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## TERMINAL EVALUATION

of the

Renewable Energy-based Rural Electrification Programme for  
Botswana

[PIMS 1771, ATLAS 00039468]

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## Inception Report

*Dr. Yogesh Vyas  
Energy, Environment & Climate Change Expert  
9307 Angelas Meadow  
Houston, Texas 77095  
U.S.A.*

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## Acronyms

BOTEC	Botswana Technology Centre
BPC	Botswana Power Corporation
BRET	Botswana Renewable Energy Technology
CP	UNDP Country Program for Botswana (2003-2007)
EAD	Energy Affairs Division
GHG	Greenhouse Gas
GEF	Global Environment Facility
JICA	Japanese International Cooperation Agency
LPG	Liquefied Petroleum Gas
MFDP	Ministry of Finance and Development Planning
MMEWR	Ministry of Minerals, Energy and Water Resources
MOU	Memorandum of Understanding
MPS	JICA Master Plan Study on Photovoltaic Rural Electrification
NDP	National Development Plan
NGO	Nongovernmental Organizations
NPV-REP	National PV Rural Electrification Program
PDF B	Project Development Facility Block B
PIMS	Project Information Management System
PSC	Project Steering Committee
PV	Photovoltaic
SHS	Solar Home System
UNDP	United Nations Development Programme
UNDAF	United Nations Development Assistance Framework

## 1. Introduction

Rural energy is recognized as an important element of rural socio-economic development, not as an end in itself, but through the services it makes possible. Photo Voltaic (PV) systems can have a significant impact on the lives of rural users. For example, energy can provide services such as the extension of daytime activities through lighting, entertainment by means of radios and televisions and pumping of potable water. Furthermore, PV projects in Botswana have always been implemented to provide social and communal services (e.g., powering health centers, schools and communal centers). These social and communal services can spark the provision of income-generating activities. For example, small solar systems may help promote productive activities (e.g., bars, restaurants, rural cinemas, telephone shops, mechanical and artisan workshops), powering small tools and appliances (drills, soldering irons, blenders), lighting and radio/TV. Thus, the provision of PV has helped to contribute to rural employment creation, albeit on a small scale. The proposed initiative is meant to take pro-active measures to promote productive uses such as these.

## 2. Brief description of the project

The RERE project aims at supporting national efforts to reduce Botswana's energy-related CO<sub>2</sub> emissions by promoting renewable energy and low GHG technologies as a substitute for fossil fuels (fuel wood, paraffin, charcoal) used in rural areas. The activities proposed in the project are designed to contribute to the removal of barriers to the wide-scale utilization of renewable and low GHG technologies to meet the basic electricity needs of individual households in terms of lighting, power for radio, cassette players, TV and income-generating activities. In turn, this project will contribute to the initiation of intended renewable energy program of the Government of Botswana (GOB) and the development of private sector in the provision of renewable energy in the country.

The renewable energy situation assessed at the implementation of the PDF-B stage confirmed that solar energy is available in abundant quantity, more or less equally distributed over the country throughout the year. Other renewable energy sources such as wind are limited, location specific and unevenly distributed during the year. Biomass is currently the main renewable energy source of energy used in Botswana for cooking and heating. However, available biomass resources (woody biomass and agricultural residues) are insufficient to generate and distribute electricity on a sustainable basis. As a result, the main source of renewable energy to be utilized in Botswana will be solar energy in terms of various PV-based technologies such as mobile solar system, solar home system, battery charging stations and mini-grids.

The 2003 Energy Master Plan (EMP) proposes access to electricity through connection to the national grid, off-grid connection via PV for those households where it makes economic and social sense, and improving the affordability of electricity to households. It also identified the following factors:

- Electrification planning should be integrated with other development planning; and
- Rural electrification should be regarded as part of the national electrification program, albeit with different objectives and requirements to those for urban electrification.

Furthermore, the EMP states that PV electrification should be part of the national electrification planning. Planning of PV electrification needs to take cognizance of grid extension plans and should be funded under the same principals as the rural grid electrification. While rural electrification has been an important component of the national development agenda, the high cost of rural grid electrification program have been

a barrier, with the result that only 17% of the rural population has access to grid electricity services, compared to 36% in the urban areas.

There are several previous/ongoing studies conducted on PV application in the country. These include JICA Master Plan Study on Photovoltaic Rural Electrification (MPS). The MPS was designed to formulate a master plan to promote rural electrification based on PV system over a period of 10 years starting 2003. The outcomes of the MPS were largely used in preparation of the UNDP-GEF RERE project.

The objectives of the MSP were to:

- Supply solar electricity, quickly and under affordable conditions to households in rural areas that cannot benefit from grid electrification and other energy supply services;
- Implement the PV rural electrification project in a least cost basis and financially feasible and sustainable manner;
- Integrate with infrastructure planned for specific regions; and
- Expand environmentally friendly energy use.

Other prior initiatives on renewable-energy based rural electrification are:

- Botswana Renewable Energy Technology Project;
- Manyana PV Project;
- National PV Rural Electrification Program;
- Motshegaletau Centralized PV System;
- GEF Small Grants Solar Lantern Program.

The RERE project commenced in 2005 and was to run for five years with a planned completion date of December 31<sup>st</sup>, 2010, under the execution of the Energy Affairs Department in the Ministry of Minerals, Energy and Water Affairs (MMEWR). An agreement was signed between BPC and EAD in October 2006 to facilitate implementation of the project.

### 3. Project Goal, Objective, Outcomes and Outputs/activities

**Global objective:** To reduce Botswana's energy related CO<sub>2</sub> emissions by substituting fossil fuels (petrol / diesel, wood fuel, paraffin and coal) with PV and LPG, for the purpose of providing basic energy services to rural homes and community users.

**Development Objective:** To improve people's livelihoods by improving their access to and affordability of modern energy services and assist the Government of Botswana with the initiation of a renewable energy program for the rural areas, thus reducing the dependency on imported fossil fuel.

These objectives would be achieved by project activities designed to remove barriers to the wide-scale utilization of PV and LPG for providing energy services. The project will consider the institutional, financial and market instruments necessary to demonstrate the viability of using the private sector to participate in the process of sustainable development in rural areas through the delivery of basic energy services through PV and LPG.

The project consists of **six** components. Each of these six components is composed of an immediate objective, specific output(s) and a number of activities. By achieving these immediate objectives, the project will contribute towards the achievement of the global and development objectives.

1. ***Delivery of technology packages:*** *To implement three different delivery models targeting different end-user groups and making use of different PV and PV/LPG-based technology packages.*
2. ***Policy support and policy framework:*** *To assist with the development of policy and institutional arrangements conducive for the integration and provision of off-grid electricity services within the existing rural grid electrification programme.*
3. ***Awareness raising and changing of perceptions:*** *To increase awareness and change perceptions among the general public, decision-makers and rural consumers on the potential role of PV and LPG in meeting basic energy needs.*
4. ***Private and public sector strengthening and training:*** *To strengthen and support the public and private sector working in the PV and renewable energy sector to provide better quality of service.*
5. ***Financial engineering:*** *To assist with the development of appropriate financing mechanisms for the larger scale dissemination of PV-based technologies to rural customers.*
6. ***Learning and replication:*** *To disseminate experience and lessons learned to promote rapid implementation of rural electrification based on renewable and low GHG technologies throughout the country.*

Annex 1 presents the above in a Logical Framework Matrix form taken from the original GEF RERE project document.

#### 4. Context and purpose of the evaluation

As stated in the Terms of Reference, the purpose of this evaluation is to provide the project partners i.e. GEF, UNDP and the Government of Botswana with an independent assessment of the impacts and key achievements of the RERE project as compared to the project document for the five years implementation of the project. Assess the expected outcomes and their sustainability and identify and discuss the lessons learned, through measurements of the changes in the set indicators, summarize the experiences gained and recommend for future policy dialogues and changes to the implementation structure.

The evaluation of the RERE project has been commissioned by the GOB's MMEWR, BPC, UNDP Botswana and the GEF in accordance with the project's M&E Plan. The results of the evaluation will inform the project partners on the need for any extension of the project duration and whether the project has a chance to deliver the agreed outputs, how sustainable those outputs would be, and what changes need to be considered in the design and implementation of the project. The RERE project will also inform the activities outlined in the United Nations Development assistance Framework (UNDAF) and the United Nations Operational Program Operational Plan (UN-POP). The evaluation will also inform the stakeholders on the achievements of the RERE project in promoting renewable energy and reducing carbon-related emissions in Botswana.

