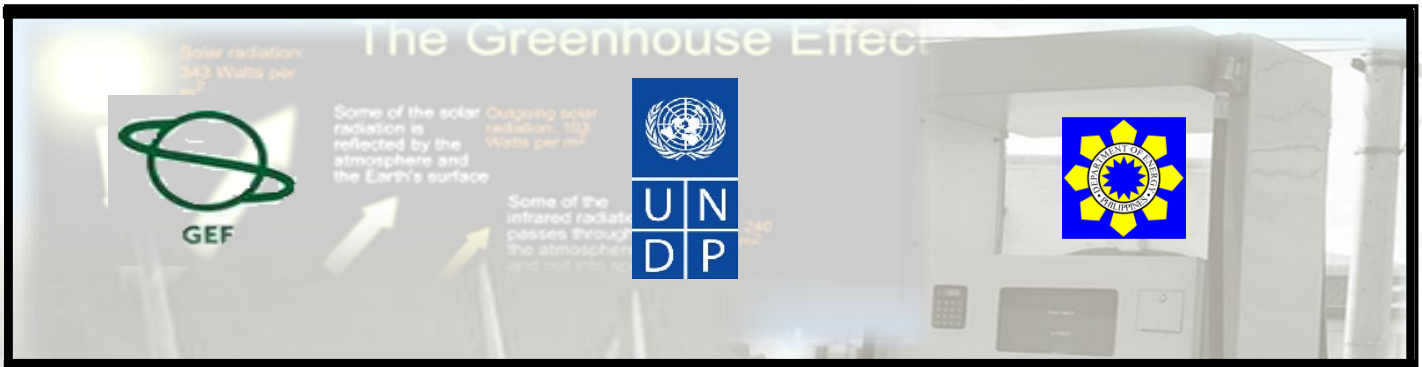

Final Evaluation of the GEF/UNDP/DOE "Philippines: Capacity Building to Remove Barriers to Renewable Energy Development (CBRED) Project"

(Final Report)

April 29, 2011

Submitted to:

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FINAL EVALUATION OF GEF/UNDP/DOE PROJECT
PHI/01/G33

Capacity Building to Remove Barriers to Renewable Energy Development in the Philippines Project (CBRED)

Final Report
April 2011

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List of Acronyms and Abbreviations

BAPA	-	Barangay Power Associations
BDO	-	Banco de Oro
BEMP	-	Biomass Energy Management Division
BPI	-	Bank of the Philippine Islands
BPS	-	Bureau of Product Standards
CBRED	-	Capability Building to Remove Barriers to Renewable Energy
CDM	-	Clean Development Mechanism
CESM	-	Center for Environmental Studies and Management
CHED	-	Commission on Higher Education
CLEEC	-	Credit line for Energy, Efficiency and Climate Change
CFSF	-	Carbon Finance Support Facility
DAP	-	Development Academy of the Philippines
DAR	-	Department of Agrarian Reform
DBP	-	Development Bank of the Philippines
DENR	-	Department of Environment and Natural Resources
DILG	-	Department of the Interior and Local Government
DOE	-	Department of Energy
DOF	-	Department of Finance
DOST	-	Department of Science and Technology
DTI	-	Department of Trade and Industry
EC	-	Electric Cooperatives
EDP	-	Environmental Development Project
EPPB	-	Energy Policy and Planning Bureau
EPMD	-	Environmental Program and Management Department
ERPA	-	Emission Reduction Purchase Agreement
ERC	-	Energy Regulatory Commission
ESID	-	Engineering Service Industry Development
FGD	-	Focus Group Discussion
FINESSE	-	Financing Energy Services for Small Scale End-users
GEF	-	Global Environmental Facility
GEMD	-	Geothermal Energy Management Division
GFI	-	Government Financial Institution
GHG	-	Greenhouse Gases
GOP	-	Government of the Philippines
HOEMD	-	Hydropower and Ocean Energy Management Division
IRA	-	Internal Revenue Allotment
IRR	-	Implementing Rules and Regulations
IREMES	-	Integrated Renewable Energy Monitoring and Evaluation System
LBP	-	Land Bank of the Philippines
LGF	-	Loan Guarantee Fund
LGU	-	Local Government Unit
LGUGC	-	LGU Guarantee Corporation
MFF	-	Micro-Finance Fund
MFI	-	Micro-Finance Institutions
M&E	-	Monitoring and Evaluation
MSC	-	Market Service Center
NEA	-	National Electrification Administration

NEDA	-	National Economic Development Authority
NGA	-	National Government Agencies
NGO	-	Non-governmental Organizations
NOSCA	-	Notice of Organization, Staffing and Compensation Action
NPC	-	National Power Corporation
NPS	-	Notice of Payment Schedule
NREB	-	National Renewable Energy Board
NREP	-	National Renewable Energy Program
NUG	-	Non-Utility Generation
ODA	-	Official Development Assistance
PAGCOR	-	Philippine Amusement and Gaming Board
PAREC	-	Philippine Association of Renewable Energy Centers
PCSD	-	Palawan Council for Sustainable Development
PAR	-	Portfolio at Risk
PCSO	-	Philippine Charity Sweepstakes Office
PCSD	-	Palawan Council for Sustainable Development
PFI	-	Participating Financial Institution
PFM	-	Program and Fund Manager
PIA	-	Program Implementation Agreement
PLG	-	Program Lending Group
PM	-	Program Manager
PMO	-	Project Management Office
PNOC	-	Philippine National Oil Company
PNS	-	Philippine National Standards
PO	-	People's Organizations
PPA	-	Power Purchase Agreement
PPF	-	Project Preparation Fund
PRODOC	-	Project design document
PSC	-	Project Steering Committee
RE	-	Renewable Energy
REAP	-	Renewable Energy Association of the Philippines
REGLF	-	Renewable Energy Guarantee and Loan Fund
REIAC	-	Renewable Energy Inter-Agency Committee
REMB	-	Renewable Energy Management Bureau
RESCO	-	Renewable Energy Service Companies/Corporations
RETF	-	Renewable Energy Trust Fund
RETP	-	Renewable Energy Training Program
REWARD	-	RE for Wiser and Accelerated Resources Development
RPS	-	Renewable Portfolio Standards
RPP	-	Rural Power Project
SIBAT	-	Sibol ng Agham at Teknolohiya
SWEMD	-	Solar and Wind Energy Management Division
SLDIP	-	Support for Strategic Local Development and Investment Program
TOR	-	Terms of Reference
TESDA	-	Technical Education and Skills Development Authority
TSMD	-	Technical Services and Management Division
UNDP	-	United Nations Development Programme
USAID	-	United States Agency for International Development

Executive Summary

The CBRED Project is a UNDP/GEF -supported initiative to the "business as usual" scenario in the area of RE development and commercialization in the Philippines. It is intended to contribute to the country's sustainable development objectives and goal of reducing the annual growth rate of GHG emissions through the promotion and facilitation of widespread use of RE. The project is implemented by the DOE and is under GEF's Operational Program No.6 entitled, "Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs". The total budget of the project is US$ 23,764,048, of which US$5,143,048 is provided by GEF, while USS18,621,000 comes from the government and private stakeholders in the form of activities and/or projects. The project complements the efforts of national, bilateral and multilateral agencies by providing capacity building in the area of RE development.

