geysers) is by far the largest source of electricity savings followed by refrigeration and air conditioning. Therefore, the new MEPS and related regulation for geysers was a major step forward with the introduction of a B standard to the market originally dominated with technologies at D/C level. Energy savings from energy-efficient refrigerators and air conditioners are the next largest source of energy savings.

Furthermore, the study established that implementation of energy efficiency standards will reduce CO_2 emissions by 3.7 Mt in 2030 and 5.8 Mt in 2040. Additional environmental benefits include avoiding particulate emissions, sulfur oxide (SOx) emissions, and nitrogen oxide (NOx) emissions Last but not least, implementation of the EE standards brings along improvement of air quality characterized by the inhalable fraction of particulate matter (PM10) and other pollutants as it contributes to reduce a country's morbidity and mortality rates.

[11] South Africa's 1st Biennial Update Report, DEA, 2014
[12] South Africa's Appliance Energy Efficiency Standards and Labeling Program: Impact Assessment, DoE and USAID , 2019

Investments in energy efficiency bring multiple benefits, including increased access to energy services, enhanced reliability of a country's energy system, mitigation of environmental and other harm from fuel combustion and contributions to economic development, as summarized in Table 17 below.

Table 17: Multiple benefits from implementation of EE standards

2030	2040
5.5 TWh of annual electricity savings	9.6 TWh of annual electricity savings
15.1 billion rand of annual energy bill savings, representing an average annual bill saving of 683 rand per household	24 billion rand of annual energy bill savings, representing an average annual bill saving of 978 rand per household
Reduction of 3.7 million tons of CO2 emissions	Reduction of 5.8 million tons of CO2 emissions
Water savings of 6.5 billion litres	Water savings of 8.3 billion litres
Reduction of 2.5 million tons of coal burned	Reduction of 3.2 million tons of coal burned
Avoiding emissions of the following atmospheric pollutants: • 4 kt of particulate emissions • 4.3 Mt of SOx emissions • 23 kt of NOx emissions	Avoiding emissions of the following atmospheric pollutants: • 6 kt of particulate emissions • 5.0 Mt of SOx emissions • 25 kt of NOx emissions

Despite the satisfactory rating the project effectiveness, some of the initial barriers impeding the wide-spread uptake of energy efficient residential appliances still persist, namely capacity barriers for enforcement of the EE standards, awareness barriers, as well as cost barriers related to the low purchasing power of some income segments of the consumers sector. In order to proceed to effective transformation of the appliance market, it will be particularly essential to continue awareness-raising activities for consumers and to further strengthen the testing laboratories and the regulatory MVE process in terms of infrastructures and staff capacities.

Based on the above findings, the overall achievement of the project objective is rated **Satisfactory (S).**

Efficiency

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

The Project was approved for a period of 5 years (September 2011 to September 2016) but the original project period was extended three times. At first, a 12-month extension was granted until September 2017 and was followed by a 18-month extension until March 2019 that was based on a number of clear conditions and milestones to be met. Ultimately, yet another 12-month extension was granted until March 2020. With the three extensions, the total length of the project implementation period was 8.5 years.

The official project starting date was September 2011 but it took 1.5 years until April 2013 to recruit the first Project Manager. Reportedly this delay was due to internal restructuring of the UNDP CO at that time but more concrete reasons for the prolonged recruitment were not given at the time of MTR and, due to the length of the time and staff changes, the reasons could not be established by TE.

Although the PM appointment was quickly followed by organization of the Inception Workshop, significant implementation delays persisted even after IW, largely due to the long standstill in project funds transfer from the UNDP CO and the national Implementing Partners. Only 345,000 US$ (8%, of the GEF grant for the project) had been disbursed by April 2015.

As much as the evaluator could establish, complicated governance at DoE was the main reason for the funds transfer standstill in 2013-2015. The situation was finally resolved in August 2015 when MoU was concluded between DoE and SABS that appointed the latter to be the project fund administrator and to procure goods and services for the project.

Understaffing of PMU was another reason for low efficiency of the project implementation. Although the Project Document envisaged PMU to be staffed by four individuals, in reality it had been composed only of the single PM until mid-2015 when the Administrative Assistant was finally recruited. Moreover, the positions of the two technical coordinators for SABS and NRCS had not been manned from the beginning of the project and recruitment for the two positions was conducted only after a couple of years.

The administratively complicated procurement at DoE was the main reason for the initial funds transfer standstill but the delegation of procurement to SABS was a way off perfection. The project experienced severe delays in recruitment of consultants and service providers due to complicated procurement processes. Overall, the SABS procurement system did not function well, particularly as the organization faced notable governance challenges. The imperfections in the procurement systems forced PMU/PSC to occasionally resort to complicated procurement execution patterns as for example in the case of tendering for services of a media coordination agency. PSC meeting in August 2017 decided that SABS would make the appointment of the service provider but also that UNDP would make direct payments to the latter upon receipt of invoices.

At some point in the project implementation, the responsibility for procurement was moved to UNDP. However, use of the UNDP procurement function did not bring along the desired acceleration of procurement events, particularly due to the mandatory financial approval thresholds and lack of stand-in arrangements for procurement staff in cases of prolonged absence.

At certain point the project got close to cancellation for lack of progress towards meeting its objective by the initially scheduled closure date. After the contract of the 1st PM had not been renewed in September 2016, it took about 6 months to recruit the successor. The delay in recruitment was probably result of a key turnover in the CO as new staff came on board in November 2016. Since the appointment in April 2017, the new PM needed some time to build relationships with the project stakeholders and become acquainted with the project. Nevertheless, due to the delayed PM recruitment a major part of the first 12-month extension period was essentially wasted.

Nevertheless, the arrival of the new Project Manager combined with approval of the 2nd extension resulted in a remarkable turnaround and renewed trust between the PMU and the main project stakeholders and has proven critical to the successful gathering of momentum for implementation.

Out of the total 8.5 years of the project, 24 months (September 2011-April 2013 and September 2016-April 2017) were wasted in recruitment of the Project Manager. Another 24 months (September 2013-August 2015 was marked with slow implementation caused by the funds transfer impasse. The total extension of the project by 3.5 years.

In many cases extensions of GEF projects, although at no cost to the donor, result in overspending on project management as the projects pay for the cost of prolonged existence of PMU. However, in this particular case, PMU was practically vacant for almost the first two years and then manned by a single PM with later addition of the Administrative Assistant. Also, the two technical coordinators for PMU were not appointed. Consequently, the increase of project management cost in comparison with the panned budget was only marginal

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

Country ownership

In the situation of the funds transfer standstill in the first two years of the project implementation, it progressed with some activities largely owing to co-financing provided by the Government Implementing Partners. This included several key activities of the project, including DoE-funded studies on EE and S&L requirements and on incentives for uptake of new energy efficient appliances, as well as updates of the baseline estimations for energy and GHG emission savings. DTI co-financing grant was provided for upgrading of SABS testing laboratories, combined with own SABS funding. Further co-financing by SABS and NRCS was provided for drafting and promulgation of EE standards and related regulations.

Although the co-financing indicates certain level of country ownership, DoE as the lead national Implementing Partner did not enjoy full support of the senior management. Although the project had organized regular PSC meetings, the Chief Director of the Energy Efficiency Division, designated to chair the meetings, was often unable to participate. In such cases chairing of the PSC meetings was delegated to different people, either from mid-level management of DoE or DTI. This resulted in some inconsistencies in the project governance. The MTR reviewer recommended to assign the chairpersonship responsibility of the PSC one level down to the Director of Energy Efficiency Initiatives while the previous Chief Director of the Clean Energy Division would provide regular strategic advisory support. The management response to the recommendation was to put this topic for discussion with the Chief Director and DDG for consideration. However, it is not clear when was the recommended follow-up action actually completed and when the PSC chairmanship actually changed as the PSC meeting minutes from the period consecutive to MTR (2015 and 2016) were not available for TE. It is supposed that the PSC chairmanship change was effectuated in the second half of 2017 as the first three PSC meetings in 2017 were chaired by the UNDP Head of Energy and Environment Programme.

Nevertheless, active participation of DoE, SABS, SANEDI and NRCS in the project management and coordination indicate strong commitment to the project objectives and ownership of the planned results at the operational level of the participating agencies. The

ownership of the project by senior management of the national implementing partners appeared to be weaker than that.

Mainstreaming

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

Participation of women and men in the development and transfer of new technologies differs, mainly due to the fact that fewer women than men pursue training in science, technology and engineering that provide the necessary skills that contribute to innovation and technology development. As a result, women's knowledge tends to be disregarded in the development and deployment of energy-efficiency technologies and solutions.

The project was designed before the issuance of the GEF Policy on Gender Mainstreaming[13] that expresses GEF's commitment to enhancing the degree to which the GEF and its implementing agencies promote the goal of gender equality through GEF-funded projects. Therefore, the project results framework did not include gender-responsive indicators.

MTR Recommendation No. 10e required the communication service provider address gender issues in the communication strategy but there was no follow-up on the recommendation Also, there was no gender-focused reporting in the available PIRs and PSC deliberations, particularly in the parts related to activities on strengthening institutions and employees under Outcome 3. The reporting of gender-related data would be in line the UNDP institutional mechanism to ensure accountability for delivering gender equality results.

Some information on involvement of women in the project was available, for example a majority of the consultants used by the project in the last three years were women. Nevertheless, the project did not systematically collect gender-disaggregated data on participation in other activities, such as capacity building and market research and surveillance.

It is recognized that gender equality and the empowerment of women and their access to sustainable energy have a significant positive impact on sustainable economic growth and inclusive social development, which are key drivers of poverty alleviation and social progress. Due to different roles, perception and opportunities for men and women in contributing to and benefiting from energy-efficient technologies, it is important to ensure that gender relations are taken into consideration in future interventions on S&L for energy efficiency.