#### 5. Key issues to be addressed

To achieve the above objectives the terminal evaluation is to address the following:

- (i) Assess the impacts and key achievements of the project vis á vis its objectives and outcomes as per project design indicators.
- (ii) Assess the relevance achievements of the project objectives to the national development agenda and priorities, UNDP thematic areas and needs of beneficiaries.
- (iii) Review the appropriateness and clarity of roles and responsibilities of stakeholders and their level of satisfaction with the project achievements.
- (iv) Assess the achievements of the project in terms of timeliness, quality, quantity and cost effectiveness of the expected outcomes
- (v) Assess the prospects of the sustainability of the project outcomes and benefits in the longer future.

## 6. Methodology of the evaluation

The terminal evaluation will be conducted in a participatory manner through a combination of processes including a review of the key project documentation, interview with project stakeholders and site visit. It will include visits to UNDP Country Office, Project Executing Offices of Government, PIU, EAD, BPC as well as selected national partners and stakeholders, including interviews with key individuals both within the project sites, the government staff, NGOs, private sector (PV dealers), and project beneficiaries mainly communities in various districts.

It is anticipated that the methodology to be used for this TE will include, but may not be limited to the following:

***i) Documentation review including, inter alia:***

- Project Document and Project Appraisal Document;
- Project implementation reports (APR/PIR's);
- Quarterly progress reports and work plans of the various implementation task teams;
- Minutes of the project Steering Committee Meetings;
- Solar PV Productive uses Evaluation Report.
- Annual technical reports and work plans of the various implementation task teams;
- Mid Term Evaluation report; ( not conducted);
- Audits reports;
- M & E Operational Guidelines, all monitoring reports prepared by the project;
- Financial and Administration guidelines;

***The following documents will also be reviewed:***

- The project M&E framework
- Knowledge products from service providers
- Project operational guidelines, manuals and systems;
- Minutes of the Project Board Meetings, task teams and other project management meetings;
- Maps of the country, locations of pilot projects;
- The GEF Implementation Completion Report guidelines; and,
- The UNDP Monitoring and Evaluation Frameworks.

*ii) Interviews will be conducted with:*

- UNDP-GEF staff who have project responsibilities;
- Staff of the Project Coordination Unit;
- Executing agencies;
- Members of the Project Steering Committee
- Task Team members (if appropriate).
- Project stakeholders, particularly members of the various project level steering committees and project beneficiaries;
- Participating members of the Pilot projects
- Relevant staff in participating government departments.

Where relevant, the questionnaire in Annex 2 will be used as a guide during the interview.

*iii) Field Visits:*

The following rural project sites would be visited:

- Kweneng West Region covering the villages of Lentsweletau and Medie.
- South East Region; specifically the villate of Ramotswa.

In addition, **but separate from project staff and their institutions**, the evaluators will need to specifically meet with selected communities (intended beneficiaries of the project during the field visits).

## 7. Structure of the evaluation

The terminal evaluation relies on the information obtained from various sources involved in the project development, management and implementation. As to this, the evaluation process is structured to:

- Review document obtained from those sources (UNDP/PIU).
- Conduct consultation meetings and interviews with project stakeholders and get their views and obtain more information.
- Field visits for physical inspection of some installations and conduct discussions with end users.
- Compile the information revision results and personal observations.
- Compare project achievements to what was stipulated in the Project document on objective-by-objective basis.
- Draw conclusions and recommendations.

*Findings and conclusion of the evaluation will be reported in the following format:*

In addition to a descriptive assessment of the following topics, all **criteria marked with (R) would be rated** in conformity with the GEF/UNDP guidelines for final evaluations using the following divisions: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory. Annex 3 is a guide for the use of the scales for rating.



### 7.1 Project Formulation

- *Conceptualization/Design(R)*. This should assess whether the approach used in design and selection of project interventions addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design.
- *Country-ownership/Driveness*. Assess the extent to which the project idea/conceptualization had its origin within national, sectoral and development plans and focuses on national environment and development interests.
- *Stakeholder participation (R)* Assess information dissemination, consultation, and “stakeholder” participation in design stages.
- *Replication approach*. Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation).
- *Linkages* between the project and other interventions within the sector and the definition of clear and appropriate management arrangements at the design stage. This element should also address the question of to what extent the project addresses UNDP priorities; gender, south-south cooperation, poverty-environment linkages (sustainable livelihoods) and disaster prevention and recovery. The linkages between the project and the UNDAF for the particular country/countries and the

### 7.2. Project Implementation

- *Implementation Approach (R)*. This should include assessments of the following aspects:
  - (i) The use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M & E activities if required.
  - (ii) Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or; changes in management arrangements to enhance implementation.
  - (iii) The project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
  - (iv) The general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives.
  - (v) Technical capacities associated with the project and their role in project development, management and achievements.
- *Monitoring and evaluation (R)*. Including an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have

been held and whether action has been taken on the results of this monitoring oversight and evaluation reports.

- *Stakeholder participation (R)*. This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following:
  - (i) The production and dissemination of information and lessons generated by the project.
  - (ii) Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena.
  - (iii) The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation.
  - (iv) Involvement of governmental institutions in project implementation, the extent of governmental support of the project.
- *Financial Planning*: Including an assessment of:
  - (i) The actual project cost by objectives, outputs, activities
  - (ii) The cost-effectiveness of achievements
  - (iii) Financial management (including disbursement issues)
  - (iv) Co-financing
- *Procurement Management*: Including an assessment of:
  - (i) Technical and human resource capacity for procurement management
  - (ii) Linkage between work programming, procurement planning, budgeting, and disbursement planning
  - (iii) Effectiveness of procurement management, as indicated by results of audits (internal and/or external), and reports of review and supervision missions by IAs.
- *Sustainability*. Extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: Development of a sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities.

### 7.3 Results

- *Attainment of Outcomes/ Achievement of objectives (R)*: Annex 4 will be filled in a description and rating of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U) and Highly Unsatisfactory (HU) ratings. If the project did not establish a baseline (initial conditions), the evaluators should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established.

This section would also include reviews of the following:

- *Sustainability*: Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end.
- *Contribution to upgrading skills of the national staff*

- *Summary Table of ratings.*

#### 7.4. Recommendations

- Corrective actions for the design, implementation, monitoring and evaluation of the project. Recommendations should be specific and clearly justified in relation to the achievement of the project objectives.
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Changes to project strategy, including the log frame indicators and targets

#### 7.5. Lessons learned

- This would highlight the ‘best’ and ‘worst’ practices in addressing issues relating to relevance, performance and success.

## **8. Evaluation report Format and Annexes**

Evaluation report outline in Annex 5 will be followed to the extent practicable. Following annexes are expected to be appended to the main report:

- Evaluation TORs
- Itinerary
- List of persons interviewed
- Summary of field visits, , issues raised and recommendations by different stakeholders
- List of documents reviewed
- Questionnaire used and summary of results
- Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

## **9. Evaluation Time Frame**

The valuation will be conducted in 20 working days commencing May 16, 2011 through June 15, 2011. The following table indicates tasks, timelines and deliverables, for which the consultant shall be responsible and accountable as well as those involving the commissioning office (UNDP-Botswana) indicating for each who is responsible for its completion. The full TOR of the evaluation is attached in Annex 6.

Table 1: Indicative Evaluation Work plan.

Task	Time Frame (weeks)				Responsible Entity
	1	2	3	4	
Desk review					Evaluation Team
Briefings of evaluators					UNDP Mgnt
Finalizing evaluation design & methods, and preparing detailed inception report					Evaluation Team
Reference Group Meets to Review Inception Report					UNDP PM
Field Visits & Interviews					UNDP PM
Analysis					Evaluation Team
Preparing the draft report					Evaluation Team
Stakeholder meeting and review of the draft report (for quality assurance)					UNDP PM
Incorporating comments and finalizing the evaluation report					Evaluation Team
Debriefing Session					Evaluation Team

## 10. Evaluation Team Composition

The evaluation team is composed of Dr. Yogesh Vyas, Energy, Environment & Climate Change consultant based in Houston, Texas.

## Annexes

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**Annex 1:** Logical Framework Matrix for the RERE Project as Depicted in the Original Project Document.

<b>Annex 1: Logical Framework Matrix</b>			
<b>STRATEGY</b>	<b>INDICATORS</b>	<b>MEANS OF VERIFICATION</b>	<b>CRITICAL ASSUMPTIONS</b>
<p><b>Global objective:</b> To reduce Botswana’s energy related CO<sub>2</sub> emissions by substituting fossil fuels (petrol / diesel, wood fuel, paraffin and coal) with PV and LPG for the purpose of providing basic energy services to rural customers and community users.</p>	<p>By the end of the project, consumption of paraffin reduced by 80% in households using PV-based systems for lighting compared to the baseline.</p>	<p>End-user surveys.</p>	<p>Paraffin prices will not significantly drop.</p>
	<p>By the end of the project small-scale PV-based business activities increase by 30% when compared to baseline year.</p>	<p>Dealer surveys. Market surveys.</p>	<p>The proposed disbursement scheme for Government subsidies is implemented successfully.</p>

	Renewable energy main-streamed into national policy making and planning within 10 years.	NDP 9 and 10 and other Government planning reports.	
	Incidence of paraffin-related respiratory and eye diseases reduced by 10% over 20 years within those households using PV-based systems. <sup>1</sup>	Medical survey in the project area.	
<b>Development Objective:</b> To improve people's livelihoods by improving their access to and affordability of modern energy services and assist the Government of Botswana with the initiation of a renewable energy program for the rural areas, thus reducing the dependency on	Volume of sales by PV dealers increased by 60% by the end of the project.	Dealer surveys.	Paraffin prices will not significantly drop.  The Government
	The number of PV dealers operating in the Botswana market increased by 30% by the end of the project.		