The overall goal of the project is to contribute to the reduction of growth rate of GHG emissions by removing the major barriers to and reducing the cost of development of renewable energy to replace fossil fuel use in the Philippines. The project was conceived to remove five major barriers by setting the following main objectives:

1. Strengthening the capacity of relevant Government of the Philippines (GOP) agencies to formulate, enact and implement sound RE policies;
2. Enhancement of RE data banking and provisions of information on RE for targeted audiences to build markets;
3. Enhancement of coordination among organization concerned with RE;
4. Assisting the market penetration of RE in remote off-grid communities through the provision of incentives, and innovative financing and delivery mechanisms, and
5. Improvement of the quality of, and knowledge and skills on RE technologies and systems.

The project design covers the implementation of six components to achieve the above objectives on RE as follows:

- Component 1: Policy, Planning and Institutional Capacity Building
- Component 2: Market Services Institutionalization
- Component 3: Information and Promotion Services
- Component 4: Initiatives Delivery and Financing Mechanisms
- Component 5: Training Program
- Component 6: Technology Support

The evaluation covers relevance, efficiency, effectiveness, impact and sustainability. Relevance refers to the extent to which CBRED development initiative and its intended outputs or outcomes are consistent with national and local policies and priorities and the needs of intended beneficiaries. Efficiency measures how economically CBRED resources or inputs (such as funds, expertise and time) were converted to results while effectiveness assesses actual CBRED project outcomes if commensurate with the original or modified

project objective. It also reflects contribution made by the project results to the achievement of project purpose.

CBRED impact measures changes in human development and people's well-being that are brought about by development initiatives, directly or indirectly, intended or unintended. Sustainability measures the extent to which benefits of initiatives continue after GEF assistance has come to an end. The evaluation also identified "lessons learned and best practices" from the CBRED Project and formulated recommendations that will contribute to improved design and implementation of other UNDP/GEF Projects.

Summary of Findings, Conclusions and Recommendations

Below are the summary of findings, conclusions, and recommendations

Findings

The overall rating of the assessment of CBRED project results in achievement of the objectives, outcomes and outputs is Satisfactory. Major evaluation findings include the following:

1. CBRED facilitated the passage of the RE Law (Republic Act 9513 and the issuance of its IRR). The availability of CBRED resources, particularly the REIAC and PMO support and policy studies, was critical to moving the bill into law and drafting the IRR to conclusion. Other major policy accomplishments were: the establishment and operationalization of a very facilitative REIAC; Policy Analyses (RE Electricity Policy Study, RE Electricity Pricing Study and RE Power Generation Market Study); and development of RE Planning Model to incorporate RE in both rural electrification planning and power generation program.

2. MSC or the one stop shop concept was initiated by CBRED to cater to the needs of RE developers and other clients. Although the planned MSC set up for a quasi-private entity was discontinued, DOE has mainstreamed the MSC function in its TSMD to continue delivery of service to RE private investors. As government continues to fully implement the RE Law, it will make resources available to facilitate RE projects development and implementation.

3. The project organized the RE Database Keepers Committee (REDBKC) composed of project partners that are owners and suppliers of RE information. The REDBKC identifies, classifies and organizes RE data that are shared by each partner and then uploaded in the RE database. CBRED has achieved a high level of participation in the development of the RE database from members of the REDBKC. The level of participation was not sustained following the PMO issue at mid-project implementation.

4. The project developed the RE Database and Information Exchange System incorporating initial data contributed by key players in RE development that are members of the REDBKC. To allow for its testing and fine tuning, this information system was made virtual by uploading the accompanying data base in the internet in 2007 as a beta or trial version. The operation of the database in the internet encountered technical problems

and although still posted in the web, had very limited use due to difficulty in accessing the pages.

5. The conduct of resource inventory involving the participation of key stakeholders in the RE sector has resulted in the development of the integrated RE database. It also identified information gaps that were covered by the conduct of additional surveys outsourced by the project or gathered through DOE REMB and field offices. The project supplied measuring tools and equipment to DOE that will allow for the gathering of additional RE resources or updating of the data in the future.

6. The project has implemented community awareness and outreach programs and produced and distributed IEC materials to target clients. The technical support and voluntary registration program was implemented and expected to be supported beyond project life. A Strategic Communication and Promotions Plan for RE developed and implemented by the project is being continued by DOE.

7. The PPF is a partial loan fund intended to assist project developers in paying for the cost of eligible project preparation activities. As of December 31, 2010, total approvals amounted to Php15.342M indicating 100% availment. However, total releases as of same date amounted only to Php6.62 M or just 43% of total loans approved. The limited PPF funds present a constraint that limits the identification of more prospective beneficiaries of the fund.

8. The LGF is intended as a partial loan guarantee mechanism for RE projects in remote off-grid locations. The LGF is meant to provide guarantee to the loan that may require a high level of securitization or for small, high-risk projects where proponents are inadequately capitalized and/or cannot provide sufficient collateral. This is intended to spur lending to RE project proponents by spreading the risks among the guarantor/s, lenders, and the borrower-proponent. The LGF is a very relevant component of the CBRED Project as its objective is to spur investments in the RE field by mitigating the risks attendant to said initiatives. LGUGC was able to approve one account only, that is, Gerphil Renewable Energy, Inc. for its 110 kW Panaon Falls mini-hydro project located in Barangay Poblacion, Impasug-ong, Bukidnon, with a total project cost of Php 13.164 M.

9. The MFF financing mechanism provided loans with relaxed terms to small-scale power projects in remote barangays. Some achievements of MFF include community awareness of RE technology, financial support for RE developers and the ability of the DOE to work with the grassroots communities in pursuit of RE technology for the benefit of the poor. The MFF financed solar lanterns and Mabaga stove purchases of poor micro-entrepreneurs, farmers and fishermen which the beneficiaries were able to use productively in their livelihood.

10. Training modules on various aspects of RE (basics, project development and management, pricing, financing, entrepreneurship, and training of trainers, among others,) were designed and implemented to increase local knowledge, skills and capacities and step up advocacy for and development of renewable energy. Training, of

course, is a relevant component of a program or project, particularly for concerns or topics that are quite new and pioneering like renewable energy. On the whole, the CBRED training programs generated enthusiasm and interest among the participants.

11. Standards for RE equipment and systems were established and best practices compiled in 2008 with the national set of standards for RE equipment developed and ready for implementation. Although not yet officially adopted as RE Philippine National Standards (PNS) by the Department of Industry – Bureau of Product Standards (DTI-BPS), the set of RE standards produced by CBRED are being used by DOE in helping developers in the design and implementation of RE systems. The setting of the national standard for RE is postponed for the meantime since the adoption of national standards may slow down the entry into the market of new RE equipment and systems.

12. The implementation of financial assistance to local RE system equipment manufacturers was not pursued. CBRED management approved the changes and the realignment of resources for this activity to purchase measuring equipment for the resource inventory, which are essential inputs to the RE database development. Some gaps in the RE resource inventory will continue to be filled in by DOE as part of its regular mandate using the equipment acquired through CBRED.

13. The RE Trust Fund to be created under the RE law covers the provision of financial assistance to local RE equipment manufacturers. The project management decided not to implement the financial assistance facility to RE developers as this will qualify under the RE Trust Fund facility.