[13] Policy on Gender Mainstreaming, Global Environmental Facility, May 2012

Sustainability

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

Institutional framework and governance: The development and promulgation of energy efficiency standards and the supporting regulations has created a sound legal and institutional framework. The standards and regulations have been endorsed by the Government and implemented. Aligning these standards and regulations with international best practices, including the norms and guidelines of the European Union, further strengthens the overall legal and regulatory framework. All this indicates a high level of institutional commitment to improving energy efficiency and reduce thus demand for electricity.

There are, however, risks with respect to the testing and regulatory dimension of the S&L programme on energy efficiency. Concerns have been raised regarding the regulator's effectiveness and ability to thoroughly perform the monitoring, verification and enforcement (MVE) of energy efficiency compulsory specifications.

The NRCS Electro-Technical Business Unit (ETBU) that is responsible for the regulation of energy efficiency compulsory specifications is also involved in regulating the safety of electro-technical products. At present, the Unit utilises the same staff, budget, and processes to implement its mandate concerning both safety and energy efficiency compulsory specifications. Furthermore, the Unit is also mandated by other organs of state to assist them with implementing certain aspects of their respective mandates. Consequently, only about 25% of compulsory specifications administered by ETBU relate to energy efficiency.

Since the promulgation of MEPS and related regulations, NRCS had a significant backlog with respect to issuing Letters of Authority for certification of appliances. The situation has recently improved with launching of the EE product database so the ETBU officers spend considerably less time in the process of registration of the applications from industry and importers and are able to devote more time to actual evaluation of the applications. Yet, concerns still persist on lack of internal consistency for evaluation of applications by ETBU officers and on relatively low frequency of specific market surveillance activities on energy efficiency. All this resulted in some level of frustration in the industrial sector, and a general lack of confidence as to the thoroughness and consistency of enforcement of the new EE regulations.

There are also reservations related to the capacity and readiness of the SABS Electro-Technical Laboratories (ETL) to effectively support energy efficiency regulations that directly affect the NRCS MVE processes for energy efficiency regulation. The reservations are related to the existence of only few accredited local testing facilities that are not even in a position to provide the required testing services for all the products covered under the energy efficiency compulsory specifications. Although SABS is currently implementing a project for overhaul of their electro-technical testing laboratories, this will require considerable time for completion.

One month before the completion date, the project does not have an explicit exit strategy and a sustainability plan. However, DoE has identified SANEDI as the institution to ensure coordination of the future S&L activities and has made arrangements for smooth handover of the coordination function on future S&L activities to SANEDI.

There is a consensus amongst some members of the electro-technical divisions of SABS and NRCS on the need to continue improving the current working relationship between their organisations. In this regard, DMRE, DTI, NRCS and SABS have been negotiating a Framework Agreement through which the above parties will interact with each other in order for further promotion, provision of support and information in order to assist the future implementation of the S&L interventions.

Knowledge management is part and parcel of the created institutional framework. The project has established a dedicated website for all studies and other documents produced by the project and the project stakeholders have made arrangements for maintenance of the website for a period of one year after the project closure.

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

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

The main risk for financial sustainability of the S&L EE programme is the fact that both the regulator (NRCS ETBU) and the national testing facilities (SABS Electro-Technical Laboratories (ETL) do not receive any core funding from the Government.

ETBU sustains its activities through revenue from levies for compulsory specifications and service-based income. The fees from LoA applications are the business unit's predominant revenue source. The above implies that LOA registration and approval processes are critical for ETBU's overall revenue generation ability in quantity as well as in time. The realised revenue is critical in ensuring that sufficient resources are secured and devoted towards the business unit's overall MVE activities.

Reportedly, ETBU experienced challenges in ensuring that all the relevant suppliers of electro-technical appliances correctly pay the levies and declare the right quantities of products they supplied to the market. ETBU's levy income in 2016 due to unknown reasons. This could probably have resulted from the relatively longer timelines associated with the issuing of LOAs as well as other economy related aspects.

Although in the past SABS laboratories used to be supported through Government funding, at present the labs are mainly sustained through a self-funding model. The majority of such income is derived from local manufacturers, importers, consultants, regulators, municipalities, government departments, and state-owned enterprises (such as Eskom).

Apart from the infrastructural and equipment challenges, ETL also face serious human resources shortages. For example, while geyser and appliance laboratories would require a total

of around 13 technical people to operate efficiently, in reality there are only 4 technicians manning these labs.

Previously, the SABS ETL used to provide full, partial or customer-specific tests, e.g. for research and development (R&D) purposes. However, the only testing services that can presently be provided to the industry must be complete and in line with the available standards or compulsory specifications.

Apart from SABS ETL, there are a few accredited private sector companies involved in energy efficiency testing in South Africa, such as T.E.S.T Africa. Although the private testing facilities were expected to benefit from the S&L Project, at some point in the implementation the Government adopted a political decision restricting support from the project only to public facilities. Consequently, private testing laboratories have to procure required testing equipment and infrastructure with their own resources. As NRCS did only very limited sampling for products for testing to determine market compliance, the private testing facilities hesitated to make investments into establishing testing facilities at high costs with no work and therefore return of the investment guaranteed from the regulator.

With all challenges mentioned above, it has to be noted that UNDP on behalf of the RSA Government has been finalizing a Project Document for GEF CEO endorsement for a follow-up project on energy efficient LED lighting and distribution transformers. The new project could be endorsed later in 2020 and its implementation will substantively enhance chances for financial commitments of the agencies involved in the S&L Project to sustain the results of the latter project in the future.

Based on the above, rating of financial sustainability: **Likely (L)**

Socio-political sustainability: The main risk to the socio-political sustainability is lack of interest of consumers for purchase of EE appliances. The communication and public awareness campaign under the project started relatively late and despite it lasted relatively short period it caused notable shift towards consumers' information about energy efficient household appliances and related label. However, awareness raising is not one-time activity but should continue beyond the project time boundary achieving full market transformation and real consumers' behaviour shift towards energy efficient appliances requires a cultural change that requires continued efforts.

Another socio-political risk is the need for revision of the 2008 NRCS Act that is a political rather than technical issue would require political to be approved by the country legislative body.

Environmental sustainability: The project generates a positive environmental effect through promotion of energy efficient equipment in the market. In November 2019, the project successfully proposed upward revision of the adopted MEPs and EE labels for the initial set of electric appliance categories. This effect will be further bolstered once MEPS and EE labels are developed and introduced for the second set of 8 appliance categories.

The main environmental risk is related to the lack of incentives for effective phase-out and disposal of old inefficient appliances. As a result of the project interventions, the inefficient

appliances are being withdrawn from the market but not from service. Numerous surveys established that customers upon purchase of the more efficient devices often pass on their old units to friends or extended family and thus keep the old units in operations. The continued use of inefficient appliances translates in an increase in energy consumption due to the fact that the obsolete equipment remains in service in parallel with the new devices that were supposed to displace them.

As the old and inefficient units approach the end of their economic life, there will be increased demand for ultimate disposal of the out-of-date appliances. Another environmental risk is therefore related to lack of recycling and disposal options for outdated electrical equipment. The challenge spans from dealing with relatively simple items such as confiscated or collected inefficient light bulbs to more sophisticated equipment such as refrigerators and air-conditioners. To minimize this environmental risk, it will be important to ensure that recycling and disposal facilities are available in the main cities of the country and handling and final disposal of inefficient energy appliances is carried out in accordance with the best international practices and without harmful environmental effects.

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

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

Exit strategy

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

Shortly before the operational closure the project does not have a written exit strategy as a concise document outlining steps and activities to ensure sustainable management of the achieved results by the project stakeholders after the end of the donor support. However, the following two attributes of an exit strategy have been pursued by the project stakeholders.

Firstly, the main national project stakeholders (DMRE, DTI, NRCS and SABS) have elected to conclude a Framework Agreement based on recognition of the individual stakeholders' roles in adoption of energy efficient technologies through implementation of energy efficiency standards, specifications, measures, strategies and interventions. The purpose of the agreement is twofold:

(a) establish a framework through which the Parties will interact with the each other in order to promote the EE-related interventions through provision of support and information in order to assist the successful implementation of the interventions; and

(b) to bring clarity to the roles and obligations of each Party by providing for a mechanism to regulate the interactions between the Parties whilst fulfilling their respective obligations in terms of the interventions.

Secondly, the RSA Government in cooperation with UNDP have been finalizing submission to GEF of a request for a follow-up project *Leapfrogging South Africa's markets to high-efficiency LED lighting and high efficiency distribution transformers (Leapfrogging Project)*. While the current project has progressed towards development of MEPS for LED lighting, there are barriers and challenges that limit the market penetration of high-efficiency lighting and distribution transformers. The Leapfrogging Project clearly builds on the achievements of the S&L Project and will address the persisting barriers by promoting an integrated approach, including appropriate regulatory instruments, such as MEPS for LED and other lamps and distribution transformers, supplemented by energy and informative labelling for lighting products. Further elements include administration of effective MVE systems, skills enhancement programmes, information dissemination and awareness campaigns. The follow-up project will mobilize financing for investments by municipalities in order to address the initial cost barrier by offering new financing modalities in addition to government grant funding (e.g. shared-savings transactions through energy service companies).

Key factors that affected implementation and outcomes

Project design

The Evaluator considers that the design of the S&L Project followed a holistic approach to achieve a transformation of the domestic appliance market in RSA. However, the project design did not pay enough attention to the need for prioritization of certain components through a staged implementation. This in particular relates to Outcomes 3,4 and 5 that should have been marked in the project results framework for priority implementation. In reality, the project resulted in relative early promulgation of MEPS and related regulations covering the 12 selected appliance classes (Outcomes 1 and 2) but the testing facilities (Outcome 3) and MVE procedures of the regulator (Outcome 5) were not fully up and running by the effective dates of the MEPS and regulations. This disharmony produced disappointment and even frustration on the side of manufacturers and retailers of the energy-efficient appliances. Also, due to the delayed start of implementation of the communication and awareness component (Outcome 4), the project did not ensure timely provision of information on the benefits of energy-efficient appliances to the consumers and resulted in initial low level of recognition of the EE label and relative lower uptake of EE appliances by the consumers.