<sup>1</sup> The project logical framework presents indicators at different levels: At the level of global and development objective, energy consumption indicators are expressed over 20 years as it is required by the GEF to monitor impacts. Other more intermediary indicators are included for immediate objectives. As the project duration is only 5 years, measuring impacts after 20 years will lie with the Government of Botswana who will be involved in collecting and analyzing information on renewable energy based rural electrification in any event in order to steer and revise as appropriate their (subsidy) interventions in this regard. The project will ensure that CO2 monitoring – which essentially is indirectly monitored through determining the reduced fossil-fuel consumption/increased PV-based electricity consumption – will be included in Government impact monitoring schemes after the project has ended. The same is the case for health related impacts such as respiratory and eye diseases.

imported fossil fuel.	The number of income generating activities emerged in combination with the turnover / profit of these activities / businesses. It is anticipated that in 2 years 1% and in 5 years 3% from the households supplied with PV systems will be involved in income generating activities	End-user surveys.	will actively support PV-based systems through – among others – implementing subsidy schemes as proposed under this initiative..
<b>Immediate Objective 1:</b> To implement three different delivery models targeting different end-user groups and making use of different PV and PV/LPG-based technology packages.	The number of PV systems sold in the targeted 88 villages during the 5-year project period will be 6,525 as compared to the baseline scenario of a few hundred.	Dealer surveys	The Government is willing to provide subsidies on the cost of the systems, initially of 80% and dropping to 60% over the five year project  End-users are able and willing to adopt new technologies.
<b>Output 1.1:</b> In 88 villages, 5,152 households will be offered basic lighting and cooking facilities.	By the end of the project 5,152 PV/LPG systems are being used for lighting and cooking.	Project implementation and progress reports.	
	Paraffin consumption for lighting has been reduced by 80% by the end of the project.		
<b>Output 1.2:</b> In 88 villages, 1,373 households will be offered SHS.	By the end of the project 1,373 SHS are being used for lighting, entertainment and small-scale income-generating activities.	End-user surveys	
	Paraffin consumption for lighting has been reduced by 80%.		
<b>Output 1.3:</b> In one village, a mobile PV mini-grid will be installed, operated and closely	220 V electricity - by means of a PV mini-grid - is being supplied in one village in Year 2 of the	Project files, including monitoring reports.	The PV mini-grid hardware at



monitored.	project connecting a minimum of 15 Households.		Motshegaletau is made available for use by the project.
<b>Immediate Objective 2:</b> To assist with the development of policy and institutional arrangements conducive to the integration and provision of off-grid electricity services within the existing rural electrification program.	By the end of the project, renewable energy-based (rural) electricity features are integrated in national policy plans (NDP 10) as a cost-effective alternative.	NDP 10 and other Government documents prepared in the process of developing institutional and policy frameworks for integrated RE-based rural electrification.	Government is amenable to change and decision-makers willing to base decisions on knowledge acquired.
<b>Output 2.1:</b> A policy and implementation framework for renewable energy-based rural electrification (mainly PV systems) will be defined and is in place.			
<b>Output 2.2:</b> Standards for PV and PV/LPG components and systems will be updated and their use enforced.	The rate of reported system faults has decreased by 30% compared to the baseline year.	End-user surveys. Dealer surveys.	Dealers and installers are willing to adopt updated standards, and enforcement mechanisms are implemented and strictly applied.
<b>Immediate Objective 3:</b> To increase awareness and change perceptions among the general public, decision makers and rural customers on the potential role of PV and LPG in meeting basic			

energy needs.			
<b>Output 3.1:</b> Awareness program for decision-makers will be developed and implemented.	Not less than 20% of the targeted 88 villages have been visited by (key) decision-makers during no less than five field trips during the implementation of the 5-year program.	Reports prepared on these field trips as part of the project progress docs.	Willingness of high-level decision-makers to undertake multi-day field trips to remote, rural villages.
<b>Output 3.2:</b> A rural customer awareness program will be formulated and implemented.	Number of customers enquiring for information about PV systems at local (rural) dealer/retailer shops has increased by 100% by Year 3 of the project implementation and by 200% by the end of the project compared to the baseline year.	Dealer surveys, including local rural retailer shops.  End-user surveys	Market actors are willing to cooperate in providing this information.
<b>Immediate Objective 4:</b> To strengthen and support the public and private sector working in the PV and renewable energy sector to provide better quality of service to rural areas.	Number of businesses dealing with PV systems increased by 30% by the end of the project compared to the baseline year.	Dealer surveys.	Market actors are willing to cooperate and businesses are
	Level of end-user satisfaction with installation and after sales service increased by 50% by the end of the project compared to the baseline year.	End-user surveys.	

	The percentage of PV-based systems introduced as part of the project that is still fully operational at mid-term of the project is 70% or above and 60% or above at the end of the project.	Evaluation reports  End-user surveys	eager to expand.
<b>Output 4.1:</b> Business development services in the renewable energy sector (mainly PV) will be strengthened.	At least 50% of all PV dealers/ companies participated in at least one capacity building activity offered by the project.	Project files.  Dealer surveys.	Willingness of private sector to invest time in training.
<b>Output 4.2:</b> Technical knowledge of PV and PV/LPG systems will be strengthened.	70% of all technical training courses offered to vendors, dealers, technicians, etc. are completed.	Project files.	Willingness of private sector to invest time in training.
<b>Output 4.3:</b> The ability of the public sector and para-statal to provide a policy framework and assistance to further renewable energy-based rural electrification (notably PV) will be strengthened.	70% of all staff at EAD involved in renewable energy development has participated in at least one of the capacity strengthening activities offered through the project.	Project files.	Willingness of public sector to invest time in training.
	70% of all staff in the Off-Grid Electricity Unit at BPC has participated in at least one of the capacity strengthening activities offered through the project.		Willingness of BPC to act as the Implementing Agency and invest time in training.
<b>Output 4.4:</b> An association looking after the business interests of the PV sector will be set up and is operational.	50% of all PV businesses are member of the newly formed association, possibly called 'PV Association of Botswana'.	Project files.	Willingness of private sector to invest time in the

	The association meets at least 4 times per year and 2 major activities are implemented each year.	Project files.	association's running and activities that are prepared.
<b>Immediate Objective 5:</b> To assist with the development of appropriate financing mechanisms for the larger scale dissemination of PV-based technologies to rural customers.	The proposed subsidy disbursement scheme (as per Section IV-Part VII) is operational and functions properly.	Data from the Fund Account Manager, micro-lenders, project files	Willingness of financial sector to get involved in financing renewable / PV energy systems.
<b>Output 5.1:</b> A financing scheme to reach rural customers will be designed and implemented.	Financing schemes are operational so that rural customers can purchase subsidized PV-based systems during the 5-year project period via retail shops.	Data from the Fund Account Manager, micro-lenders, project files, end-user surveys, contractors (dealer) surveys.	Willingness of private financial sector (e.g., Penrich) to provide savings and credit schemes.
	A minimum of 50% of all PV purchases in the selected villages are being made using the financing scheme two years after introduction of that scheme.	End-user surveys. Dealer surveys.	