Conclusions

1. The project has achieved varying levels of success in removing the barriers that were directly addressed by the six components. Increased levels of private sector interest to develop RE resources expressed through RE applications and signed contracts (205 as of December 2010) registered with the DOE was achieved. These however were mainly influenced by the RE Law, although the CBRED project activities and outputs maybe credited to contributing to the quality of the content of the law and its IRR from policy analyses conducted by the project. Moving the RE proposals or expression of interest to actual operating RE projects would now depend on the DOE using the project outputs or continue development and implementation of the partially operating project outputs (RE Database, RE standards, financial support for RE developers, training support, etc). DOE capacity on assisting RE developers has improved but remains inadequate to meet the growing demand for the service even with the capacity building provided by the project.

2. The improvement in technical, policy, planning, institutional and financial capacity of government and private sector is starting to be realized but not at the level targeted during the preparation of the project. The indicator of improvement at project completion was set at 6 percent growth rate of RE development from the baseline of

5.5 percent. Actual growth rate reflected in the reports is 4.8 percent showing reduction or lower than without project scenario.

3. The more tangible impact of the CBRED Funds was the move of more private commercial and government banks to open their lending windows and grant financial assistance to RE projects. Banks are now setting up their own RE Financing Units and have been keen on marketing RE projects as part of their Key Result Areas (KRAs). Peace and Equity Foundation (PEF), Program Manager for the MFF even used its own fund to accommodate RE project financing. Private banks have even gone a step further by directly tapping ODA funds e.g. GEF, Funder for the CBRED Project, which in turn is used to bankroll various RE project proposals.

4. Compounded by the lack of financing capabilities of the target users, especially in remote areas located far from the grid where RE technologies are appropriate, the CBRED Project established the MFF facility, which was made available to qualified proponents whose goal is to address the barrier of limited loan funds earmarked for small-scale RE projects in off-grid areas. Thus, the project was able to create community awareness of RE technologies. PEF was able to work with its partners NGOs and POs in bringing these technologies in grass-roots communities.

5. For PPF to be able to lend long-term support for RE development there should be a reliable funding source just like any fund intended to subsidize the cost of undertaking any activity. In addition, some grant component for this purpose can be included in any future RE Project loan being negotiated with foreign funders. A portion of recoveries from the loan component of the RE Project Fund can also be allocated for the PPF.

6. Since as identified by the Project that no financing institutions or banks would bankroll to small RE technologies, a lending facility for micro, small, and probably medium RE projects may be considered for a more holistic financing approach towards the development and propagation of the RE technology. A set of policy and program recommendations for a more sustainable RE financing program is detailed in Annex 7 of this report.

7. The RE Program should be structured in a holistic manner wherein wholesale funding should be provided to a wholesale bank , such as, the Development Bank of the Philippines and Land Bank of the Philippines, for channeling to PFIs and/or MFIs for the purpose of funding RE initiatives. In this way, the PFIs/MFIs will be shielded from funding risk while the credit risk will be mitigated by the PPF and LGF facilities. The structure should be those availing of the program funds can be assisted under the PPF, the fee of which can be capitalized if and when the loan is granted. Because of the high risk nature of RE projects, the availment of the LGF can be made a condition or tied up as a condition to loan availment, thus, there will be a neat package, tying up the program funds, PPF and LGF all in one bundle. The MFF can be made part of the program funds but should not be disjointed from the PPF and LGF, which is the current structure.

8. It is only under the above structure that the three funds will move in tandem. Using environmentally inclined wholesale banks as conduit is advantageous in the sense that they already have accredited PFIs/MFIs which they can influence and tap to mobilize the funds. They are also pushing green financing, hence, the RE program is within their mandate and thrust. For replicability, said banks can initiate loan syndications that would in the process capacitate other PFIs/MFIs to undertake such type of lending and replicate these on their own.

Recommendations

1. The project has substantially succeeded in addressing barriers to the development of renewable energy resources in the country. Moreover, it renewed the interest of private sector to invest in RE projects as expressed by the number of contracts with DOE for RE project development. To date, there are 205 contracts signed by DOE for the development of RE covering solar, hydro, wind, ocean wave/current and biomass resources. DOE should actively monitor progress of development of the contracts and assist proponents meet the regulatory requirements of government.

2. The LGUs also expressed interest in developing RE resources for off-grid or remote communities. The fast pace of technology development in RE is making the use of RE attractive and feasible in areas endowed with sustainable RE resources.

3. The national government has implemented RE based projects as part of poverty alleviation projects but the approach has resulted in RE projects that failed to deliver long term benefits to their clients. The RE systems mostly located in remote areas were not adequately maintained due to lack of technical expertise and local components and the lack of ownership by the project beneficiaries. Local governments may address the issue of lack of ownership if they are the primary stakeholders of these RE systems.

4. DOE may pursue wider implementation of RE systems by addressing the difficulties faced by LGUs in developing RE resources for their constituents or fed into the grid and contribute to faster reduction in the generation of greenhouse gases from the use of fossil fuel based power generation system.

5. The operation of the one stop shop to serve RE project investors should continue the positive contribution of the project following the MSC concept. DOE annual work and financial plan should provide adequate resources to equip REMB to provide the service to target clients.

6. Explore practical solutions to demonstrate that the information system will run efficiently in the internet. The activities to put the RE database into operation identified by the project team should be supported by DOE resources and provide sufficient time for program adjustments/debugging before fully populating the system with data. To facilitate the development of the web-based database system,

DOE should outsource the activity and involve the regular staffs that will be responsible for technical maintenance of the system when it is fully operational. Continuing technical support is needed with decreasing intensity as the system graduates to full operation.

7. Continue the implementation of the Green Energy Rating Program to be supported by regular DOE funds or from the RE trust fund to be established under the RE Act. Private sector participation including media firms should be invited to sponsor awards program.

8. With the nearing completion of the CBRED Project, the sustainability of Component 4 (RE Initiatives Delivery and Funding Mechanisms) would depend on the design of a Transition Program that would ensure that the concerns and financing needs of RE projects initially identified during the pilot period would continue to be given priority and support by all concerned sectors in the government and the private community who have shown keen interest in RE project development.

9. DOE should consider a continuing capacity building (training) program for the various RE stakeholders, especially the small project developers, as part of its own regular program. It can take off from what CBRED has started but with more improvements in the delivery of the training programs.

10. The RE Program Manager should formulate a time-bound marketing and implementation plan for PPF, MFF and LGF.

11. There should be clear results-based performance indicators established and in place for each Fund that would be the basis for annual targets and which should form part of the KRAs of specific departments and lending personnel of Fund Program Managers.

12. For PPF to be able to lend long-term support for RE development, there should be a reliable funding source just like any fund intended to subsidize the cost of undertaking any activity. In addition, some grant component for this purpose can be included in any future RE Project loan being negotiated with foreign funders. Moreover, a portion of recoveries from the loan component of the CBRED Project Fund can also be allocated for the PPF. But to be more sustainable, we are recommending that the PPF part of the CBRED Funds be made as one of the regular loan purposes of the proposed REGLF to ensure that available funds, not dependable on grants, are always available to address this funding requirement.

13. For a more sustainable MFF program, pre-operating expenses related to RE development (those not included among the purposes of the PPF) should be included among the loan purposes under the MFF. It is also recommended that the DOE promote more community-based RE technology directed for the poor which could be undertaken in partnership with private enterprises that promote RE development since NGOs do not have the capacity to do research and development.

14. Design a more holistic financing program that would mesh the three funds using an environmentally inclined wholesale bank as conduit to ensure fund utilization through accredited PFIs/MFIs, thus expanding the marketing outlets.