As discussed in the section Analysis of project results framework, the design of the project logframe was partially incomprehensive with several internal inconsistencies that later hampered proper planning and monitoring for results.

Project implementation

There were several factors that affected implementation of the project and progress towards the planned results. Delays in recruitment of the two PMs collectively prolonged the project implementation period by two years. Implementation during another 2 years (September 2013-August 2015) was slow due to the protracted standstill on funds transfer between UNDP and the national Implementing Partners.

The lack of progress in the first two years of the project implementation period caused loss of almost 50% of the initially covenanted co-financing after SECO withdrew its pledged

contribution to the project. However, this loss was partially compensated by the depreciation of ZAR and by mobilization of additional co-financing contributions from elsewhere.

Recruitment of a competent PM in early 2017 and his ability to quickly establish rapport with the key project stakeholders brought a breakthrough in the project implementation and accelerated progress towards achievement of the planned results.

Achievement of outcomes

As discussed in the section Effectiveness, the project has achieved most of its outcomes and established a foundation for continued energy efficiency standards and labeling practice in the country. It has changed the awareness and attitude towards energy efficiency in some part of the society by its communication and awareness campaigns and outreach activities.

There are a couple of factors that limited progress to and achievement of the outcomes, one of them was the lack of MVE activities by the regulator. Projects like this one like this heavily depend on ability and commitment to effective enforcement. However, the effectivity of enforcement appears to be a political rather than purely technical challenge that will require time and political willingness.

Another factor was the lack of capacity on the side of the SABS testing laboratories. Despite aided by the project through technical assistance and training, the laboratories will still require considerable investment to be fully operational and able to provide the required testing services. Fortunately, funds have been allocated from the national budget, but the work will not be completed by the end of the project. Nevertheless, the project has established a positive momentum, in particular through rising pressure from the industry and retailers for full implementation of effective market regulation.

Last but not least, due to the late start of the awareness raising campaign conducted under the project, initial awareness of consumers about the energy efficiency label was low.

Important factor of sustainability is the decision of DoE to handover responsibility for the follow-up activities to SANEDI in order to ensure sustainability of the project's achievements.

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

Table 18: Overall Project Rating

Evaluation Criteria	Evaluator's Rating
Monitoring and evaluation: design at entry	Satisfactory (S)
Monitoring and evaluation: implementation	Moderately Satisfactory (MS)
Overall quality of monitoring and evaluation	**Satisfactory (S)**
Quality of UNDP Implementation	Moderately Satisfactory (S)
Quality of Execution - Executing Agency	Satisfactory (S)
Overall quality implementation / execution	**Moderately Satisfactory (MS)**
Relevance	**Relevant (R)**
Effectiveness	**Satisfactory (S)**
Outcome 1	Satisfactory (S)
Outcome 2	Satisfactory (S)
Outcome 3	Moderately Satisfactory (MS)
Outcome 4	Moderately Satisfactory (MS)
Outcome 5	Moderately Satisfactory (MS)
Outcome 6	Satisfactory (S)
Efficiency	**Moderately Satisfactory (MS)**
Overall Project Objective rating	**Satisfactory (S)**
Overall likelihood of sustainability	**Moderately Likely (ML)**
Institutional framework and governance	Likely (L)
Financial	Likely (L)
Socio-political	Moderately Likely (ML)
Environmental	Likely (L)

CONCLUSIONS AND RECOMMENDATIONS

Based on the facts collected and analysed in the previous section, this section elaborates conclusions that make judgments supported by the findings. Each conclusion is linked with a recommendation as a corrective action proposed to be taken by relevant project stakeholders to address the deficiencies identified in the findings and conclusions.

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

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

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

Finding 1: The project faced more than 2-year long standstill on funds transfer between UNDP and the Executing Agency. The main reason for the impassability was inability to find suitable national entity to administer the project funds and effectively execute procurement of goods and services.

Conclusion 1: The inability to find modus operandi for administration of project funds was one of the main reasons for sluggish implementation of the project in its initial phase. Even after the funds transfer impasse had been resolved, procurement for goods and services constituted a major hindrance to timely solicitation of special expert services for the project. There is a risk that procurement issues could impair smooth implementation of the follow-up project(s) on energy efficiency.

> *Recommendation 1: UNDP CO in cooperation with DoE, SANEDI and SABS should perform a bottleneck analysis of their existing procurement systems and identify necessary steps towards streamlining the procurement practices for goods and services under donor projects.*

Finding 2: One month before the completion date, the project does not have an explicit exit strategy and a sustainability plan. However, DoE has identified SANEDI as the institution to ensure coordination of the future S&L activities and has made arrangements for handover of the coordination function to SANEDI.

Conclusion 2: Continued coordination of the S&L activities is of critical importance for sustainability of the S&L programme and its institutional and governance framework. Formalization of the project handover to SANEDI should include allocation of financial resources of about 2.5 million ZAR that at certain point in the project implementation had been transferred from DoE to SABs. This arrangement will ensure continued ownership of the S&L

Project results and bridge the gap between approval and start of the follow-up Leapfrogging Project.

Recommendation 2: DMRE should formalize the handover of the project to SANEDI and make available funding for human resources and office space necessary to execute the coordination of S&L activities including update of the national EE standards and prompt NRCS and SABS to action when necessary at least until approval of the follow-up project.

Finding 3: Concerns have been raised regarding the regulator's effectiveness and ability to thoroughly perform the monitoring, verification and enforcement (MVE) of energy efficiency compulsory specifications. Verification activities specifically relating to energy efficiency are currently restricted to the regulator. The NRCS Electro-Technical Business Unit (ETBU) that is responsible for the regulation of energy efficiency compulsory specifications is also involved in regulating the safety of electro-technical products. Due to the heavy workload, there had been relatively few specific market surveillance activities on energy efficiency conducted by the regulator. Moreover, due to the scarsity of MVE activities, some appliances entered the market without the obligatory registration.

Conclusion 3: For a long part of the project implementation period, there was poor communication from NRCS to the industry, particularly regarding progress on applications for a Letter of Authority (LoA) for registration of energy efficient products. Also, the turnaround time for issuance of LoA from the regulator was very long. Low efficiency of the registration process combined with insufficient MVE activities resulted in disappointment on the side of appliance manufacturers and suppliers as it hampered their efforts to register energy-efficient appliance and distorted the competition in the market. Expected adoption and implementation of MEPS for the 8 new classes of appliances will increase the already heavy workload pressure on the regulator. Further strengthening of the regulator function related to S&L for energy efficiency will be inevitable.

Recommendation 3: DTI should consider strengthening the NRCS regulatory function for the S&L programme through detaching the mandate for energy efficiency regulation and MVE activities from regulation of safety and allocation of the EE regulation mandate to a separate section within the NRCS fully dedicated to implementation of this mandate. The NRCS regulatory function should be subject to close monitoring.

Finding 4: NRCS operates a largely manual administrative system for processing of applications for registration of new EE appliances that results in relatively long turnaround time for issuance of LoAs. Recently, online database was introduced for new appliances registration with the aim to expedite the registration and authorization process.

Conclusion 4: Despite the introduction of the online appliances database, the issuance of LoAs is still relatively slow due to dependence on manual processing of applications. Without upgrade of the existing system for LoAs processing it will not be possible to capture full benefits of the modern online registration and reduce the total LoAs turnaround time.

Recommendation 4: NRCS should consider modernization of the LoA processing system in order to match the online appliances database.

Finding 5: There are some bottlenecks outside NRCS currently affecting the MVE processes for energy efficiency regulation. These result from only few accredited local testing facilities that are not even in a position to provide the required testing services for all the products covered under the compulsory energy efficiency specifications.

Conclusion 5: Lack of accredited testing facilities in the country makes it difficult for the NRCS Electro-Technical Business Unit to sample and take products for testing. The accredited testing facilities have testing backlogs that prolong

Recommendation 5: NRCS should conclude a service level agreement with the SABS testing facilities for expedite testing of samples for verification purposes.

Finding 6: The SABS Electro-Technical Laboratories (ETL) experience various challenges related to the human resources capacity. In the last few years, ETL experienced heavy staff turnaround and internal restructuring that resulted in sub-optimal staff allocation to the testing services and consequent testing backlogs.

Conclusion 6: Human resource capacity constraints at the testing facilities diminish efficiency of the testing and have a negative effect on the registration process of new energy-efficient products.

Recommendation 6: SABS should address human resources capacity constraints to allow for improved efficiency of the testing services through increasing human resources allocation to ETL, and wherever possible, manual processes should be replaced by fully automated processes.

Finding 7: Demand for accredited testing services related to energy efficiency is driven by the industry and the regulator. The number of tests for product verification is determined by samples taken by the regulator as part of surveillance of market compliance with the compulsory standards. In recent years, the market surveillance by the regulator was relatively low.

Conclusion 7: National testing facilities do not receive enough requests for the energy efficiency testing service that would justify capital-intensive investments in the testing infrastructures and human resources allocation.

Recommendation 7: NRCS should consider developing a strategy for regulation of energy efficiency to specify how the regulator will conduct the various energy efficiency MVE activities.

Finding 8: Monitoring of the energy efficiency market is solely the regulator's responsibility with little or no involvement of other stakeholders. The electro-technical market to be monitored is relatively huge and fragmented, thus making effective monitoring of the market a resource and time-intensive exercise. Although publicly accessible databases exist on the NRCS website, only safety related information is available within the accessible databases, and there is no data for energy efficiency.