<p><b>Output 5.2:</b> Sustainable (long-term) subsidy schemes for PV and PV/LPG systems will be designed and recommendations on how to implement these schemes will have been made.</p>	<p>Design and implementation strategies for subsidy schemes documented. This will be based on the proposed preliminary scheme presented in Section IV-Part VIII.</p>	<p>Government documents and National Budget.</p>	<p>Willingness of the Government to make available the long-term subsidy that is necessary.</p>
<p><b>Immediate Objective 6:</b> To disseminate experience and lessons learned to promote rapid implementation throughout the country of rural electrification based on renewable and low GHG technologies.</p>	<p>After Year 4 of the project, 1,500 PV systems per year are being sold outside the project area.</p>	<p>National rural electrification program and project files.</p>	<p>Successful implementation of activities under component 1.</p>
<p><b>Output 6.1:</b> A program for replication of activities implemented under component 1 will be prepared.</p>			
<p><b>Output 6.2:</b> Lessons learned from the current pilot activities in three villages using fee-for-service with SHS will be documented and used for decision-making on possible continued developments with this delivery model.</p>	<p>Discussions (leading to decisions) on possible up-scaling and/or inclusion of the fee-for-service model in the renewable energy-based rural electrification plans/activities. These discussions will be initiated by the PMU before the 1<sup>st</sup> year of the Project ends.</p>	<p>Monitoring and analysis reports of the fee-for-service pilot project and project files.</p>	<p>Willingness of the Government to make substantial additional subsidies available if it is decided to continue the fee-for-service model.</p>

<p><b>Output 6.3:</b> The impact of PV and PV/LPG systems in the project area will be evaluated.</p>	<p>Methodology for determining the impact of the project interventions exists and is applied. As impact monitoring is a guiding principle (see remark at the top of the logical framework matrix) this methodology will be designed ready for use in the 3<sup>rd</sup> Quarter after the project has commenced.</p>	<p>Impact evaluation report.</p>	<p>Willingness / ability of rural customers to provide necessary socio-economic information to assess impact.</p>
<p><b>Output 6.4:</b> Support has been provided to disseminate the learning and replication experiences in the project area into the SADC region.</p>	<p>Experiences from this project will be shared with at least 3 countries in the SADC region before the end of the project.</p>	<p>Lessons learned reports and project files.</p>	<p>Willingness of actors in other countries to actively share information on their renewable energy-based rural electrification activities.</p>
<p>The experiences of at least three countries outside Botswana will be monitored and used to steer the Botswana project implementation and design future developments.</p>	<p>At least three trips have been organized for a combined target group of Government and Donor representatives (both from inside and outside Botswana) to the project area to observe PV systems in order to learn and share experiences.</p>		

## Botswana RERE Terminal Evaluation Interview Guide

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### Explanatory note

As a key stakeholder to the RERE project, you are most probably aware that the project is in the process of closure. It is standard procedure to carry out a Terminal Evaluation (TE) of the RERE as per standard UNDP/GEF Monitoring and Evaluation Policies and Guidelines<sup>2</sup>.

There are four objectives to this independent review, namely:

1. Monitor and evaluate results and impacts;
2. Provide a basis for decision making on necessary amendments and improvements;
3. Promote accountability for resource use (although this exercise is not a Financial Audit);
4. Document, provide feedback on, and disseminate lessons learned.

A variety of instruments is being used to undertake the TE, and one these is the use of this questionnaire. In this regard, your views about the various aspects of the RERE are being sought. Please note that the International Consultant will carry out an in-country mission during mid-May to mid-June 2011.

Although you are encouraged to identify yourself, please note that you have the right to anonymity. In the event that you wish to remain anonymous, do however indicate the stakeholder group that you belong to.

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### PART A - Details of Interviewee

Name of person:

Affiliation (name of institution):

Address:

Date and Location of Interview:

**Please tick as appropriate in the following stages of involvement and include a brief description of your institution's role and services in the RERE:**

Design:

Formulation:

Implementation;

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<sup>2</sup> Guidelines for GEF Agencies in Conducting Terminal Evaluations, Evaluation Document No. x (Global Environment Facility, Evaluation Office, 2011); and The GEF Monitoring and Evaluation Policy, Evaluation Document No. X (Global Environment Facility, Evaluation Office, 2011) – both documents accessed at <http://thegef.org>.

Monitoring & Evaluation:

Beneficiary:

Other (please state):

## **PART B - Specific Questions**

This part contains three sections each with a brief description of the information being sought followed by specific questions pertaining to the project, formulation, implementation and results of the RERE.

### **Evaluation will be based on the following criteria:**

**Relevance** – The extent to which the project is suited to local and national development priorities and organizational policies, including changes over time;

**Effectiveness** – The extent to which an objective has been achieved or how likely it is to be achieved;

**Efficiency** – The extent to which results have been delivered with the least costly resources possible (while noting that this evaluation is not a financial audit);

**Results** – The positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. These include direct project outputs, short- to medium-term outcomes, and longer term impacts including global environmental benefits, replication effects, and other local effects;

**Sustainability** – The likely ability of the project to continue to deliver benefits for an extended period of time after completion – i.e. project should be environmentally, financially and socially sustainable. Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end. *Contribution to upgrading skills of the national staff.*

**Stakeholder participation** – How well do you believe that the relevant project stakeholders were involved in the project design, formulation, implementation, and monitoring?

### **B.1 Project Formulation**

- *Conceptualization/Design(R)*. This should assess whether the approach used in design and selection of project interventions addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design.
- *Country-ownership/Driveness*. Assess the extent to which the project idea/conceptualization had its origin within national, sectoral and development plans and focuses on national environment and development interests.



- *Stakeholder participation (R)* Assess information dissemination, consultation, and “stakeholder” participation in design stages.
- *Replication approach.* Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation).
- *Linkages* between the project and other interventions within the sector and the definition of clear and appropriate management arrangements at the design stage. This element should also address the question of to what extent the project addresses UNDP priorities; gender, south-south cooperation, poverty-environment linkages (sustainable livelihoods) and disaster prevention and recovery. The linkages between the project and the UNDAF for the particular country/countries and the
  1. Do you believe that the issues the program sought to address have been clearly identified and the approach soundly conceived? (*Address the root causes and principal threats in the project area – barriers and risks*).
  2. Have the objectives and outputs of the program been stated explicitly and precisely in verifiable terms with observable success indicators? (*Assessment of the logical framework*).
  3. Have the relationship between objectives, outputs, activities and inputs of the program been logically articulated? (*Assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects*).
  4. Have there been any major changes that have affected the project since its conceptualization and formulation?
  5. How relevant has RERE been to the development priorities of the country? (*Country-ownership/Driveness*).
  6. Which institutions have received the support of the project? (*Stakeholder participation, information dissemination, consultation*).
  7. Replication – see above.
  8. Linkages with other interventions within the sector; UNDP priorities, Gender, South-South cooperation, pov-env linkages (sust livelihoods), with UNDAF for Botswana.

## **B.2 Implementation:**

- *Implementation Approach (R).* This should include assessments of the following aspects:
  - (i) The use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M & E activities if required.
  - (ii) Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or; changes in management arrangements to enhance implementation.
  - (iii) The project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
  - (iv) The general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives.

- (v) Technical capacities associated with the project and their role in project development, management and achievements.
- *Monitoring and evaluation (R)*. Including an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have been held and whether action has been taken on the results of this monitoring oversight and evaluation reports.
  - *Stakeholder participation (R)*. This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following:
    - (i) The production and dissemination of information and lessons generated by the project.
    - (ii) Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena.
    - (iii) The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation.
    - (iv) Involvement of governmental institutions in project implementation, the extent of governmental support of the project.
  - *Financial Planning*: Including an assessment of:
    - (i) The actual project cost by objectives, outputs, activities
    - (ii) The cost-effectiveness of achievements
    - (iii) Financial management (including disbursement issues)
    - (iv) Co-financing
  - *Procurement Management*: Including an assessment of:
    - (i) Technical and human resource capacity for procurement management
    - (ii) Linkage between work programming, procurement planning, budgeting, and disbursement planning
    - (iii) Effectiveness of procurement management, as indicated by results of audits (internal and/or external), and reports of review and supervision missions by IAs.
  - *Sustainability*. Extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: Development of a sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities. Likelihood of benefits to continue within or outside the program after GEF assistance ends.

1. Has the project made use of an appropriate institutional arrangement to deliver its outcomes?

2. Have the interests of beneficiaries (communities and institutions) been duly addressed during implementation?
3. Has the RERE been responsiveness to any significant changes in its environment?
4. Have the lessons learned from the RERE or other relevant programs been duly taken into account during the implementation phase?
5. Were the monitoring and backstopping of the program by the Government and UNDP been as expected?
6. Has the Government counterpart inputs in terms of personnel, premises and indigenous equipment been adequate?
7. Stakeholder participation – see above issues.
8. Financial management/Co-financing/Effectiveness of procurement management. 1. Do you think that the RERE had adequate resources (financial, physical and manpower) in terms of both quantity and quality? 2. Did the program use its resources effectively (i.e. produced planned results)? 3. Did the program use its resources efficiently to achieve planned results?
9. Sustainability issues- see above Issues.

### **B.3 Results**

- *Attainment of Outcomes/ Achievement of objectives (R):* Including a description *and rating* of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U) and Highly Unsatisfactory (HU) ratings. If the project did not establish a baseline (initial conditions), the evaluators should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established. You should use one rating per component. Please see attached guide to the ratings.
- Fill in the attached Summary Table of ratings. Briefly justify your response in the comments column. (where applicable).