15. It is recommended that the funding for the PPF be made as one of the loan purposes under a proposed Renewable Energy Guarantee and Loan Fund (REGLF) facility detailed in Annex 7. It is proposed that the REGLF be funded by the Renewable Energy Trust Fund (RETF) as provided for under RA 9513. Unlike the PPF which was offered interest-free to the RE developer, pre-operating, project preparation and other development costs for RE development projects can be capitalized as part of total project cost and funded under the credit component of the REGLF. Doing so would make the REGLF more sustainable and ensure that loan funds used to finance such pre-operating costs would be plowed back to the lending program in the form of principal repayments and earned interest on the loan.

16. Conduct a review of the implementing guidelines for each fund in order to identify means to make the funding programs responsive to the needs of the RE project proponents and consistent with the CBRED Project objectives.

17. The scope of the CBRED program should be consistent across the three funds such that LGF's coverage should not only be limited to a maximum of P20 M considering the size of investments in the RE field. In the implementation of the LGF, LGUGC observed that there is demand for loan guarantees for bigger RE projects.

18. Ideally, the Program and Fund Manager should be two distinct entities for check and balance purposes. Trust banks or trust departments/groups of government or private commercial banks could be tapped to serve as Trustee or Escrow Agent whose duties and responsibilities must be separate and distinct from those of the Program Managers to ensure transparency in the conduct of transactions.

19. While a general approach to training/capacity building is beneficial for general information, a more focused approach would be best for the effective implementation of each fund.

Further Support to the Renewable Energy Sector

With CBRED success in removing the barriers to renewable energy development, the RE sector deserves continuing support from UNDP and other donors considering the on-going and further increase in the cost of imported fossil fuels and the GHG that go with these fossil fuels. With RE, the Philippines can inch gradually to an acceptable level of less dependence on imported fuel and contribute to the reduction of GHG and other harmful emissions.

1. Introduction

The final evaluation study supports the UNDP human development focus which is "To help people build a better life" by generating knowledge about what works, why, and under what circumstances. It also forms part of UNDP's commitment to satisfy the evaluation requirements of GEF projects. The UNDP, GEF, and Philippine government managers will be the primary users of the knowledge gained from implementing the CBRED Project.

This final evaluation study is conducted to assess and rate project results, the sustainability of project outcomes, the catalytic effect of the project, and the quality of the project's monitoring and evaluation systems. The evaluation will also identify "lessons learned and best practices" from the CBRED Project and offer recommendations that might improve design and implementation of other UNDP/GEF Projects.

The CBRED Project addresses the issue on the lack of the government's capacity on RE development to meet the goals of reducing average growth rate of GHG emission to 5.5 % at project completion. The persistent barriers to RE development in the Philippines are the subject of this capacity-building project supported by funds from the GEF.

This Final Evaluation Report is divided into three sections. The first section provides a general background of the CBRED Project, the purpose of evaluation, the project evaluation scope and objectives, methods, and data analysis.

The second section covers the findings and conclusions. It describes the achievement of component objectives and assessment of CBRED sustainability, catalytic role, monitoring and evaluation, impact of CBRED funds, policy and program recommendations for long-term financing support of RE development. The third section presents the evaluation recommendations and lessons learned.

1.1 Description of CBRED Project

The GEF, through the UNDP, is assisting the DOE in implementing PHI/01/G33 "Capacity Building to Remove Barriers to Renewable Energy Development in the Philippines" Project. This project is under GEF's Operational Program No.6 entitled, "Promoting the Adoption of Renewable Energy (RE) by Removing Barriers and Reducing Implementation Costs". The total budget of the project is US$ 23,764,048, of which US$5,143,048 is provided by GEF, while USS18,621,000 comes from the government and private stakeholders in the form of activities and/or projects. Table 1 shows the total budget and breakdown according to sources.

Table 1 CBRED Project total budget and breakdown according to sources

SOURCES	COMMITTED (PRODOC) ($ 000)	END OF PROJECT ($ 000)
Cash		
GEF	5,143	6,143
UNDP-other international donors • Dutch MFA (EISI project) • Asian Development Bank (ADB) • Financing Energy Services for Small Scale End-users (FINESSE)	N. A. 6,000 100 80	
Cash-partner managed		
DOE – national government	2,650	3,600
Philippine National Oil Corporation (PNOC) – national government	400	6,670
Private/NGO sector	7,844	0
In kind financing		
DOE – national government	185	1,020
PNOC – national government	900	59,000
UP Solar Laboratory – national government	150	130
Private/NGO Sector	312	30
Total	24,764	66,904

Objectives

CBRED aims to remove key market, policy, technical and financial barriers through a rationalized program. Specifically, the project focuses on the following:

(a) Strengthening of the capacity of the relevant GOP agencies to formulate, enact and implement sound RE policies;
(b) Enhancement of RE data banking and provision of information for targeted audiences to build markets;
(c) Enhancement of coordination among organizations concerned with RE;
(d) Assisting the market penetration of RE in remote off-grid communities through the provision of incentives, and innovative financing and delivery mechanisms; and
(e) Improvement of the quality of, and knowledge and skills on, RE technologies and systems.

The project is a GEF-supported initiative to the "business-as-usual" scenario in the area of RE development and commercialization in the Philippines. It intends to contribute to the country's sustainable development objectives and goal of reducing the annual growth rate of GHG emissions through the promotion and facilitation of widespread use of RE. The project complements the efforts of national, bilateral, and multilateral agencies (ADB, WB-

GEF, and US Agency for International Development [USAID]) by providing capacity building in the area of RE development.

Beneficiaries

CBRED has two types of target beneficiaries: the direct and the long-term beneficiaries. Direct beneficiaries included as participants in the implementation of activities are:

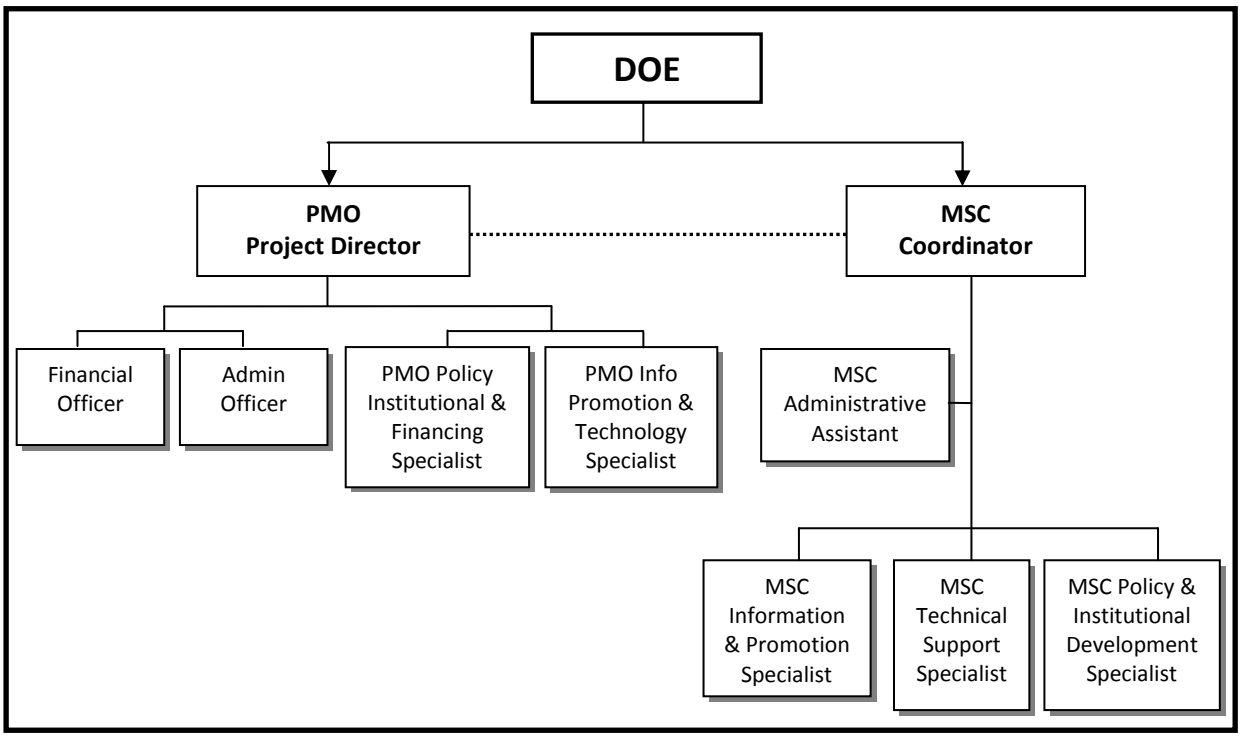
1) Government institutions – DOE, NEA, NPC, PNOC, DTI, DILG, DOST, and DAR,
2) Private sector RE developers,
3) LGUs and Barangay Power Associations (BAPA),
4) Population in unelectrified barangays,
5) RE system manufacturers/suppliers,
6) RE consultants, and
7) Financial/banking institutions