Conclusion 8: The regulator's own human resource capacities do not allow for thorough and effective monitoring of the electro-technical market. Industry associations could be actively involved in monitoring of the energy efficiency market and increase thus the effectiveness of the market surveillance.

Recommendation 8: NRCS should consider assistance of industry associations for complementary monitoring of the electro-technical market through complementing the existing publicly accessible product database or register with energy efficiency data and allow thus the industry associations to spot cases of non-compliance on the market.

Finding 9: The mass publicity campaign in newspapers, radio, and television was undoubtedly the key piece to raise consumer awareness about benefits of energy efficient appliances and contributed to recognition of the EE label by the appliance end-users. Although it was commenced late in the project implementation and was conducted for a relatively short period of time, it proved to be effective.

Conclusion 9: Consumer awareness raising about energy efficiency should be a continuous effort. However, the awareness raising through mass media channels used by the project is resource intensive and its impact is relatively short-lived. For continuous awareness raising, other less resource intensive channels should be considered, such as use of educational institutions for dissemination of information on energy efficiency of electrical appliances.

Recommendation 9: The Government should produce a popular informational leaflet about benefits of energy efficient household appliances for distribution in primary/secondary educational institutions throughout the country and consider introduction of the topic of energy efficiency into teaching curricula at appropriate levels.

Finding 10: Although implementation of the S&L programme for energy efficiency produces notable global as well as local environmental benefits, there no involvement in the project design and in the early stages of implementation by the Department of Environmental Affairs (DEA).

Conclusion 10: As the purpose of the S&L Project is replacement of old appliances by modern energy-efficient units, there should be a linkage between purchase of a new appliance and proper disposal of an old one. The Department of Environmental Affairs (DEA) has a role to ensure that recycling and disposal facilities for out-of-service appliances are available and final disposal of inefficient energy appliances is carried out in accordance with the best international practices and without harmful environmental effects. Moreover, DEA has also a role to follow-up on achieved savings of water and reduction of CO_2 and atmospheric pollutants.

Recommendation 10: For the follow-up project, the implementing partners should ensure involvement of the Department of Environmental Affairs (DEA) on issues such as disposal of outdated appliances and recycling, as well as monitoring of environmental impacts.

Recommendations to improve programming and preparation of projects

Finding 11: The project faced serious implementation delays due protracted recruitment of PM and the project did not have appointed PM for altogether almost 2 years. Due the appointment

under the Service Contract modality, PM did not have direct access to the project management on-line tools and systems such as the UNDP Atlas Project Management module.

Conclusion 11: The project implementation experience proved that PM served as a critical interface between the project stakeholders, in particular UNDP CO, the national Executing Agency and the Project Steering Committee (PSC). Inability to recruit PM in a timely manner contributed to slow implementation of the project and resulted in project extensions. Lack of direct access to electronic project management tools and systems limited ability of PM to effectively perform several important functions, such as revision and update of the results framework, preparation of quarterly and annual work plans, tracking and updating of project risk log, monitoring progress in procurement of goods and services for the project, preforming budget revisions and recurrent reporting to the donor and the Implementing Agency.

Recommendation 11: UNDP CO should:

i) Ensure that position of PM for a development assistance project is not vacant for more than 3 months

ii) Review its internal administrative rules and ensure PM access to the on-line project management systems

Finding 12: The project results framework contained several imperfections in definition of Output indicators and their target values as well as internal inconsistencies between individual parts of the results matrix. Moreover, no mid-term indicator target values were specified in the project logframe. Although some of the deficiencies had been identified and corrective actions recommended by the Mid-Term Review (MTR), no actions were taken by the project partners. Management response on the MTR recommendations was prepared only for 5 out of the total 15 MTR recommendations.

Conclusion 12: The inconsistent structure of the project results matrix and imperfect definition of Outcome/Output indicators and their target values impaired prioritization of project components for implementation, proper monitoring of progress towards achievement of results and pertinent reporting thereof. Lack of formal management response to MTR recommendations impairs adoption of feedback from M&E activities.

Recommendation 12: UNDP CO should ensure that initial review of the result framework for development assistance projects is conducted at the Inception Workshop and that a formal management response is provided for all MTR and TE recommendations.

Finding 13: The GEF Co-financing Policy requires GEF Partner Agencies to report on materialized co-financing according to source and type during project implementation and at project closure. In the GEF standard format of the Project Implementation Reports (PIRs), there is currently no requirement for information on actual co-financing and this information was not collected by the project team. Information on co-financing contributions was not collected in a systematic manner and was not available at the TE mission stage. Ultimately, only rough estimates of the materialized co-financing were provided at the project completion.

Conclusion 13: Insufficient accounting for co-financing contributions precludes accurate reporting of actual materialized co-financing to the donor agency.

Recommendation 13: UNDP CO should ensure that updated information on actually materialized co-financing for GEF projects is reported in the last two PIRs.

Finding 14: Due to the long time period lapsed since the official start of the project as well as change of PM and UNDP CO personnel mid-way through the project implementation, some documents from the early years of the project were not available at TE, such as the minutes from the Inception Workshop and PIRs from years 2011-2015.

Conclusion 14: Lack of project documentation from the early part of the project implementation history did not allow to find reasons for initial delays in project implementation.

Recommendation 14: UNDP CO should ensure that all relevant documentation related to implementation of development projects is stored and accessible in a dedicated repository of project documents.

Lessons learned and best practices related to relevance, performance and success

The high level of detail of the baseline analysis and clear identification of the barriers to market transformation allowed to determine the gaps in the existing institutional, governance and technical capacities and outline effective mix of practical interventions to remove the barriers to market transformation.

Through PSC and the Working Groups, the project involved different actors from the public and private sectors in development of MEPS and related regulations. It was the first time when all different stakeholders were brought together. Such wide participation solicited perspectives and opinions from the Government, the industry and the consumers on the subject and enabled the stakeholders to make contributions based on their respective knowledge and experiences. All this facilitated achievement of mutual consensus on the contents and scope of the EE standards and regulations.

The main focus of the project was technical assistance and investments in equipment and technical infrastructure were left to national stakeholders. Through this approach, the project produced a number of important studies and catalyzed development of durable institutionalized solutions that constitute an important part of sustainability of project results.

Also, through intensive stakeholder consultations and provision of information the project managed to turn around the initial resistance of the industry towards regulation. Availability of relevant legislation, higher participation by manufacturers and suppliers, better targeted communication to the general public and provision of training (education and awareness) and motivation (incentives) of sales staff at retail stores were the principal reasons for success of this intervention as compared to the unsuccessful 2005 voluntary labelling programme for refrigerators.

Appropriate manning of PMU is a necessary condition for rapid start of a project. Despite PMU staffing was outlined in the Project Document, experience from this project proves that the initial staffing of PMU was suboptimal in the early years as the latter was manned only by a

single PM without technical support of two technical coordinators on enforcement and testing, respectively, and without administrative support by Administrative Assistant.

The competence of the project management personnel is critical for effective implementation and successful achievement of planned outputs. The results would not materialize without the dedication and strong influence of the 2nd PM due to his long-term working experience with energy efficiency standards and detailed knowledge of relevant national stakeholders.

Capacity building and communication/awareness activities should ideally be conducted well in advance of the effective date of implementation of MEPS and related regulations. Also, accredited testing facilities for energy efficiency testing should ideally be in place before the start of implementation of MEPS otherwise the direct costs of testing and indirect cost of compliance with the LoA process become too high for the regulated industry.

On the project preparation side, inconsistencies in the project results framework and poorly defined Output indicators and their target values impair monitoring of implementation progress and present challenges to the conduct of mandatory evaluations.

Annex 1: Evaluation Terms of Reference

TERMINAL EVALUATION: UNDP-GEF PROJECT MARKET TRANSFORMATION THROUGH THE INTRODUCTION OF ENERGY EFFICIENCY STANDARDS AND THE LABELLING OF APPLIANCES IN SOUTH AFRICA

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP supported GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These Terms of Reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the: *'Market Transformation Through the Introduction of Energy Efficiency Standards and the Labelling of Appliances in South Africa'* (PIMS 3277). The 5-year project commenced in November 2011 and was awarded two extension rounds until 31 March 2019. The project is implemented by the Department of Mineral Resources and Energy, through a project management unit.

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

OBJECTIVE AND SCOPE

The project (*Market Transformation Through the Introduction of Energy Efficiency Standards and the Labelling of Appliances in South Africa*) was designed to support the implementation of South Africa's Energy Efficiency Strategy, which sets an overall energy intensity reduction target of 12% by 2015 and a 10% reduction in the residential sector. The Strategy identified a residential appliance Standards and Labelling (S&L) project as a major contributor towards the target. The project aims to address the policy, information, technology and financial barriers that were preventing the widespread introduction and uptake of efficient appliances.

The goal of the project is to reduce greenhouse gas emissions caused by household appliances' electricity consumption by facilitating a comprehensive market transformation for the South African market towards the use of energy efficient electrical appliances. This is to be achieved through the introduction of two regulations applicable to 12 residential electrical appliances, namely minimum energy performance standards (MEPS) and information labels. It has been estimated, that once in effect, the regulations could yield up to 388 GWh of electricity savings per annum, which is equivalent to 4.6Mt of CO2. The objective of the GEF funding is to remove the most significant barriers impeding the uptake of energy efficiency appliances, and in so doing contribute materially towards the Strategy's targeted 10% reduction in residential energy consumption. The project had five outcomes:

1. Policy and regulatory framework for the S&L project
2. Define labelling specifications and MEPS thresholds for the 12 products considered for regulation
3. Strengthen the capacity of institutions and individuals involved in the S&L project
4. Awareness raising campaign
5. Implementation of Market Surveillance and Compliance regime to ensure performance standards are met
6. Development of Monitoring and Evaluation Capacity are met

The TE is limited to the GEF component of the project.