### **Goal/Objective/Outcomes/Outputs**

#### **Global Goal** (End-users surveys, PMU, MME, Bureau of Statistics)

- Consumption of paraffin reduced by 80% in households using PV-based systems for lighting compared to the baseline.
- Small-scale PV-based business activities increase by 30% when compared to baseline year
- Consumption of grid electricity by households that have installed a PV system Renewable energy main-streamed into national policy making and planning within 10 years.
- Incidence of paraffin-related respiratory and eye diseases reduced by 10% over 20 years within those households using PV-based systems.

#### **Development Objective** (End-users surveys, PMU, MME, Bureau of Statistics)

- Number of systems (PV, Solar lanterns and LPG) sold in 2007, 2008, 2009, 2010.
- Survey report on impacts of RERE on end-users
- Number of people/households affected
- Number of social services affected
- Number of people with improved income (proxy – decrease in electricity bill by 40%, after the payback period of a PV, savings (i.e. disposable income) increases by 40% of electricity bill in baseline).

**Outcome 1 - To implement three different delivery models targeting different enduser groups and making use of different PV and PV/LPG-based technology packages.**

- Number of households benefiting from PV system (PV, solar lanterns and PLG). Target was 5125.
- Number of households benefiting from SHS. Target was 1373.
- Number of villages/households connected to mobile 220 V PV mini-grid. Target was 1/15 households.

***Outcome 2 - To assist with the development of policy and institutional arrangements conducive to the integration and provision of off-grid electricity services within the existing rural electrification program.***

- Number and type of new policy-regulatory measures introduced
- Development of guidelines on standards and codes of practices
- Ministries (apart from MME) that have integrated RE-based projects in their plans
- Inter-sectoral coordination structure on RE – has it been proposed / instituted
- Setting up of RE Institute that has taken over some non-core functions from MME
- The rate of reported system faults has decreased by 30% compared to the baseline year.
- Renewable energy-based (rural) electricity features are integrated in national policy plans (NDP 10) as a cost-effective alternative.

***Outcome 3 -To increase awareness and change perceptions among the general public, decision makers and rural customers on the potential role of PV and LPG in meeting basic energy needs.***

- Number of sales and/or loan applications for PV per type of customer
- Updated information on Cost/Benefits of PV
- C/B of social and productive uses of PV in rural areas
- Number of people reached through dissemination campaigns
- Number of people reached through workshops and meetings
- Number of on-site demonstrations of PV systems conducted
- Number of decision-makers briefed on PV
- Is Sustainable Energy Botswana society fully functional?
- Number and % of PV suppliers, NGOs and other organisations participating in RERE. Not less than 20% of the targeted 88 villages have been visited by (key) decision-makers during no less than five field trips during the implementation of the 5-year program.
- Number of customers enquiring for information about PV systems at local (rural) dealer/retailer shops has increased by 100% by Year 3 of the project implementation and by 200% by the end of the project compared to the baseline year.

***Outcome 4 - To strengthen and support the public and private sector working in the PV and renewable energy sector to provide better quality of service to rural areas.***

- Number of businesses dealing with PV systems increased by 30% by the end of the project compared to the baseline year.
- Level of end-user satisfaction with installation and after-sales service (end-user survey)
- Rate of reported system faults
- Turnover of RET suppliers (no. of direct evidence)
- Number of personnel from government, NGOs and solar technicians trained in RET activities
- Number of technicians who have set up a small business or improved their services after participating in at least one training workshop

- Number of training centres capacitated to offer training on RETs

**Outcome 5 - *To assist with the development of appropriate financing mechanisms for the larger scale dissemination of PV-based technologies to rural customers.***

- The proposed subsidy disbursement scheme is operational and functions properly.
- Financing schemes are operational so that rural customers can purchase subsidized PV-based systems during the 5-year project period via retail shops.
- Number of loans granted and lending volume
- A strategy to reduce first cost is in place
- Capitalization and scaling up data for existing schemes

**Outcome 6 - *To disseminate experience and lessons learned to promote rapid implementation throughout the country of rural electrification based on renewable and low GHG technologies.***

- Number of lessons learned and dissemination activities
- Methodology for determining the impact of the project interventions exists and is applied.
- End-of-project study
- Completion of Project progress reports
- Completion of Terminal evaluation
- Data on RERE Quarterly and other publications
- Number of countries benefiting from RERE experiences
- The experiences of at least three countries outside Botswana will be monitored and used to steer the Botswana project implementation and design future developments.
- At least three trips have been organized for a combined target group of Government and Donor representatives (both from inside and outside Botswana) to the project area to observe PV systems in order to learn and share experiences

**PART C – Conclusions, Recommendations and Lessons Learned**

**C.1 Conclusions**

**C.2 Recommendations**

- Corrective actions for the design, implementation, monitoring and evaluation of the project. Recommendations should be specific and clearly justified in relation to the achievement of the project objectives.
- Actions to follow up or reinforce initial benefits from the project.
- Proposals for future directions underlining main objectives
- Changes to project strategy, including the log frame indicators and targets.

**C.3 Lessons learned**

- This should highlight the ‘best’ and ‘worst’ practices in addressing issues relating to relevance, performance and success.

**1.** Looking back on the RERE (i.e. with hindsight), what would you have done differently, if any, regarding any one of the dimensions listed in Section B.3.

2. Do you believe that the RERE has played a catalytic role in promoting Solar Energy Technologies (SETs) in Botswana?
3. Are there any risks that have not been identified in the project concerning the sustainability of project outcomes?
4. (a) Have there been factors outside the project boundary that have assisted project outcomes.  
(b) Have there been factors outside the project boundary that have prevented project outcomes.  
(c) Have there been factors within the project boundary that have prevented project outcomes.
5. (a) What do you believe the strengths of the RERE have been?  
(b) What do you believe the weaknesses of the RERE have been? If there are any, please mention how they could have been overcome.  
(c) Are there any opportunities that the RERE failed to capitalize on? If yes, please explain how they could have been reaped.
6. How has the RERE benefited beneficiary communities / end-users of Solar Energy Technologies?
- 7.(a) How would you rate the level of public awareness of SET (PV and solar lantern) in Botswana?  
(b) How would you describe the level of social acceptability to SET (PV and solar lanterns) in Botswana?
8. Were the Solar Energy Technologies covered by the project suitable for Botswana?
9. Have there been any environmental impacts (positive and negative) at technology deployment sites? What remedial actions were taken for any 'negative' impacts?
10. What have been the major social impacts (positive and negative), including impact on the lives of women at technology deployment sites? What remedial actions were taken for any 'negative' impacts?

### **Guidelines for Ratings**

#### **1. Progress toward achieving project objectives**

##### Rating of Project Progress

towards Meeting Objective: Taking into account the cumulative level of progress compared to the target level across all of the objective indicators, please rate the progress of the project towards meeting its objective, according to the following scale.

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

## 2. Progress in project implementation

Highly Satisfactory (HS)	Implementation of all components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
Satisfactory (S)	Implementation of most components is in substantial compliance with the original/formally revised plan except for only a few that are subject to remedial action.
Marginally Satisfactory (MS)	Implementation of some components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Marginally Unsatisfactory (MU)	Implementation of some components is not in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of most components is not in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of none of the components is in substantial compliance with the original/formally revised plan.



**Annex 4:** Summary of Outcomes, Outcomes and ratings.

<b>Rating of Goal, Objective, Outcomes/Outputs</b>			
<b>STRATEGY</b>	<b>INDICATORS</b>	<b>STATUS</b>	<b>RATING/COMMENT</b>
<b>Global objective:</b> To reduce Botswana’s energy related CO <sub>2</sub> emissions by substituting fossil fuels (petrol / diesel, wood fuel, paraffin and coal) with PV and LPG for the purpose of providing basic energy services to rural customers and community users.	By the end of the project, consumption of paraffin reduced by 80% in households using PV-based systems for lighting compared to the baseline.		
	By the end of the project small-scale PV-based business activities increase by 30% when compared to baseline year.		
	Renewable energy main-streamed into national policy making and planning within 10 years.		
	Incidence of paraffin-related respiratory and eye diseases reduced by 10% over 20 years within those households using PV-based systems.		
<b>Development Objective:</b> To improve people’s livelihoods by improving their access to and affordability of modern energy services and assist the Government of Botswana with the initiation of a renewable energy program for the	Volume of sales by PV dealers increased by 60% by the end of the project.		
	The number of PV dealers operating in the Botswana market increased by 30% by the end of the project.		

rural areas, thus reducing the dependency on imported fossil Fuel.	The number of income generating activities emerged in combination with the turnover / profit of these activities / businesses. It is anticipated that in 2 years 1% and in 5 years 3% from the households supplied with PV systems will be involved in income generating activities		
<b>Immediate Objective 1:</b> To implement three different delivery models targeting different end-user groups and making use of different PV and PV/LPG-based technology packages.	The number of PV systems sold in the targeted 88 villages during the 5-year project period will be 6,525 as compared to the baseline scenario of a few hundred.		
<b>Output 1.1:</b> In 88 villages, 5,152 households will be offered basic lighting and cooking facilities.	By the end of the project 5,152 PV/LPG systems are being used for lighting and cooking.		
	Paraffin consumption for lighting has been reduced by 80% by the end of the project.		
<b>Output 1.2:</b> In 88 villages, 1,373 households will be offered SHS.	By the end of the project 1,373 SHS are being used for lighting, entertainment and small-scale income-generating activities.		
	Paraffin consumption for lighting has been reduced by 80%.		
<b>Output 1.3:</b> In one village, a mobile PV mini-grid will be installed, operated and closely monitored.	220 V electricity - by means of a PV mini-grid - is being supplied in one village in Year 2 of the project connecting a minimum of 15 Households.		