Long-term beneficiaries from replication of programs carried out under CBRED include the global environment with the long-term emission reduction potentials, the national economy from currency savings on fossil fuel imports, the RE manufacturing industry with increased demand for RE systems and equipment, the private sector investors with the increased business opportunity from RE projects, and the government planners/decision-makers for legislative support to accelerate RE development.

1.1.1 Project Organizational Structure

Figure 1 shows the organizational structure in the implementation of CBRED.

Figure 1. Organizational Structure in the Implementation of CBRED



1.1.2 Project Timetable

The CBRED Project was approved by GEF on November 4, 2002 with the first disbursement made in April 2003. Original project duration was five years with the planned closing date on April 2008. The first approved extension of project moved the closing date to March 2010 equivalent to 35 percent of the original duration. The second time extension moved the closing date to December 2010 and another extension of project was requested to allow for the completion of ongoing activities at no additional cost up to June 2011. Total time extension would be 38 months or 63 percent more than the original project duration.

1.2 Evaluation Scope and Objectives

The final evaluation study assessed the actual project results versus the planned results indicated in the project document noting the changes that were approved by project management during implementation. The assessment of outputs and outcomes were done by component, while specific evaluations were done for sustainability of project outcomes, the catalytic effect of the project, and the quality of the project's monitoring and evaluation systems.

The evaluation criteria used were specified in the Terms of Reference (TOR) covering relevance, efficiency, effectiveness, impact, and sustainability.

Relevance refers to the extent to which CBRED development initiative and its intended outputs or outcomes are consistent with the national and local policies and priorities and the needs of intended beneficiaries. Efficiency measures how economically CBRED resources or inputs (such as funds, expertise, and time) were converted to results, while effectiveness assesses the actual CBRED project outcomes if commensurate with the original or modified project objective. It also reflects the contribution made by the project results to the achievement of project purpose.

CBRED impact measures changes in human development and people's well-being that are brought about by development initiatives, directly or indirectly, intended or unintended. Sustainability measures the extent to which benefits of initiatives continue after GEF assistance has come to an end. It covers the relevant social, economic, political, institutional, and other conditions which are present and, based on that assessment, planners can make projections about the national capacity to maintain, manage and ensure the development results in the future.

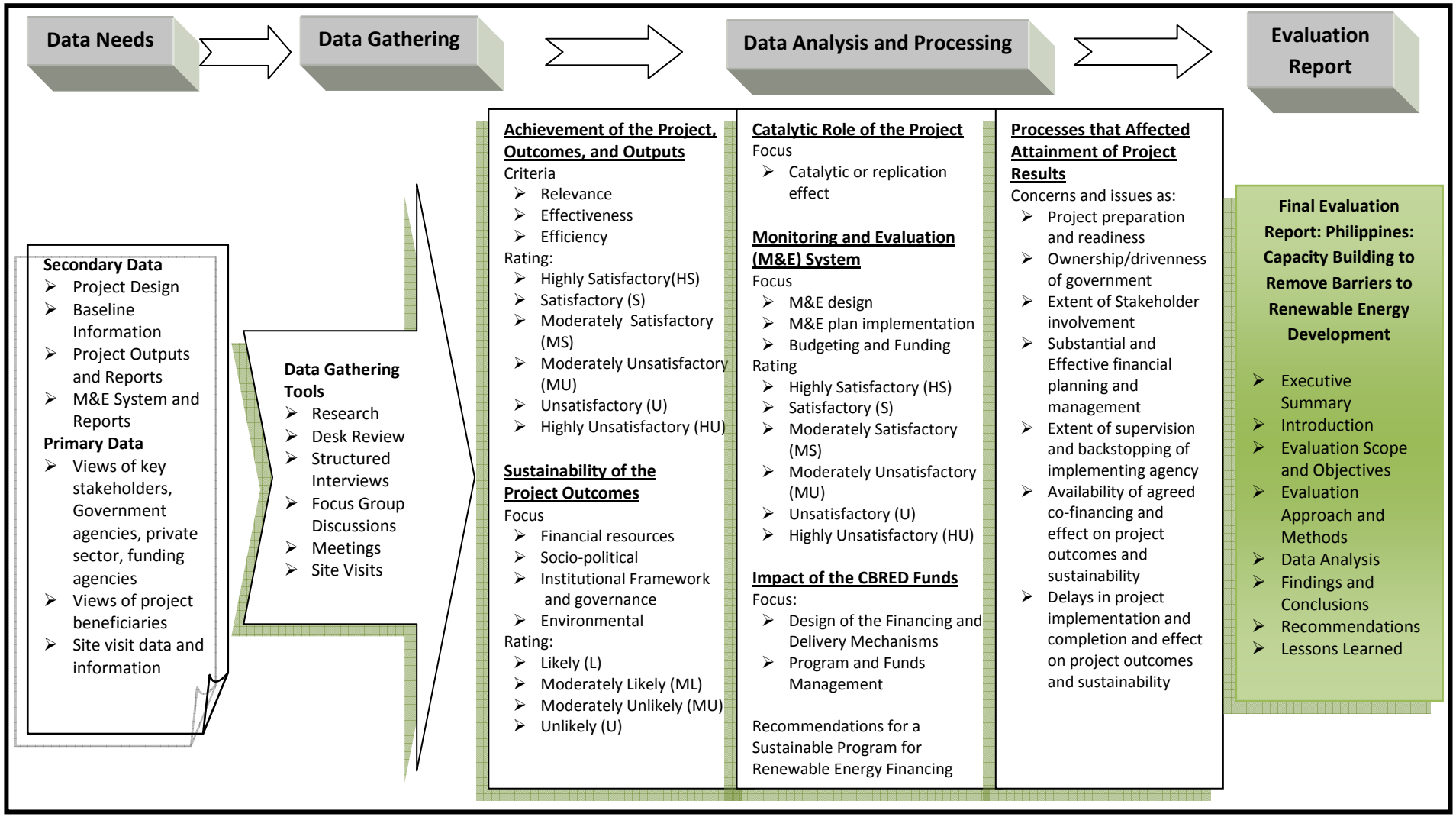
The evaluation also identified "lessons learned and best practices" from the CBRED Project and formulated recommendations that will contribute to improved design and implementation of other UNDP/GEF Projects.