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

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

EVALUATION APPROACH AND METHOD

An overall approach and method[1] for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (). 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.

2

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to South Africa, to visit the project sites jointly identified with the project manager. Interviews will be held with the following organizations at a minimum including: UNDP Country Office (Energy and Environmental Team Leader and the Project Manager), Department of Mineral Resources and Energy, Department of Trade and Industry, South African Bureau of Standards, National Regulator for Compulsory Specifications, South African National Energy Development Institute, Eskom, independent test laboratories, Consumer Goods Council, manufacturers and retailers.

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

EVALUATION CRITERIA & RATINGS

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

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:	

PROJECT FINANCE / COFINANCE

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

Co-financing		UNDP own financing		Government			Partner Agency		Total	
(type/source)		(mill. US$)		(mill. US$)			(mill. US$)		(mill. US$)	
		Planned	Actual	Planned		Actual	Planned	Actual	Planned	Actual
Grants				3 435 000			8 375 000			
Loans/Concessions										
•	In-kind			1 315 000						
	support									
•	Other									
Totals				4 375 000			8 375 000			

MAINSTREAMING

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

IMPACT

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.[3]

CONCLUSIONS, RECOMMENDATIONS & LESSONS

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

IMPLEMENTATION ARRANGEMENT

The principal responsibility for managing this evaluation resides with the UNDP CO in South Africa. 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, arrange field visits, coordinate with the Government etc.

EVALUATION TIMEFRAME The total duration of the evaluation will be *25* days according to the following plan:

Activity	Timing	Completion Date
Preparation	*3* days	*18 October 2019*
Evaluation Mission	*13* days	*07 November2019*
Draft Evaluation Report	*7* days	*30 November 2019*
Final Report	*2* days	*31 January 2020*

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception	Evaluator provides	No later than 2 weeks	Evaluator submits to UNDP CO
Report	clarifications on timing	before the evaluation	
	and method	mission. 18 October 2019	
Presentation	Initial Findings	End of evaluation mission	To project management, UNDP
		7 November 2019	CO
Draft Final	Full report, (per annexed	Within 4 weeks of the	Sent to CO, reviewed by RTA, PCU,
Report	template) with annexes	evaluation mission	GEF OFPs
		30 November 2019	
Final Report*	Revised report	Within 1 week of receiving	Sent to CO for uploading to UNDP
		UNDP comments on draft	ERC.
		31 January 2020	

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

TEAM COMPOSITION

The evaluation team is to be composed of one international evaluator. The consultant shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluator selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Consultant must present the following qualifications:

- A Masters Degree in environmental sciences, climate change mitigation, energy engineering or other closely related field; a PhD will be considered as an advantage (5 points, 10%)
- Minimum of 7 years relevant professional experience, with at least 3 references provided for work completed within the last 5 years; (10 points, 20%)
- Knowledge of UNDP and GEF monitoring and evaluation policies and guidelines – at least 2 GEF funded project evaluation experiences preferably with focus on energy efficiency; (10 points, 20%)
- Previous experience with results-based monitoring and evaluation methodologies; (5 points, 10%)
- Technical knowledge in conducting detailed quantitative GHG emission reduction calculations (direct and indirect) according to GEF policies and procedures (15 points, 30%)
- Proven and extensive international experience in energy efficiency, preferably with residential appliances (5 points, 10%)
- Proficiency in oral and written English

Evaluation Criteria

Area of assessment	**Score / Weight**
1. Education	**5**
Relevant PhD Degree	
Relevant Master's Degree	
Relevant Undergraduate Degree	
2. Relevant references from existing clients and not older than 3 years. The service providers must provide a minimum of three (3) relevant contactable references of similar work done.	**10**
> than 5 references provided with 7 or more years of applicable experience	
> than 5 references provided with 7 or more years of applicable experience.	
3 references provided with 7 or more years of applicable experience.	
3 relevant references provided with up to 7 years of applicable experience.	
Fewer than 3 references provided and up to 7 years of applicable experience	
3. Knowledge of UNDP GEF M&E policies and guidelines	**10**
Completed more than 2 UNDP GEF TE, including 2 energy efficiency with references provided	
Completed 2 UNDP GEF TE, including 1 energy efficiency with references	

provided	
Completed 2 UNDP GEF TE, with references provided	
Completed 1 UNDP GEF TE, with references provided	
4. Demonstrate capacity and capability to deliver a results-based M&E methodology	**5**
Detail the approach to be used, demonstrating previous experience in utilizing it and its benefits – specifically with climate change / energy efficiency	
Detail the approach to be used, demonstrating previous experience in utilizing it and its benefits	
Outline a proposed internationally acceptable results-based approach to be used	
5. Technical knowledge in quantitative GHG emission reduction calculations	**15**
Demonstrated proficiency and experience with UNEP guidelines	
Demonstrated proficiency and experience with alternate approach	
Understanding (but limited experience) with UNEP guidelines	
Understanding (but limited experience) with alternate guidelines	
6. Knowledge of Residential Appliance S&L Programs	5
Demonstrable experience (through work experience, papers written or similar) of S&L	
Functional (working) knowledge of S&L	
Total	**50**

EVALUATOR ETHICS

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

PAYMENT MODALITIES AND SPECIFICATIONS

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

%	Milestone
40%	Following submission of the preliminary report
40%	Following submission and receipt of the final draft report
20%	Following approval of the final draft report which has considered and incorporated comments

APPLICATION PROCESS

Applicants are requested to apply online **bid.pretoria@undp.org** by **09th October 2019.** Individual consultants are invited to submit applications together with their CV for these positions. The application

should contain a current and complete CV in English with indication of the e-mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs).

1. **Letter of Confirmation of Interest and Availability** using the template[4] provided by UNDP;

2. **CV and a Personal History Form (P11);** indicating all past experience from similar projects; as well as the contact details (email and telephone number) of the candidate and at least three (3) professional references;

3. **Brief description of approach to work/technical proposal** of why the individual considers him /herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)

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

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

Annex 2: Evaluation Matrix

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Relevance and Project Formulation			
Is the initiative aligned to the national development strategy? How does the project align with national strategies in the affected sectors and specific development challenges in the country? Where is this project implemented? Who are the main beneficiaries of the project and how does the project address their human development needs? To what extent are the objectives of the project still valid? Are the activities and outputs of the project consistent with attainment of its objectives?	Number of development and sectoral plans/strategies relevant for the project Level of alignment between the project objectives/outcomes and national development and sectoral strategies	UNDP programme/pro- ject documents UNDP programme/pro- ject Annual Work Plans Programmes/projects/ thematic areas evalua- tion reports Government's national planning documents Human Development Reports MDG progress reports Government partners progress reports Interviews with beneficiaries	Desk reviews of secondary data Interviews with government partners Interviews with NGOs partners/service providers Interviews with funding agencies and other UNCT Interview with civil societies in the concerned sector Interviews with related parliamentary committees Related Constitutional bodies such as Human Rights, Women Rights, etc. Field visits to selected projects
Were the project's objectives and components clear, practicable and feasible within its time frame? Were the capacities of the executing institution(s) and its counterparts properly considered in the project design? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry? Were the project assumptions and risks well identified in the PIF and the Project Document? To what extent has UNDP adopted participatory approaches in planning and delivery of the initiative and what has been feasible in the country context? What analysis was done in designing the project? Are the resources allocated sufficient to achieve the objectives of the project?	Level of participation of key and tangential stakeholders in the project design and implementation Level of stakeholder analysis at the project design stage Level of allocation of resources to individual outcomes Level of alignment with the priorities mentioned in the UNDAF and UNDP Country Programme Document Appreciation from national stakeholders with respect to adequacy of project design and implementation to national realities and existing capacities	UNDP staff Development partners (UN agencies, bilateral development agencies) Government partners involved in specific results/thematic areas Concerned civil society partners Concerned associations and federations National policies and strategies UNDAF and CPD documents	Interviews with UNDP staff, development part- ners and government partners, civil society partners, associations, and federations

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Project Implementation and Adaptive Management			
Did the project undergo significant changes as a result of MTR recommendations and/or of other review procedures? Did the changes materially change the expected project outcomes? Were there adequate provisions in the project design for consultation with stakeholder? To what extent were effective partnerships arrangements established for implementation of the project with relevant partners? To what extent were lessons from other relevant projects incorporated into project implementation? Whether feedback from M&E activities was used for adaptive management?	Response to the MTR Level of solution of implementation issues solved by PMU/UNDP Quality and level of use of implementation monitoring tools	Minutes of the Project Steering Committee meetings MTR Report Annual Work Plans Annual Progress Reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with UNDP staff Interviews with government partners Interviews with development partners Desk review of secondary data
– Was the M&E plan well conceived at the design phase and sufficient to track progress toward achieving objectives? Was the M&E plan sufficiently budgeted and funded during project preparation and implementation? Were the monitoring indicators from the project document effective for measuring progress and performance? Was the logical framework used during implementation as a management and M&E tool? What has been the level of compliance with the progress and financial reporting requirements/ schedule, including quality and timeliness of reports? What was the extent to which follow-up actions, and/ or adaptive management, were taken in response to monitoring reports (APR/PIRs)? .	M&E Plan design and implementation Quality and level of use of implementation monitoring tools Quality of existing information systems in place to identify emerging risks and other issues Quality of risk mitigations strategies developed and implemented Level of financial controls established and used to provide feedback on implementation Level of prioritization of activities for achievement of significant results Consistency of the APR/PIR self-evaluation ratings with the MTR findings	Minutes of the Inception Workshop Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with UNDP staff Interviews with government partners Interviews with development partners Desk review of secondary data