<b>Immediate Objective 2:</b> To assist with the development of policy and institutional arrangements conducive to the integration and provision of off-grid electricity services within the existing rural electrification program.	By the end of the project, renewable energy-based (rural) electricity features are integrated in national policy plans (NDP 10) as a cost-effective alternative.		
<b>Output 2.1:</b> A policy and implementation framework for renewable energy-based rural electrification (mainly PV systems) will be defined and is in place.			
<b>Output 2.2:</b> Standards for PV and PV/LPG components and systems will be updated and their use enforced.	The rate of reported system faults has decreased by 30% compared to the baseline year.		
<b>Immediate Objective 3:</b> To increase awareness and change perceptions among the general public, decision makers and rural customers on the potential role of PV and LPG in meeting basic energy needs.			
<b>Output 3.1:</b> Awareness program for decision-makers will be developed and implemented.	Not less than 20% of the targeted 88 villages have been visited by (key) decision-makers during no less than five field trips during the implementation of the 5-year program.		

<p><b>Output 3.2:</b> A rural customer awareness program will be formulated and implemented.</p>	<p>Number of customers enquiring for information about PV systems at local (rural) dealer/retailer shops has increased by 100% by Year 3 of the project implementation and by 200% by the end of the project compared to the baseline year.</p>		
<p><b>Immediate Objective 4:</b> To strengthen and support the public and private sector working in the PV and renewable energy sector to provide better quality of service to rural areas.</p>	<p>Number of businesses dealing with PV systems increased by 30% by the end of the project compared to the baseline year.</p>		
	<p>Level of end-user satisfaction with installation and after sales service increased by 50% by the end of the project compared to the baseline year.</p>		
	<p>The percentage of PV-based systems introduced as part of the project that is still fully operational at mid-term of the project is 70% or above and 60% or above at the end of the project.</p>		
<p><b>Output 4.1:</b> Business development services in the renewable energy sector (mainly PV) will be strengthened.</p>	<p>At least 50% of all PV dealers/ companies participated in at least one capacity building activity offered by the project.</p>		
<p><b>Output 4.2:</b> Technical knowledge of PV and PV/LPG systems will be strengthened.</p>	<p>70% of all technical training courses offered to vendors, dealers, technicians, etc. are completed.</p>		

<p><b>Output 4.3:</b> The ability of the public sector and para-statal to provide a policy framework and assistance to further renewable energy-based rural electrification (notably PV) will be strengthened.</p>	<p>70% of all staff at EAD involved in renewable energy development has participated in at least one of the capacity strengthening activities offered through the project.</p>		
	<p>70% of all staff in the Off-Grid Electricity Unit at BPC has participated in at least one of the capacity strengthening activities offered through the project.</p>		
<p><b>Output 4.4:</b> An association looking after the business interests of the PV sector will be set up and is operational.</p>	<p>50% of all PV businesses are member of the newly formed association, possibly called 'PV Association of Botswana'.</p>		
	<p>The association meets at least 4 times per year and 2 major activities are implemented each year.</p>		
<p><b>Immediate Objective 5:</b> To assist with the development of appropriate financing mechanisms for the larger scale dissemination of PV-based technologies to rural customers.</p>	<p>The proposed subsidy disbursement scheme (as per Section IV-Part VII) is operational and functions properly.</p>		
<p><b>Output 5.1:</b> A financing scheme to reach rural customers will be designed and implemented.</p>	<p>Financing schemes are operational so that rural customers can purchase subsidized PV-based systems during the 5-year project period via retail shops.</p>		
	<p>A minimum of 50% of all PV purchases in the selected villages are being made using the financing scheme two years after introduction of that scheme.</p>		

<p><b>Output 5.2:</b> Sustainable (long-term) subsidy schemes for PV and PV/LPG systems will be designed and recommendations on how to implement these schemes will have been made.</p>	<p>Design and implementation strategies for subsidy schemes documented. This will be based on the proposed preliminary scheme presented in Section IV-Part VIII.</p>		
<p><b>Immediate Objective 6:</b> To disseminate experience and lessons learned to promote rapid implementation throughout the country of rural electrification based on renewable and low GHG technologies.</p>	<p>After Year 4 of the project, 1,500 PV systems per year are being sold outside the project area.</p>		
<p><b>Output 6.1:</b> A program for replication of activities implemented under component 1 will be prepared.</p>			
<p><b>Output 6.2:</b> Lessons learned from the current pilot activities in three villages using fee-for-service with SHS will be documented and used for decision-making on possible continued developments with this delivery model.</p>	<p>Discussions (leading to decisions) on possible up-scaling and/or inclusion of the fee-for-service model in the renewable energy-based rural electrification plans/activities. These discussions will be initiated by the PMU before the 1<sup>st</sup> year of the Project ends.</p>		
<p><b>Output 6.3:</b> The impact of PV and PV/LPG systems in the project area will be evaluated.</p>	<p>Methodology for determining the impact of the project interventions exists and is applied. As impact monitoring is a guiding principle (see remark at the top of the logical framework matrix) this methodology will be designed ready for use in the 3<sup>rd</sup> Quarter after the project has commenced.</p>		

<p><b>Output 6.4:</b> Support has been provided to disseminate the learning and replication experiences in the project area into the SADC region.</p>	<p>Experiences from this project will be shared with at least 3 countries in the SADC region before the end of the project.</p>		
	<p>The experiences of at least three countries outside Botswana will be monitored and used to steer the Botswana project implementation and design future developments.</p>		
	<p>At least three trips have been organized for a combined target group of Government and Donor representatives (both from inside and outside Botswana) to the project area to observe PV systems in order to learn and share experiences.</p>		

## TERMINAL EVALUATION SAMPLE REPORT OUTLINE

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### Table of contents

### Acronyms

#### 1. Executive summary (including an overall rating of the project (using the 6 point GEF/UNDP rating scale).

- Brief description of project;
- Context and purpose of the evaluation;
- Main conclusions, rating of progress towards objectives as well as rating of progress on implementation, recommendations and lessons learned;

#### 2. Introduction

- Purpose of the evaluation;
- Key issues addressed;
- Methodology of the evaluation (\*see example provided below for specific guidance);
- Structure of the evaluation.

#### 3. The project(s) and its development context

- Project start and its duration;
- Problems that the project seek to address;
- Immediate and development objectives of the project;
- Main stakeholders;
- Results expected.

#### 4. Findings and Conclusions

In addition to a descriptive assessment, all **criteria marked with (R) should be rated** in conformity with the GEF/UNDP guidelines for final evaluations using the following divisions: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory. (The guidelines for the use of the scales will be provided to the successful candidate).

##### *4.1 Project Formulation*



- *Conceptualization/Design(R)*. This should assess whether the approach used in design and selection of project interventions addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design.
- *Country-ownership/Driveness*. Assess the extent to which the project idea/conceptualization had its origin within national, sectoral and development plans and focuses on national environment and development interests.
- *Stakeholder participation (R)* Assess information dissemination, consultation, and “stakeholder” participation in design stages.
- *Replication approach*. Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation).
- *Linkages* between the project and other interventions within the sector and the definition of clear and appropriate management arrangements at the design stage. This element should also address the question of to what extent the project addresses UNDP priorities; gender, south-south cooperation, poverty-environment linkages (sustainable livelihoods) and disaster prevention and recovery. The linkages between the project and the UNDAF for the particular country/countries and the

#### 4.2. Project Implementation

- *Implementation Approach (R)*. This should include assessments of the following aspects:
  - (i) The use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M & E activities if required.
  - (ii) Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or; changes in management arrangements to enhance implementation.
  - (iii) The project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
  - (iv) The general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives.

(v) Technical capacities associated with the project and their role in project development, management and achievements.