Guide questions posed during the evaluation were presented in the evaluation proposal and are shown in Annex 2.

1.3 Evaluation Approach and Methodology

In conducting the final evaluation study and writing the report, the evaluators used the assessment procedures prescribed in the TOR with reference to the UNDP Handbook on Planning, Monitoring and Evaluation for Development Results. The process followed is shown in Figure 2.

Figure 2 Study Approach for the Evaluation of the CBRED Project



The principal activities of the evaluation were:

1.3.1 Identification of Data Needs and Gathering of Data and Information

Information gathering involved: 1) sourcing of secondary information from PMO and project partners and 2) conducting of structured interviews, FGDs, and conducting site visits of selected projects. Secondary data include project design documents, baseline information, project outputs and milestones (reports), and monitoring and evaluation (M&E) system documentation. The list of documents reviewed is shown in Annex 3.

Primary data were gathered from views of direct stakeholders and CBRED partners, government agencies, private sectors, funding institutions, as well as, long-term beneficiaries through structured interviews, FGDs, and field visits. Annex 4 is a list of individuals and groups interviewed or consulted and sites visited. Guide questions used in evaluating relevance, efficiency, effectiveness, impact, and sustainability of CBRED were used as guide in gathering primary and secondary information (from project documents, reports and accomplishments and during interviews and FGDs).

1.3.2 Evaluation and Analysis of Data and Information

The evaluation TOR prescribed a rating scale in the assessment of project achievement following the conduct of in-depth analyses. The assessment covered the following areas:

1. Project results in terms of achievement of the project objectives, outcomes, and outputs
2. The extent of achievement of project objectives, including any other short-term or long-term and positive or negative consequences resulting from the project.
   Essentially, the criteria in determining the level of achievement of the project's objectives and outcomes are relevance, effectiveness, and efficiency. For each criterion, the outcomes were rated as:

   - Highly Satisfactory (HS)
   - Satisfactory (S)
   - Moderately Satisfactory (MS)
   - Moderately Unsatisfactory (MU)
   - Unsatisfactory (U)
   - Highly Unsatisfactory (HU)

3. Sustainability of the project outcomes
   The assessment focused on the financial resources, socio- political aspects, institutional framework and governance issues, and environmental aspects. On each of the dimensions of sustainability of the project, outcomes were rated as follows:

   - Likely (L)

- Moderately Likely (ML)
- Moderately Unlikely (MU)
- Unlikely (U)

4. The project's catalytic role
   An important aspect of the assessment is determining catalytic or replication effects that CBRED has done during its implementation. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. There will be no ratings for the catalytic role.

5. The monitoring and evaluation system
   The two focus areas in assessing the M&E system are on the M&E during project implementation and on the M&E for long-term changes. Project M&E systems will be rated on the quality of M&E design and quality of M&E implementation:

   - Highly Satisfactory (HS)
   - Satisfactory (S)
   - Moderately Satisfactory (MS)
   - Moderately Unsatisfactory (MU)
   - Unsatisfactory (U)
   - Highly Unsatisfactory (HU)

   The Team also evaluated the actions and accomplishments of CBRED in the establishment of a long-term monitoring system, accomplishments, and shortcomings; sustainability; quality of information generated, usability, and applicability of the sets of information for decision making.

6. Processes that affected the attainment of project results
   The Team identified and evaluated other issues that affected project implementation and attainment of project results, which include:
   - Project preparation and readiness
   - Ownership/drivenness of the Philippine government
   - Extent of stakeholder involvement
   - Substantial and effective financial planning and management
   - Extent of supervision and backstopping of the implementing agency
   - Availability of agreed co-financing and its effect on project outcomes and sustainability;
   - Delays in project implementation and completion and its effect on project outcomes and sustainability

7. Impacts of the CBRED Funds in terms of design and delivery mechanisms, program and funds management
   The Study Team assessed the three pilot funds created under the project: PPF, LGF, and MFF. The evaluation assessed the entire concept of the CBRED Funds Program, including its management and results, since its establishment in 2007. Their purpose, scope and limitations were assessed to determine their effectiveness and relevance

to the target clientele. Based on the results of analysis, a set of policy and program recommendations for the long-term financing support of renewable energy project development will be prepared.

2. Findings and Conclusions

This section discusses the findings of the evaluation and the conclusions made based on those findings.

2.1 Findings

2.1.1 Achievement of the Project Objectives, Outcomes and Outputs

Component 1 RE Policy, Planning and Institutional Capacity Building

The major outputs for Component 1 are the following:

1. Reformulation of the RE Bill to support accelerated RE development that includes aspects such as technology development, information dissemination, area based planning and provisions of incentives;
2. Drafting of the IRR for the RE Law; establishment and operationalization of the RE Interagency Committee; Policy Analyses (RE Electricity Policy Study, RE Electricity Pricing Study and RE Power Generation Market Study); and development of RE Planning Model to incorporate RE in both rural electrification planning and power generation program.
3. Establishment and operationalization of the RE Interagency Committee;
4. Policy Analyses (RE Electricity Policy Study, RE Electricity Pricing Study and RE Power Generation Market Study); and
5. Development of RE Planning Model to incorporate RE in both rural electrification planning and power generation program.

RELEVANCE

The passage of the RE Law (Republic Act [RA] 9513) on October 8, 2008 by Congress and its approval by the President on December 10, 2008, as well as, the issuance of its IRR in May 2009, established the framework for the accelerated development and advancement of renewable energy resources. The RE Law also facilitated the development of a strategic program to increase utilization.

Specifically, the Law puts in place a policy and mandate to:

(a) *Accelerate the exploration and development of renewable energy resources*. This is to achieve energy self-reliance, through the adoption of sustainable energy development strategies to reduce the country's dependence on fossil fuels;

(b) *Increase the utilization of renewable energy*. This is done by institutionalizing the development of national and local capabilities in the use of renewable energy systems, and promoting its efficient and cost-effective commercial application by providing fiscal and non-fiscal incentives;

(c) *Encourage the development and utilization of renewable energy resources*. The goal is to effectively prevent or reduce harmful emissions, and thereby balance the goals of economic growth and development with the protection of health and the environment; and

(d) *Establish the necessary infrastructure and institutional mechanisms* to carry out the mandates.

CBRED Milestones

The REIAC's role in providing technical and information support to Congress in passing the law and to DOE in drafting the IRR is considered a highly significant CBRED milestone. The technical and information inputs facilitated the drafting and revision of the RE Bill and its accompanying IRR.

The RE Law created institutional and administrative mechanisms necessary for sustaining the development of RE in the country. These institutional mechanisms are the REMB established at the DOE and the National Renewable Energy Board (NREB).