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Effectiveness			
Did the project or programme implementation contribute towards the stated outcomes? Did it at least set dynamic changes and processes that move towards the long-term outcomes? What outputs has the project achieved and what outcomes does the project intend to achieve? What changes and progress towards the outcomes can be observed as a result of the outputs? To what extent were the project objectives achieved? How does UNDP measure its progress towards expected results/outcomes? In addition to the project, what other factors may have affected the results? What were the unintended results (+ or -) of the project?	Target indicators in the project results framework Level of coherence between the project design and implementation approaches Level of coherence between activities and outputs/outcomes Level of management of assumptions and risks	Project/programme/thematic areas evaluation reports Data reported in project annual and quarterly reports by PMU and UNDP staff Development partners Government partners Beneficiaries	Interviews with UNDP staff Interviews with government partners Interviews with development partners Desk review of project annual and quarterly reports Field visits to selected sites
How broad are the outcomes (e.g., local community, district, regional, national)? What has been the results of the capacity building/training components of the project? Were qualified trainers available to conduct trainings? Are the results of the project intended to reach local community, district, regional or national level?	Level of outreach of the project to the ultimate beneficiaries Level of increase in capacity building resulting from the training components	Training evaluation reports Progress reports on projects	Desk review of secondary data
Who are the direct beneficiaries and how many of them were affected by the project? Who are the ultimate beneficiaries and to what extent have they been reached by the project? To what extent do the poor, indigenous groups, women, and other disadvantaged and marginalized groups benefit? How have the particular needs of disadvantaged groups been taken into account in the design and implementation, benefit sharing, monitoring and evaluation of the project/ programme? How far has the regional context been taken into consideration while selecting the project/ programme? Was there any partnership strategy in place for implementation of the project and if so how effective was it?	Level of outreach of the project to the ultimate beneficiaries Level of inclusion of marginal groups of beneficiaries Cooperation with partners on project implementation	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports MDG progress reports Human Development Reports	Desk review of secondary data

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Efficiency			
Has the project or programme been implemented within the original timeframe and budget? Have UNDP and its partners taken prompt actions to solve implementation issues, if any? Have there been time extensions on the project? What were the circumstances giving rise to the need for time extension? Has there been over-expenditure or under-expenditure on the project? What mechanisms does UNDP have in place to monitor implementation? Are these effective? Have there been any outside factors (e.g. political instability) affecting on implementation effectiveness?	Level of adherence to the original timeframe and budget Quality of annual workplans *vis-à-vis* the project logframe Level of solution of implementation issues solved by PMU/UNDP Quality and level of use of implementation monitoring tools Timeliness and adequacy of reporting provided Level of discrepancy between planned and utilized financial expenditures Comparison of planned vs. actual funds leveraged	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data
Were UNDP resources focused on the set of activities that were expected to produce significant results? Was there any identified synergy between UNDP initiatives that contributed to reducing costs while supporting results? Gas there been a Project Implementation Support Unit and how it assisted the efficiency of implementation? Were the project resources concentrated on the most important initiatives or were they scattered/spread thinly across initiatives? Did the leveraging of funds (co financing) happen as planned? Were financial resources utilized efficiently? Could financial resources have been used more efficiently? Was procurement carried out in a manner making efficient use of project resources? Was an appropriate balance struck between utilization of international expertise as well as local capacity? Did the project take into account local capacity in design and implementation of the project? Was there an effective collaboration between institutions responsible for implementing the project? How efficient are partnership arrangements for the project?	Synergies with similar activities funded from other sources Level of financial controls established and used to provide feedback on implementation Level of prioritization of activities for achievement of significant results Proportion of expertise utilized from international experts compared to national experts Number/quality of analyses done to assess local capacity potential and absorptive capacity Specific activities conducted to support the development of cooperative arrangements between partners, Examples of supported partnerships Evidence that particular partnerships/linkages will be sustained Types/quality of partnership cooperation methods utilized	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Sustainability			
Does/did the project have an exit strategy? How does UNDP propose to exit from projects that have run for several years? To what extent does the exit strategy take into account the following: – Political factors (support from national authorities) – Financial factors (available budgets) – Technical factors (skills and expertise needed) – Environmental factors (environmental sustainability) Were initiatives designed to have sustainable results given the identifiable risks?	Quality and level of self-sufficiency of institutional frameworks for continuation of activities after project completion Availability of counterpart/stakeholder funding for the project outcomes	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports	Desk review of secondary data
What issues emerged during implementation as a threat to sustainability? What corrective measures were adopted? How has UNDP addressed the challenge of building national capacity in the face of high turnover of government officials? What unanticipated sustainability threats emerged during implementation? What corrective measures did UNDP take?	Level and quality of identification of sustainability issues Nature and quality of corrective measures by the project management to address sustainability issues	Evaluation reports Progress reports UNDP programme staff	Interview with UNDP and PMU staff Desk review of secondary data
Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?	Level of stakeholder awareness and ownership of the project results		Interview with government representatives Interview with other stakeholders' representatives Desk review of secondary data
How has UNDP approached the scaling up of successful pilot initiatives and catalytic projects? Has the government taken on these initiatives? Have external donors stepped in to scale up and/or replicate the project activities? What actions have been taken to scale up the project if it is a pilot initiative?	Level of UNDP and government interest for scale-up and/or replication Level of external donor interest for scale-up and/or replication	Evaluation reports Progress reports UNDP and PMU staff	Interview with UNDP and PMU staff Review of external donor interventions Desk review of secondary data

Evaluation Questions	Indicators	Data Sources	Data Collection Methods
Progress towards impacts			
What difference has the project made to the direct and ultimate beneficiaries? Which are the intermediate states that lead to impacts, have they been achieved and how? Which (if any) are still missing gaps between the project outcomes and realization of the expected impacts? Are the necessary conditions in place for enabling scaling up of outcomes into impacts?	Level of coherence between the project outcomes and intended impacts Nature of conditions for conversion of outcomes into impacts	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data
Have there been verifiable improvement in energy intensity Have there been changes in specified indicators that progress is being made towards achievement of project objectives Have there been regulatory and policy changes at regional, national and/or local levels	Actual positive and negative, foreseen and unforeseen changes to and effects produced/induced by the development intervention	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data
Have indigenous institutions been established and or strengthened to provide leadership and technical support to the transfer of project outcomes into impacts? Have collaboration mechanisms between government agencies and their boundary partners established to implement the project-initiated measures? Have the relevant government agencies undertaken measures to support the adoption of the project's results and their inclusion as national priorities?	Level of key stakeholder awareness and ownership of the project results Quality and level of collaboration between the stakeholder institutions	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data
Are there sufficient fundraising, investment and revenue-generating mechanisms and strategies to enable and support the outcome-impact pathways? Are government agencies encouraged/enabled to facilitate wider adoption of the project results? Have senior and influential government officials endorsed the project's innovative approaches and champion the development of a more enabling policies, mechanisms and strategies for wider adoption?	Level of key stakeholders' awareness and ownership of the project results Level of stakeholders' financial commitments	Programme documents Annual Work Plans Annual Progress Reports Evaluation reports Government partners Development partners UNDP staff (Programme Implementation Support Unit)	Interviews with government partners and development partners Desk review of secondary data

SAMPLE QUESTIONS RELATING TO THE PROMOTION OF UN VALUES FROM A HUMAN DEVELOPMENT PERSPECTIVE			
Evaluation Questions	**Indicators**	**Data Sources**	**Data Collection Methods**
Supporting policy dialogue on human development issues			
To what extent did the initiative support the government in monitoring achievement of MDGs? What assistance has the initiative provided supported the government in promoting human development approach and monitoring MDGs? To what extent do the project objectives conform to agreed priorities in the UNDP country programme document (CPD) and UNDAF?	Level of contribution of the project to the achievement of MDGs Level of alignment of the project objectives with the CPD and UNDAF	Project documents Evaluation reports HDR reports MDG reports National Planning Commission Ministry of Finance	Interviews with government partners Desk review of secondary data
Contribution to gender equality			
To what extent was the UNDP initiative designed to appropriately incorporate in each outcome area contributions to attainment of gender equality? To what extent did UNDP support positive changes in terms of gender equality and were there any unintended effects? Provide example(s) of how the initiative contributes to gender equality. Can results of the programme be disaggregated by sex?	Level and quality of monitoring of gender related issues	Project documents Evaluation reports UNDP staff Government partners Beneficiaries	Interviews with UNDP staff and government partners Observations from field visits Desk review of secondary data
Addressing equity issues (social inclusion)			
How did the UNDP initiative take into account the plight and needs of vulnerable and disadvantaged to promote social equity, for example, women, youth, disabled persons? To what extent have indigenous peoples, women, conflict- displaced peoples, and other stakeholders been involved in pro-ject design? Provide example(s) of how the initiative takes into account the needs of vulnerable and dis- advantaged groups, for example, women, youth, disabled persons How has UNDP programmed social inclusion into the initiative?	Level and quality of monitoring of social inclusion related issues	Project documents Evaluation reports UNDP staff Government partners Beneficiaries	Interviews with UNDP staff and government partners Observations from field visits Desk review of secondary data

Annex 3: Itinerary of the Evaluation Mission

Date	Venue	Activity
2 February	Johannesburg Airport	Evaluator arrives to RSA
3 February	UNDP CO	Review of the project outcomes and outputs with the PMU
		Meeting with the Head of Environment Programme
	SANEDI	Meeting with Manager, Energy Efficiency
4 February	NRCS	Meeting with the NRCS EE Team
	SABS	Meeting with Electronics and Appliances
		Meeting with Standards
5 February	DMRE	Meeting with Energy Efficiency Initiatives
	DTIC	Meeting with Technical Infrastructure
6 February	Protea Hotel Hatfield	Meeting of PSC
7 February	Massmart Group	Meeting with Group Sustainability Executive
	Bosch Group	Meeting with Home Appliances
8-9 February	Protea Hotel Loftus Park	Consolidation and analysis of findings
10 February	UNDP CO	Debriefing meeting with UNDP RR
12 February	Johannesburg Airport	Evaluator leaves RSA