- *Monitoring and evaluation (R)*. Including an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have been held and whether action has been taken on the results of this monitoring oversight and evaluation reports.
- *Stakeholder participation (R)*. This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following:

(i) The production and dissemination of information and lessons generated by the project.

(ii) Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena.

(iii) The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation.

(iv) Involvement of governmental institutions in project implementation, the extent of governmental support of the project.

- *Financial Planning*: Including an assessment of:
  - (i) The actual project cost by objectives, outputs, activities
  - (ii) The cost-effectiveness of achievements
  - (iii) Financial management (including disbursement issues)
  - (iv) Co-financing
- *Procurement Management*: Including an assessment of:

(i) Technical and human resource capacity for procurement management

(ii) Linkage between work programming, procurement planning, budgeting, and disbursement planning

(iii) Effectiveness of procurement management, as indicated by results of audits (internal and/or external), and reports of review and supervision missions by IAs.

- *Sustainability*. Extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: Development of a sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities.

#### 4.3. Results

- *Attainment of Outcomes/ Achievement of objectives (R)*: Including a description *and rating* of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U) and Highly Unsatisfactory (HU) ratings. If the project did not establish a baseline (initial conditions), the evaluators should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established.

This section should also include reviews of the following:

- *Sustainability*: Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end.
- *Contribution to upgrading skills of the national staff*
- *Summary Table of ratings*.

#### 5. Recommendations

- Corrective actions for the design, implementation, monitoring and evaluation of the project. Recommendations should be specific and clearly justified in relation to the achievement of the project objectives.
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Changes to project strategy, including the log frame indicators and targets

#### 6. Lessons learned

- This should highlight the 'best' and 'worst' practices in addressing issues relating to relevance, performance and success.

#### 7. Evaluation report Annexes

- Evaluation TORs
- Itinerary
- List of persons interviewed
- Summary of field visits, , issues raised and recommendations by different stakeholders
- List of documents reviewed
- Questionnaire used and summary of results
- Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

#### **EXAMPLE OF METHODOLOGY OUTLINE:**

It is anticipated that the methodology to be used for the MTE will include, but may not be limited to the following:

##### **A) Documentation review including, *inter alia*:**

- Project Document and Project Appraisal Document;
- Project implementation reports (PIR's);
- Quarterly progress reports and work plans of the various implementation task teams;
- Audits reports
- Annual Review Reports
- M & E Operational Guidelines, all monitoring reports prepared by the project;
- Financial and Administration guidelines;

The following documents will also be available:

- The project M&E framework
- Knowledge products from service providers
- Project operational guidelines, manuals and systems;
- Minutes of the Project Board Meetings, task teams and other project management meetings;
- Maps
- The GEF Implementation Completion Report guidelines; and,
- The UNDP Monitoring and Evaluation Frameworks.

##### **B) Interviews with:**

- UNDP-GEF staff who have project responsibilities;
- Staff of the Project Coordination Unit;
- Executing agencies:
- Members of the Project Board
- Task Team members (if appropriate).
- Project stakeholders, particularly members of the various project level steering committees and project beneficiaries;
- Participating members of the Pilot projects
- Relevant staff in participating government departments.

**C) Field Visits:**

The following project sites should be visited:

In addition, **but separate from project staff and their institutions**, the evaluators will need to specifically meet with selected communities (intended beneficiaries of the project during the field visits).



## Terms of Reference

# Evaluation of the Renewable Energy-based Rural Electrification Project

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### 1. Introduction

#### a) UNDP/GEF Monitoring and Evaluation (M&E) Policy

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives: i) to monitor and evaluate results and impacts; ii) to provide a basis for decision making on necessary amendments and improvements; iii) to promote accountability for resource use; and iii) to document, provide feedback on, and disseminate lessons learned. A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators or as specific time-bound exercises such as mid-term reviews, audit reports and final evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation. A final evaluation of a GEF-funded project (or previous phase) is required before a concept proposal for additional funding (or subsequent phases of the same project) can be considered for inclusion in a GEF work program. However, a final evaluation is not an appraisal of the follow-up phase.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the

contribution to capacity development and the achievement of global environmental goals. It will also identify and document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

#### b) The Project Objectives and Context Within the Country Programme

The Renewable Energy-based Rural Electrification project aims at supporting national efforts to reduce Botswana's energy-related CO<sub>2</sub> emissions by promoting renewable and low GHG technologies as a substitute for fossil fuel (fuel wood, paraffin and coal) utilized in rural areas. The activities proposed in the project are designed to contribute to the removal of barriers to the wide-scale utilization of renewable energy and low GHG technologies to meet the basic electricity needs of individual households in terms of lighting, power for radiocassette/TV and income-generating activities. In turn, this project will contribute to the initiation of the intended renewable energy programme of the Government of Botswana and to encourage the development of the private sector industry in the provision of renewable energy in the country.

The renewable energy resource situation that has been assessed during the implementation of the PDF B phase confirms that solar energy is available in abundant quantities, more or less equally distributed over the country throughout the year. Other renewable energy sources such as wind are limited, location specific and unevenly distributed during the year. Biomass energy is one of the main renewable energy sources currently being used in Botswana for cooking and heating. However, available biomass resources (both woody biomass and agricultural residues) are insufficient to generate and distribute electricity on a sustainable basis. As a result, the main focus for making use of renewable energy resources in Botswana will be on solar energy to be used with various PV-based electricity generation technologies; i.e., mobile solar systems, solar home systems, battery charging stations and mini -grids.

The Energy Master Plan proposes access to electricity through connection to the national grid, off -grid connection or PV to all those households where it makes economic and social sense, and improving the affordability of electricity to households. It also identified the following factors:

- Electrification planning should be integrated with other development planning; and
- Rural electrification should be regarded as part of the national electrification programme, albeit with different objectives and requirements to urban electrification.

With regard to renewable energy-based electrification, the Energy Master Plan states that PV electrification should be part of national electrification planning. Planning of PV electrification needs to take cognizance of grid expansion plans, and should be funded under the same principle that justifies grid rural electrification. Rural electrification has been an important component of the national development agenda for Botswana. However, the high cost of rural grid electrification programmes have been a barrier, with the result that approximately 17% of the total rural population has access to grid electricity services, compared to 36% in the urban areas. There are several previous / ongoing studies conducted in respect of PV. These include the JICA Master Plan Study on Photovoltaic Rural Electrification (MPS). The MPS was designed to formulate a master plan for the promotion of rural electrification in Botswana by using PV systems over a ten -year period, starting in 2003. The outcomes of the MPS have been largely used for the preparation of the UNDP - GEF supported Renewable Energy Based Rural Electrification Programme and furthermore it forms the basis for the same.

The objectives of the MPS were to:

- Supply solar electricity, quickly and under affordable conditions, to households in rural areas that cannot benefit from grid electrification and other energy supply services;
- Implement the PV rural electrification project at the least cost practicable and in a financially feasible and sustainable manner;
- Integrate with infrastructure projects required for a specific region or area; and
- Expand environmentally friendly energy use.

Other prior initiatives on renewable energy-based rural electrification are:

- Botswana Renewable Energy Technology Project;
- Manyana PV Project;
- National PV Rural Electrification Programme;
- Motshegaletau Centralized PV System; and
- Global Environment Facility - Small Grants Programme (GEF-SGP) Solar Lantern Project.

The project commenced in 2005 and was to run for five years, with a planned date of 31<sup>st</sup> December 2010, under the execution of the Energy Affairs Department (EAD) in the Ministry of Minerals, Energy and Water Resources (MMEWR). The Ministry of Environment, Wildlife and National Parks (MEWT) through the National Climate Change Committee (NCCC) were instrumental in developing the concept. A larger programme of government was also being initiated for a long-term roll-out of renewable energy-based services in rural areas. This



programme of government is currently funded through the Botswana Power Corporation (BPC) – the national power utility corporation. An agreement was signed between BPC and EAD in October 2006 to facilitate the implementation of the programme. BPC was then considered the de facto executing agency for the RERE project. A project manager was appointed by BPC in December 2005.

A Project Steering Committee (PSC) serves as a body for policy recommendations related to enhancement of programme implementation and attainment of objectives. The PSC comprised on members as recommended in the Project Document.

Further details on the partners, resources and geographical context are available in the Project Document at [www.unbotswana.org.bw](http://www.unbotswana.org.bw).

## 2. Objectives of the Evaluation

The evaluation of the RERE project is commissioned by the Government of Botswana's Ministry of Minerals, Energy and Water Resources, Botswana Power Corporation, UNDP-Botswana and the GEF in accordance with the project's M&E Plan. It is intended to assess the performance of the project against planned results. The results of the evaluation will also inform the partners in the project, i.e. the Government of Botswana, Botswana Power Corporation, Global Environment Facility and the United Nations Development Programme on the need for any extension of the project duration. If extension is indicated beyond the original five years, whether the project has a chance to deliver the agreed outputs, how sustainable the outputs are and what changes need to be effected..