Section 32 of the RE Law is quite explicit in that the REMB has been created to be the DOE's main implementing unit of the law. Specifically, REMB's powers and functions are the following:

(a) Develop, formulate and implement policies, plans and programs such as the NREP, to accelerate the development, transformation, utilization, and commercialization of RE Resources and technologies;

(b) Develop and maintain a comprehensive, centralized and unified data and information base on RE Resources to ensure the efficient evaluation, analysis, and dissemination of data and information on RE Resources, development, utilization, demand, and technology application;

(c) Promote the commercialization/application of RE Resources including new and emerging technologies for the efficient and economical transformation, conversion, processing, marketing and distribution to end-users;

(d) Conduct technical research, socio-economic, and environmental impact studies of RE projects for the development of sustainable RE System;

(e) Continue to strengthen the Affiliated Renewable Energy Centers (ARECs) nationwide;

(f) Create a unified database of RE projects for monitoring and planning purposes;

(g) Supervise and monitor activities of government and private companies and entities on RE Resources development and utilization to ensure compliance with existing rules, regulations, guidelines and standards;

(h) Provide information, consultation, technical training, and advisory services to RE Developers, practitioners, and entities involved in RE technology, and formulate RE technology development strategies including, but not limited to, standards and guidelines;

(i) Develop and implement an information, education, and communication (IEC) program to heighten awareness of and appreciation by all stakeholders of the RE industry;

(j) Evaluate, process, approved and issue RE Service/Operating Contracts, permits, certifications, and/or accreditations as provided for in the Act and this IRR;

(k) Monitor and evaluate the implementation of the NREP to determine the need to expand the same; and

(l) Perform other functions that may be necessary for the effective implementation of the Act and the accelerated development and utilization of the RE Resources in the country

In addition to the above functions, the REMB also acts as Technical Secretariat to the NREB. It is in charge of registration and accreditation of RE existing and new developers, manufacturers, fabricators, and suppliers of RE equipment for the purpose of entitlement to incentives and privileges under the RE Law. This function includes the issuance of the necessary certificates (of registration, accreditation and endorsement).

To facilitate the applications for registration and accreditation of RE developers, REMB desks shall be created in Luzon, Visayas, and Mindanao in the DOE field offices.

The NREB is composed of a Chairman and one (1) representative each from the following agencies: DOE, DTI, Department of Finance (DOF), Department of Environment and Natural Resources (DENR), NPC, National Transmission Corporation (TRANSCO) or its successors-in-interest, PNOC and Philippine Electricity Market Corporation (PEMC) who shall be designated by their respective Secretaries on a permanent basis; and one (1) representative each from the following sectors: RE Developers, Government Financial Institutions, private distribution utilities, electric cooperatives, electricity suppliers and NGOs, duly endorsed by their respective industry associations and all to be appointed by the President of the Republic of the Philippines.

The Board is tasked to undertake the following:

(a) Evaluate and recommend to the DOE the mandated Renewable Portfolio Standard (RPS) and minimum RE generation capacities in off-grid areas, as it deems appropriate;

(b) Recommend specific actions to facilitate the implementation of the NREP to be executed by the DOE and/or other appropriate agencies government and to ensure that there shall be no overlapping and redundant functions within the national government departments and agencies concerned;

(c) Monitor and review the implementation of the NREP, including compliance with the RPS and minimum RE generation capacities in off-grid areas;

(d) Oversee and monitor the utilization of the Renewable Energy Trust Fund (RETF) established pursuant to section 28 of the RE Law and administered by the DOE;

(e) Cause the established of a one-stop shop facilitation scheme to accelerate implementation of RE projects; and

(f) Perform such other functions, as may be necessary, to attain the objectives of the Act.

As enunciated in Part II, Rule 2, Section 4 of the IRR, the NREB, in consultation with appropriate government agencies, and in accordance with the National RE Program, shall set the minimum percentage of generation from eligible RE resources, based on the sustainability of the RE resources, the available capacity of the relevant grids, the available resources within the specific grids, and such other relevant parameters. It is also mandated to determine to which sector the RPS shall be imposed on a per grid basis, in accordance with the NREP.

The RPS rules shall be adopted by the DOE upon recommendation of the NREB.

The NREB will participate thru coordination with Energy Regulatory Commission (ERC) in establishing the Feed-In Tariff for RE sources (Rule 2, Sec. 5); in setting net metering interconnection standards, pricing methodology and other commercial arrangements (Rule 2, Sec 7); in providing mechanisms for the recovery of cost of connection facilities (Rule 2, Sec. 8) and in setting subsidy for RE host communities/LGUs as may be determined by the DOE, DOF and ERC (Part IV, Rule 6. Section 21).

The other significant policy component of the RE Law is the establishment of the RE Trust Fund. This Trust Fund enhances the development and greater utilization of renewable energy. It also supports the development and operation of new RE resources to improve their competitiveness in the market.

Among others, the Trust Fund enlists the support of government financial institutions to provide preferential financial packages for the development, utilization and commercialization of RE projects. These projects must first be duly recommended and endorsed by the DOE; encourage the adoption of waste-to-energy facilities such as, but not limited to, biogas systems; and give incentives to RE host communities and LGUs.

The evaluation team noted that CBRED had been able to achieve more than what was expected from the Project, and therefore deserved commendation. However, the relevance of Component 1 is rated **Highly Satisfactory, this being the highest rating allowed by UNDP.** The RE bill was not only reformulated but actually approved into law and its IRR were issued just within two months from the signing of the RE law. In addition, the excellent and facilitative support of the Project Management Office (PMO) and RE Interagency Committee (REIAC); the policy studies completed and the development of RE Planning Model to incorporate RE in both rural electrification planning and power generation program were highly commendable.

EFFECTIVENESS

It may be said that the RE Law could have been approved by Congress with or without CBRED, but it is a recognized fact that CBRED facilitated the passage of the RE Law and the issuance of the IRR. While the DOE top management worked hard to convince the legislators to give priority to the RE Bill, the availability of CBRED resources (REIAC and PMO support and policy studies) was critical to moving the bill into law and drafting the IRR to conclusion.

The policy studies, the data sets assembled, other systems and institutional mechanisms under CBRED enabled the Technical Secretariat of the Congressional Committees on Energy to understand the nature, elements and even constraints in renewable energy and helped the Congressional support staff translate these aspects into provisions that could be understood and accepted by the legislators.

The REIAC and PMO are to be credited for their staff work during the legislative process. Their inputs enhanced the DOE's ability to negotiate and elicit support among the legislators and facilitated the legislator's understanding of the bill as one of national importance.

The passage of the law now provides the legal, institutional, and financial mechanisms to promote the development and utilization of RE in the Philippines, particularly with the creation of a NREB and the DOE REMB.

The REIAC's and PMO's support was significantly instrumental to the passage of the RE Law.

The rating for the effectiveness of this component is **Highly Satisfactory**.

EFFICIENCY

All the planned activities were implemented with the following outputs:

(a) Four planned policy analyses completed, and approved by the REIAC
(b) Fifteen policy recommendations reviewed by REIAC and Project Steering Committee (PSC), and
(c) Twelve policy provisions were included in the revised RE bill and IRR.

The target numbers of outputs were fully delivered.

The use of CBRED resources was most significant in the passage of the RE Law and the drafting of its IRR. These resources enabled REIAC and DOE to mobilize stakeholders and other RE advocates to support the passage of the bill, provide logistics and enable other agencies to participate in discussions and deliberations on the RE bill.

The relatively short time from the approval of the law (Dec. 2008) and the issuance of the IRR (May 2009) was also an indication of CBRED's efficiency to support Component 1.

On efficiency the rating for this component is **Highly Satisfactory**. This is largely due to the accomplishment of CBRED and prudent and appropriate use of resources in providing the necessary policy inputs to shepherd the passage of the RE bill into law and the adoption of the IRR.