Annex 4: List of People Interviewed

Name	Position	Organization
Theo Covary	Project Manager	PMU (UNDP South Africa)
Marcia Lephera	Administrative Assistant	PMU UNDP South Africa
Janice Golding	Head of Programme Energy and Environment	UNDP South Africa
Gabriel Dava	Deputy Resident Representative	UNDP South Africa
Marcel Alers	Head of Energy	UNDP BPPS
Xolile Mabusela	Director: Energy Efficiency Initiatives	DMRE
Maphuti Legodi	Deputy Director: Energy Efficiency Initiatives	DMRE
Barry Bredenkamp	Senior Manager, Energy Efficiency	SANEDI
Lancerlot Riyano	Project Specialist	NRCS
Langa Jele	Technical Specialist, Regulatory R&D	NRCS
Thabo Mabena	Technical Specialist, Electro-Technical	NRCS
Kate Maswanganyi	Principal Inspector, Evaluations	NRCS
Bongani Khanyile	Principal Inspector, Market Surveillance	NRCS
Sabelo Hlatshwayo	Lab Manager, Electronics and Appliances	SABS
Sihle Qwabe	Senior Manager Electrotechnical Engineering	SABS
Mogomotsi Motaung	Programme Manager, Electrotechnical Standards	SABS
Sekwanele Kubeka	Senior Standards Writer	SABS
Anne Marie Lotter	Director: Technical Infrastructure	DTIC
		DTIC
Alexander Haw	Sustainability Executive	Massmart Group
Andrew Saint	Head of Manufacturing, R&D & After Sales Services	Defy Appliances (by skype)
Nicole Driver	Product Manager, Home Appliances	Bosch Group, South Africa
Erik Visser	Chairman	Electro Technical Industry Alliance
Mark Saunders	Chairman	SA Domestic Appliance Association
Precious Ncayiyana	Coordinator	National Consumer Forum

Annex 5: List of Documents Consulted

1. National Energy Efficiency Policy of the Republic of South Africa, DME, 2005

2. National Energy Efficiency Strategy of the Republic of South Africa, DME, 2005

3. Market Transformation through Energy Efficiency Standards & Labelling of Appliances in South Africa, Project Identification Form, UNDP/GEF, 2009

4. Market Transformation Through the Introduction of Energy Efficiency Standards and the Labelling of Appliances in South Africa, Project Document, UNDP/GEF, 2011

5. Market Transformation Through the Introduction of Energy Efficiency Standards and the Labelling of Appliances in South Africa, Mid-term Review Report, UNDP/GEF, 2015

6. Management Response to MTR Recommendations, UNDP, 2015

7. Project Implementation Reviews (PIRs), UNDP/GEF, 2016 – 2019

8. Minutes of the Project Steering Committee meetings, UNDP, March 2017- June 2019

9. SANS 941:2012, South African National Standard, Energy Efficiency of Electrical and Electronic Apparatus, SABS, 2012

10. Energy Performance and Labelling Requirements for Specific Electrical Appliances and Equipment, UNDP/Unlimited Energy Resources, 2012

11. Energy performance and labelling requirements for specific appliances and equipment (FRIDGE study), Unlimited Energy Resources, 2012

12. South Africa geyser cost efficiency technical study, UNDP/LBNL/Unlimited Energy, 2014

13. VC 9008, Compulsory specification for energy efficiency and labelling of electrical and electronic apparatus, NRCS, 2014

14. VC 9006, Compulsory specification for hot water storage tanks for domestic use, NRCS, 2014

15. South Africa's Greenhouse Gas (GHG) mitigation potential analysis, DEA, 2014

16. Inception Report: To assess and evaluate market-based economic incentive(s) policies, UNDP/Urban-Econ, 2017

17. Business Case: Household energy efficiency, UNDP/Urban-Econ, 2017

18. NRCS Energy Efficiency Standards & Labelling technical training, UNDP/NRCS, 2017

19. Market research for efficient lighting information label design, UNDP/Research IQ, 2018

20. South African Energy Efficiency Product Registration/Database Study, UNDP/Energy Efficient Strategies, 2018

21. Evaluation and benchmarking of NRCS funding structure used for regulating the market for the energy efficiency of electrotechnical products: Integrated Report, UNDP/Urban Econ, 2018

22. Letter on Strengthening the MEPs and revision of the energy label, DoE/NRCS, 2019

23. Market assessment of residential and small commercial air conditioners in South Africa, UNDP/LBNL, 2019

24. Review of South Africa's appliance energy classes and identification of the next set of electrical equipment for inclusion in the national standards and labelling project: Existing electrical appliances, UNDP/Urban Econ, 2019

25. Cost-benefit analysis of technology neutral regulations to introduce minimum energy performance standards for general lighting, UNDP/Nova Economics, 2019

26. Leapfrogging South Africa's markets to high-efficiency LED lighting and high efficiency distribution transformers, UNDP/GEF, 2019

27. Energy efficiency labelling promotion, Massmart, 2019

28. Assessment report: Country visit to SABS in Pretoria, VDE, 2019

29. Energy Efficiency Social Media Campaign Survey and Competition, UNDP/Vital Light 2019

30. Approach Report: Determine the Viability of Including a QR Code on the Existing South African Appliance Energy Label, Jiayang Li, 2019

31. Energy Efficiency Product Database: Applicant User Manual, DoE/NRCS, 2019

32. Standards and Labelling: A study on the impact of VC9006 and the lack of compliance, UNDP/CRSES, 2019

33. Review of South Africa's appliance energy classes and identification of the next set of electrical equipment for inclusion in the national standards and labelling project: new electrical appliances: Industry Stakeholder Workshops for 8 new appliances, UNDP/Urban Econ, 2019

34. Energy savings estimates from south africa new standard and labeling program, LBNL, 2019

Annex 6: Project Stakeholder Map from the Project Document

Stakeholder	Description
DoE	The Department of Energy (DoE) was created in 2009 from the split of the original Department of Minerals and Energy (DME) into two departments that became independent stand-alone entities, now fully focused on their respective areas - energy and minerals. For its part, the DoE ensures that diverse energy resources are available in sustainable quantities and at affordable prices, so as to support economic growth and to deliver universal access to energy by 2012. The DoE is further responsible for ensuring the supply of liquid fuels, nuclear energy, power generation, energy planning, renewable energies and contingency energy supply, as well as being the home of the Designated National Authority which manages applications for all CDM projects.
DTI	Department of Trade and Industry (dti) is one of the biggest Government ministries, and among its goals is to phase-out energy-inefficient equipment from the South African market and it is involved in the energy efficient appliance labelling programme through the 2010/2011 Industrial Policy Action Plan (IPAP2) and the Energy Efficiency work plan developed jointly with DoE.
SABS	An organisation under the dti, the South African Bureau of Standards (SABS) is the national standardisation organisation and has over sixty years of experience in its core function of developing national standards and maximising the benefits of international standards through adoption. Seen as enhancing the competitiveness of South African industry and advancing international trade, SABS is available to all ministries due to the nature of the services it offers. SABS has signed a Memorandum of Understanding with DoE and, as such, has formed a working relationship with it which is being used for this project. SABS is one the two public test facilities participating in the programme.
NRCS	An organisation under the dti, the National Regulator for Compulsory Specifications (NRCS) ensures that all compulsory specifications, as mandated by law, are adhered to. It also administrates applicable legislation in an independent, effective and efficient way. As such the MSC (market surveillance and compliance) component of the S&L programme falls under the NRCS's mandate.
SANAS	An organisation under the dti, the South African National Accreditation Agency (SANAS) is recognised by the South African Government as the single National Accreditation Body giving formal recognition that Laboratories, Certification Bodies, Inspection Bodies, Proficiency Testing Scheme Providers and Good Laboratory Practice (GLP) test facilities are competent to carry out specific tasks. SANAS is responsible for the accreditation of certification bodies under ISO 17021 and 17024; laboratories under ISO 17025; and inspection bodies under ISO 17020 standards.
Eskom	Eskom is the public utility company, under the Department of Public Enterprises, generating approximately 95% of the electricity used in SA and approximately 45% of the electricity used in Africa. Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors, such as municipalities. Eskom has set up a Demand-Side Management (DSM) division to make deliberate interventions in the marketplace so as to change the configuration or magnitude of the load shape in the residential, commercial, industrial and agricultural sectors. Some of the residential projects undertaken by Eskom's DSM division are a CFL rollout and a solar water heaters rebate programme.
Independent testing facilities	Apart from SABS, there are two independent test facilities in South Africa that are promoting themselves and lobbying to be included in the S&L programme. Having multiple testing centres ensures sufficient access and capacity on the market, and also stimulates competition. The private testing facilities were also envisaged to be upgraded and their staff trained by the UNDP-implemented, GEF-financed project.
NGOs	Environmental and consumer NGOs were envisaged to be invited to participate in planning consultations, including those associated with the communication and awareness component.