Further thereto, the renewable energy represents part of the new United Nations Programme and United Nations Operational Plan (UN-POP) for the period 2010-2014 wherein climate change mitigation and developing of a low-carbon economy in a developing country of extensive coal reserves are challenging development and environmental issues. The RERE project evaluation will therefore inform subsequent activities outlined in the United Nations Development Assistance Framework (UNDAF) and United Nations Programme Operational Plan (UN-POP). The evaluation will also inform stakeholders on the achievements of the RERE project in promoting the use of renewable energy and reducing carbon-related emissions in Botswana.

## 3. Products Expected from the Evaluation

The key evaluation products the evaluation team will be accountable for producing are:

**Evaluation inception report**— An inception report should be prepared by the evaluators before going into the full fledged evaluation exercise. It should detail the evaluators' understanding of what is being evaluated and why, showing how each evaluation question will be answered by way of: proposed methods; proposed sources of data; and data collection procedures. The inception report should include a proposed schedule of tasks, activities and deliverables, designating a team member with the lead responsibility for each task or product. The inception report provides the programme unit and the evaluators with an opportunity to verify that they share the same understanding about the evaluation and clarify any misunderstanding at the outset.

**Draft evaluation report**— The programme unit and key stakeholders in the evaluation should review the draft evaluation report to ensure that the evaluation meets the required quality criteria.

### **Final evaluation report.**

**Evaluation brief and other knowledge products** or participation in knowledge sharing events, as appropriate.

The following structure is proposed for the Evaluation Report:

1. Executive summary
2. Introduction
3. The project(s) and its development context
4. Findings and Conclusions
  - 4.1 Project formulation
  - 4.2 Implementation
  - 4.3 Results
5. Recommendations
6. Lessons learned
7. Annexes

The report is not to exceed 50 pages in total. The evaluation will last for 6 weeks and the final report to be concluded within 1 week of completion of the in-country part of the mission and sent to UNDP-Botswana. As part of the evaluation the consultant is expected to consult with a broad range of stakeholders within government, private sector, civil society organization, media, academia and local communities. If there are discrepancies between the impressions and findings of the evaluation team and the aforementioned parties these should be explained in an annex attached to the final report.

### 3. Methodology and Evaluation Approach

The methodology includes review of (i) background project governance documents (Project Steering Committee meeting minutes, Project exception reports, project progress reports, project audit reports, project issues log, project risks log and project communications log), (ii) project results documents (consultancy reports, mission reports, commentary by partners, etc), and (iii) project document, its logical framework analysis and Results matrix.

A review of partners and appreciation of their linkage and interest in the project and the relevance of the project to their current situation is essential. The evaluation is expected to obtain the views of both the project implementing parties, the project governance structure and the project beneficiaries. The final decisions about the specific design and methods for the evaluation will be concluded at inception.

The evaluation will also reflect on whether and how monitoring and evaluation were considered in the project design and undertaken during implementation

In addition to a descriptive assessment, all criteria marked with (R) should be rated using the following divisions of the six-point rating scale: Highly Satisfactory (HS), Satisfactory (S), Marginally Satisfactory (MS), Marginally Unsatisfactory (MU), Unsatisfactory (U), or Highly Unsatisfactory (HU).

The evaluation will cover all project activities from Inception to the time of evaluation; include all private sector, civil society and government entities involved in the project. Although the project had listed individuals as target, due to the duration and scale of the programme, the sampling will need to systematically select those individuals that have interacted most with the project. The Renewable Energy-based Rural Electrification project was aimed at removing a number a barriers to the wide-spread adoption of renewable energy – more specifically, solar PV. The barriers would be removed through field demonstration, public awareness and policy dialogue. These form the main elements of the intervention.

### 4. Implementation Arrangements

The Evaluation is to generate the following information that will give intended users of the evaluation the information they seek in order to make decisions, take action or add to knowledge:

- a) Management Arrangements

The role of UNDP-Botswana is to contract the consultant, oversee the implementation of the agreed schedule of consultation activities, wide stakeholder consultation and verification of all facts in the report and oversee the production of the final Report and follow-up actions.

The Country Office is the main operational point for the evaluation. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field visits, co-ordinate with the Government and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. These Terms of Reference follow the UNDP GEF policies and procedures, and together with the final agenda will be agreed upon by the UNDP/GEF/Regional Coordinating Unit, UNDP Country Office and the Government. These three parties will receive a draft of the final evaluation report and provide comments on it prior to its completion.

#### b) Time Frame

The evaluation will be undertaken in 20 working days commencing in the 3<sup>rd</sup> week of September up to the 3<sup>rd</sup> week of October 2010. The following table depicts tasks, timelines and deliverables, for which the consultant will be responsible and accountable, as well as those involving the commissioning office (UNDP-Botswana), indicating for each, who is responsible for its completion.

In addition, the evaluators are expected to support UNDP efforts in knowledge sharing and dissemination. Required formats for the inception reports, evaluation reports and other deliverables are included in the annexes of the ToR for the evaluation being commissioned. The consultant shall allocated 20 working days over a 30-day during which s/he will be engaged in the evaluation.

Table 1: Indicative Evaluation Work plan.

Task	Time Frame (weeks)				Responsible Entity
	1	2	3	4	
Desk review					Evaluation Team
Briefings of evaluators					UNDP Mgnt
Finalizing evaluation design & methods, and preparing detailed inception report					Evaluation Team
Reference Group Meets to Review Inception Report					UNDP PM
Field Visits & Interviews					UNDP PM
Analysis					Evaluation Team
Preparing the draft report					Evaluation Team
Stakeholder meeting and review of the draft report (for quality assurance)					UNDP PM
Incorporating comments and finalizing the evaluation report					Evaluation Team
Debriefing Session					Evaluation Team

## 5. Evaluation team composition and required competencies

The specific skills, competencies and characteristics needed in the evaluator or evaluation team specific to the evaluation and the expected structure and composition of the evaluation team, including roles and responsibilities of team members are outlined below:

### The Consultant

The consultant will be responsible for the final delivery of the evaluation report and

- Evaluation specialist with at least a Master in Development Studies, Business Management, Energy Management. or other relevant fields
- A minimum of ten (10) years of relevant work experience in the field of energy and/or environment.
- Proven expertise in evaluating multifaceted programmes/projects and results-oriented monitoring and evaluation.
- Previous experience in evaluating programmes/project for UNDP or other UN/multilateral agencies.
- Knowledge of international comparative policy, legislation and their application to deliver clean energy services in the field of energy and climate change will be a requirement distinctive advantage.

- Knowledge of the national policy and legislation in the field of energy and climate change will be a distinctive advantage.
- Excellent analytical and reporting skills and fluency in written and spoken English are essential.
- Demonstrated ability to assess complex situations in order to succinctly and clearly distil critical issues and draw forward-looking conclusions.

Evidence of previous relevant work will also be required in the form of resumes, work samples, references, etc. to support claims of knowledge, skills and experience. These ToRs demand that the evaluator be independent from any organizations that have been involved in designing, executing or advising any aspect of the intervention that is the subject of the evaluation.

## 6. Scope of the Evaluation

The scope of the evaluation for this project reflects the diverse range of activities as defined in the Log-Frame and Results Matrix. The Annex on the structure of the Evaluation Report outlines the content and depth of the analysis.

## 7. Evaluation ethics

The evaluation will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation' document, attached as Annex IV. The document outlines evaluation ethics and procedures to safeguard the rights and confidentiality of information providers. These include measures to ensure compliance with legal codes governing areas such as provisions to collect and report data, particularly interviewing or obtaining information about children and young people; provisions to store and maintain security of collected information; and protocols to ensure anonymity and confidentiality.

## 8. ToR annexes

- I. Norms for Evaluation in the UN System (<http://www.unevaluation.org/une norms>)
- II. Standards for Evaluation in the UN System (<http://www.unevaluation.org/une gstandards>)
- III. UNDP Evaluation Policy (<http://www.undp.org/eo/documents/Evaluation-Policy.pdf>)
- IV. UNEG Ethical Guidelines for Evaluation (<http://www.uneval.org/search/index.jsp?q=ethical+guidelines>)
- V. Code of Conduct for Evaluators in the UN System
- VI. Project Document
- VII. Format for Inception Report and Final Evaluation Report

VIII. Terminology in GEF Guidelines to Terminal Evaluations  
([http://www.undp.org/gef/05/documents/me/GEF\\_ME\\_Policies\\_and\\_Procedures\\_06.pdf](http://www.undp.org/gef/05/documents/me/GEF_ME_Policies_and_Procedures_06.pdf))