Annex 7: Project Results Framework (at the Project Inception)

Strategic results framework

This project will contribute to achieving the following Country Program Outcome as defined in CPAP or CPD: Strength national capacities to achieve the goal of 10 % reduction of energy demand in the residential sector as stated in the National Energy Efficiency Strategy.
Country Program Outcome Indicators: Progress reports on energy demand and CO2 emissions reduction.
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy OR **2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.**
Applicable GEF Strategic Objective and Program: To reduce South African's energy-related CO2
Applicable GEF Expected Outcomes: A strategic Market Transformation. 4.59 MtCO2 abated over the lifetime of the appliances
Applicable GEF Outcome Indicators: Cumulative amount of GHG reduced in kilotons of CO2

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
Project Objective: Reduce greenhouse gas (GHG) emissions caused by the electricity consumption of household appliances in South Africa by facilitating a comprehensive transformation of the home appliance market through the introduction of a combination of two regulatory tools – Minimum Energy Performance Standards and Information Labels (S&L) – and a series of associated awareness-building and monitoring activities.	KWh of electricity demand reduction in the residential sector by year 5 of project implementation Tons of CO2 emissions reduction by year 5 of the project implementation	The average efficiency of most appliances sold in SA is lower than the previous European class G.	Increase awareness of energy efficiency Increase market share of high efficient appliances Reduce electricity demand by 4.41 TWh over the project time. Reduce CO2 emissions by 4.54 MtCo2 over the project time and by	Metering campaign Consumers/retailers questionnaire surveys. Sales data collection before and after the implementation of the project	Strong involvement of national agencies in the project The objectives of the project remain in line with the South African Government objectives In case these assumptions do not hold appropriate RBM approaches will be used to modify project activities as needed

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
OUTCOME 1: Policy and regulatory framework for the S&L program: Strengthen structures and mechanisms for appliance energy efficiency standards and labels (S&L)	Evidence of applicable S&L implementing regulations gazetted and enacted Evidence that relevant regulations are disseminated to key industry stakeholders	Insufficient policy/regulatory framework to implement S&L program	Policy/ institutional/ regulatory framework on energy efficient appliances is gazetted and enacted into law under the National Energy Act by end of 2013	Survey of major stakeholders S&L regulations to be circulated for public comment and then gazetted	Major stakeholders (public and private) support the project objectives and adhere to the timeline for enactment of the regulations This assumption will be ensured through formation of the stakeholder committee
Output 1.1: Review of existing policies and regulations. Provide feedback and advice for any corrective or new action to be taken to reduce project risks.	Number of stakeholders engaged in consultations Ensure any other program (energy or environmental) is identified to avoid confusion amongst consumers	S&L Action plan developed by DoE & DTI DoE to introduce law to allow for MEPS DTI plans to develop enforcement regulations	Majority of stakeholders review S&L implementation regulations & approve final proposal of energy classes and MEPS thresholds. S&L program extended to new set of products	Stakeholder consultation reports The new action plan that includes next set of products to be regulated under S&L programs	Major stakeholders (public and private) support the project objectives and adhere to the timeline for enactment of the regulations This assumption will be ensured through formation of the stakeholder committee and regular consultations.
Output 1.2: Evaluation of financial incentives such as the rebate program operated by the Eskom DSM for purchasing efficient appliances. Development of new financial incentives if needed.	Number of existing rebate programs	Current ESKOM rebate program	Increase market share of efficient appliances	Number of efficient appliances sold due to the rebate program	Incentive program s are approved and effective If these are not approved the MEPS will still be in place.

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
OUTCOME 2: Define labeling specifications and MEPS thresholds for the 12 products considered by the DoE & DTI for S&L regulation	Energy classes and MEPS thresholds for the 12 products included in DoE & DTI action plan	Labeling specifications and MEPS are unknown	By 2012, reach an agreement with stakeholders on energy classes and MEPS requirements for the 12 products included in DoE & DTI action plan	Stakeholders consultation reports	Stakeholders actively participate in providing market data and the review of the engineering /cost benefits analysis. Appropriate management responses will be devised if this assumption does not hold
Output 2.1: Conduct market and engineering analysis for the products selected for S&L regulation	Cost benefits analysis conducted for the 12 products selected for S&L regulation Number of Market research and industry studies conducted. Market transformation benefits demonstrated to stakeholders	None	Propose energy classes and MEPS thresholds applicable for the South African market		
Output 2.2: Adopt labeling specifications and MEPS thresholds for the 12 products selected for S&L regulations	Labeling energy classes and MEPS adopted	None	Implementation of energy classes and MEPS thresholds Agreement with stakeholders on schedule to phase out inefficient appliances	Stakeholders consultation reports Label affixed on products sold in SA Impact assessment analysis	Key stakeholders involved in the process Necessary legislation is drafted and enacted In case these assumptions do not hold appropriate RBM approaches will be used to modify project activities as needed

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
OUTCOME 3: Strengthen the capacity of institutions and individuals involved in the S&L program	Number of institutions audited and capacities upgraded Number of staff trained	None	Accreditation of testing facilities (public & private) and enforcement institution Adaptation of International/EU test procedures to the South African climatic and usage conditions when needed	Audit reports Trainings & workshops organized Validation of the conversion factors proposed for the adaptation of test procedures	Public sector funding to is made available to upgrade test facilities If not, private sector test lab engagement will be sought
Output 3.1: Strengthen institutions (testing facilities, enforcement institution...)	Number of testing facilities audited Number of testing facilities upgraded Number of testing facilities accredited Accreditation of enforcement institution	None	Upgrade the existing facilities Ensure test facilities are operational, sufficient & available for compliance checking	National testing and enforcement institutions accredited	Key stakeholders involved in testing, compliance and enforcement procedures cooperate in the project
Output 3.2: Strengthen employee skills	Necessary intergovernmental forums established to ensure coordinate effort Number of employees trained	None	Train the required number of people based on sales & number of units to be tested per year Train all staff involved on testing and enforcement on accreditation requirements & constraints Adoption of conversion factors for testing considering the South African conditions Train the required number of inspectors for trade inspections and compliance checking	Number of staff trained on testing Number of staff trained on accreditation requirements South African test procedures updated with the conversion factors Stakeholders consultation reports Number of inspectors trained on MSC procedures	Strong cooperation between private and public institution on trainings and sharing experiences and lessons learnt Involvement of stakeholders on test procedures adaptation

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
OUTCOME 4: Awareness raising campaign for standards and labels, targeting manufacturers, distributors, retailers and end-users.	Consumers and retailers become more aware of appliance energy efficiency standards and labels and retailers via sampling and surveys	None	At least 50% of consumers and retailers contacted (within the sample group) become more aware of appliance energy efficiency standards and labels and retailers provide evidence of marketing efforts to support the scheme	Consumers and retailers survey Project implementation reports	Retailers and consumers of appliances support the project objectives
Output 4.1. Test and adopt Label design	Number of dissemination activities offered to consumers and retailers Number of consumers (particularly low incomes)and retailers covered by dissemination activities	None	At least 50% of consumers and retailers contacted (within the sample group) are able to understand the meaning of the label and its benefits	Consumers survey results Number of consumers responding to the questionnaire	Consumer NGOs, retailers and research institutes involved in the program Retail staff understand label & can explain it to consumers
Output 4.2. Develop communication campaign towards manufacturers, importers, distributors, retailers and consumers about appliances' energy efficiency	Number of dissemination activities offered to each category Number of people covered by dissemination activities	None	A statistically relevant sample of households will be drawn on to determine the market penetration & effectiveness of the project Ensure consumers distinguish between MEPS & extra financial benefits of exceeding MEPS voluntarily. At minimum the staff of top 10 manufacturers, distributors are aware about S&L programs	Consumer, manufacturers, distributors and retailers surveys	Communication materials developed are of high-quality and appropriate for the given audiences targeted
Output 4.3. Develop and deliver training programs for distributors and retailers' staff	Number of trainings delivered Numbers of trainers involved	None	Retailers and distributors able to deliver S&L message to end-users	Impact assessment studies	Strong involvement of retailers and distributors

Strategy	Indicators	Baseline (Year 0)	Target	Sources of Verification	Assumptions
OUTCOME 5: Implementation of S&L Market Surveillance & Compliance (MSC) regime to ensure energy performance standards is met	MSC procedures adopted and implemented Number of models/product excluded from the S&L program	None	Minimum number of products sold in the market (ratio TBD for each appliance type) which don't comply with the S&L requirements	Compliance rate	The cost of MSC activities will be covered by levies to be charged by NRCS on regulated products
Output 5.1. Development of MSC procedures for regulated products	MSC procedures adopted	None	Dissemination of MSC procedures Train NRCS staff on MSC activities and compliance procedures	Stakeholders consultation reports	Commitment from manufacturers side
Output 5.2. Integration of product energy performance compliance checking with local manufacturers and country pre-import inspections	MSC procedures implemented	None	Develop database of S&L products	Number of models/products excluded from the S&L program / year Number of site visits by inspectors / year	Manufacturer / retailer contributions to database Ensure database has integrity and that fields collected are relevant
OUTCOME 6: Development of Monitoring and Evaluation (M&E) capacity	Skilled South African professionals trained on M&E of energy projects	Limited	All those skilled South African professionals trained demonstrate appropriate level of knowledge via	Project implementation reports	Commitment of resources
Output 6.1. Replication of S&L program for new set of products	Work plan to replicate the S&L for new set of products	None	Extend S&L program for other appliances and equipment	Project implementation reports	Experts adequately review the implementation of the program for the 1st set of products and suggest improvements
Output 6.2: Implementation of Monitoring and Evaluation methodology for S&L programs	Number of staff trained on M&E of S&L programs Launching of metering campaigns and data collection studies	Eskom has developed expertise on metering campaigns	Make M&E activities part of the whole process Record lessons learnt	Report on end-use sales and energy use of appliances published	Consumers and retailers are willing to cooperate in data collection and questionnaire surveys

Annex 8: Performance Rating of GEF Projects

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

Outcome ratings

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

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

Sustainability Ratings

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

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

Monitoring and Evaluation Ratings

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

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

Implementation and Execution Rating

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

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

Annex 9: Evaluation Report Outline

i. Opening page:

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

ii. Executive Summary

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

iii. Acronyms and Abbreviations

1. Introduction

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

2. Project description and development context

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

3. Findings

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

3.1 Project Design / Formulation

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

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

3.2 Project Implementation

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

3.3 Project Results

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

4. Conclusions, Recommendations & Lessons

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

5. Annexes

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

Annex 10: Evaluation Consultant Agreement Forms

Evaluators:

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

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

Name of Consultant: DALIBOR KYSELA

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

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

Signed at Vienna on 18.12.2019

Signature: _____

Annex 11: Audit Trail – annexed as separate file