Component 2 RE Market Service Institutionalization

The major outputs for Component 2 include the following:

(a) MSC is set up, provided with facilities and equipment and servicing the market service needs of various RE clients,
(b) Business plan is approved and implemented by the MSC, and
(c) Capacity building is provided to the MSC staff and operates as a one-stop shop for RE developers.

RELEVANCE

The MSC is an important feature of the project and relevant to the existing scenario in RE development. The MSC was planned to be a quasi-private organization and was to be spinned off after CBRED Project completion. As indicated in the PRODOC, it was envisioned to facilitate the delivery of services to RE project investors to obtain legal papers and permits required by various government agencies. When in place, it would have resulted in time savings for investors that have to meet requirements of regulatory agencies. The MSC will also facilitate easy access to data that would help clients make quick decisions in identifying prospective RE sources that can be developed.

The planned activities leading to the delivery of the outputs were completed with the business plan approved, and staff trained on delivery of services to clients. However, the changes in the project management set up affected the implementation/operations of the project outputs. The MSC functions were mainstreamed in the DOE organization with the DOE Technical Service Management Division (TSMD). The TSMD is currently staffed by selected detailed personnel coming from other units of DOE and performs the tasks of the MSC in addition to its regular functions while waiting for the approval of DBM for the proposed positions. With this change, the implementation of the one stop shop service to RE developers is now implemented as a mandated function of the REMB.

The current designated staffs to run the one stop shop service to RE developers and other clients are provided with training to equip them in serving the target clients since the original MSC staff left during the change in project management arrangement. To date, the delivery of services to RE developers and clients is provided by the TSMD. Full operationalization of the one-stop-shop concept is expected to be done by DOE as part of its mandate.

Most important of all, however, is that the MSC, particularly the one stop shop service for RE developers is consistent with the national government's energy sector objective of supporting the development of indigenous and renewable energy sources towards achieving energy self-sufficiency.

This component is rated as **Highly Satisfactory** in the criteria of relevance to the overall project development objective, the national energy sector objective and to the wider environment in the UNDP's human development focus "to help people build a better life".

EFFECTIVENESS

The revision of the MSC implementation scheme following the change in the CBRED PMO project staffs resulted in the loss of capable technical staffs trained to provide market service related function to RE clients. The new set of staffs assigned to the DOE unit that are expected to provide the services have to undergo same training provided to the previous staff. This has affected the continuity of the target beneficiaries' access to project results and services.

The MSC as planned in the PRODOC, as a quasi private organization providing "one-stop-shop" assistance will not be achieved at end of project. However, the DOE has mainstreamed the MSC function in the TSMD and will continue delivery of the service to RE private investors. As government continues to fully implement the RE Law, it will make resources available to facilitate RE projects development and implementation.

Because of the shift in the approach in providing services to RE clients from a quasi-private MSC to a regular DOE REMB unit, the quality of service envisioned in the project design will not be delivered in the short term. DOE will need to build on the CBRED experience in completing the requirements for an MSC to provide the expected services.

The effectiveness of this component is **Moderately Satisfactory**. This is largely because the original intention of the MSC as a quasi-private entity was not achieved.

EFFICIENCY

Significant progress in the implementation of activities under this component was attained around mid-project implementation with most of the outputs towards establishing and putting into operation a "one stop shop" for RE market services completed. The MSC was established and the staff capacitated to render services to RE investors. Capacity building for MSC staff totalled to 207 person days with actual service/assistance provided to 45 RE

clients/investors. The MSC business plan was completed and simulation of business operation in the interim was conducted as early as 2007.

The business plan towards establishing the MSC as a private foundation did not push through with the shift in project management approach. The shift called for all DOE/ODA-funded projects to be implemented by a Unified PMO; a deviation from the former approach which was a separate PMO for each of the DOE/ODA-funded project. The TSMD of DOE REMB now delivers the function of the planned MSC and being a regular unit under DOE will continue to be equipped through training of staff and regular updating of the unified RE database to facilitate the delivery of service to its clients

The TSMD under the REMB was designated as the focal point in implementing the RE market services institutionalization. TSMD has seven (7) detailed regular DOE personnel to serve the clients, while waiting for DBM to approve the actual REMB plantilla positions or the NOSCA. In addition to serving as the secretariat to the NREB, REMB's mandate includes improving the delivery of services to RE investors. In terms of efficiency, this component is rated **Satisfactory.**

Component 3 RE Information and Promotion Services

The major outputs for Component 3 are the following:

(a) RE resource inventory established and made accessible to project developers and interested clients,
(b) National RE resource inventory database integrated and developed involving the key agencies holding RE-related data and made available in the internet,
(c) RE integrated information exchange system developed and installed in MSC;
(d) Central RE website designed and installed at MSC, trainings on updating and maintenance of website conducted, RE website promotional program and database end users trainings conducted;
(e) Consolidated RE database management system is accessible through internet at MSC website
(f) Outreach and promotion program for RE developed and implemented for 5 years
(g) Technical support program and a registration program formulated and conducted for local RE engineering firms
(h) Green energy rating program developed and implemented with successful RE projects identified, recognized, and promoted through the MSC.

All the activities leading to the delivery of the outputs were implemented, six outputs were delivered while two are being prepared for full completion i.e. the conduct of RE resource inventory and the development, and consolidation of the RE database. The RE database program was developed with partial RE data supplied by partner-agencies/data holders. This was uploaded in the internet for testing, but had to be pulled out due to technical problems. Resource inventory is still ongoing and expected to be continued to cover data gaps using measuring/metering equipment supplied by the project. This complements the resource inventory outsourced by the project.

The project has implemented community awareness and outreach programs and produced and distributed IEC materials to target clients. The technical support and voluntary registration program was implemented and expected to be supported beyond project life.

RELEVANCE

This component addresses squarely the issue on the availability of reliable and integrated technical information on RE. At present, RE-related information is scattered and in the hands of various sources/providers. There is also a general weakness in information sharing between the government and the private sector, with the latter having difficulty in accessing RE information to help them decide on in investing in RE projects.

The eight project activities lined under Component 3 are relevant to the achievement of the immediate objective. These activities include:

1. RE resource inventory,
2. Development of RE database,
3. Integrated RE information exchange service,
4. RE website development,
5. Consolidation of RE databases,
6. Advocacy and promotion,
7. RE engineering service industry development, and
8. Green energy rating program.

Activities 1 to 5 built up the content of the RE database and develop the facility for sharing the data with the target beneficiaries through the web, but allowing the database keepers to manage their respective data modules. The system will also allow the database keepers to obtain benefits – through shares on the fees that will be charged to selected users.

Activities 6 to 8 disseminate RE information to the general public and key players from the engineering service industry, including RE project developers. The resources including the schedule to implement the activities lined up under this component maybe inadequate considering the effort needed to build and operate an integrated database involving players from various sectors.

Component 3 is rated **Satisfactory** in the criteria of relevance to the achievement of the immediate objective.

EFFECTIVENESS

The project has actively engaged the target RE sector players from government, private sector, and the academe. It has secured their commitment to support the continuing development of RE database and make this available to the general public and the RE developers.

The beneficiaries of this component have access to the RE promotions and advocacy activities and to the Green Energy Rating Program. The study commissioned by the project to develop the Engineering Service Industry was also completed with the report accepted in 2008 and started to deliver benefits to the engineering service industry sector.

Beneficiaries' access to the NRE database in the internet is limited due to technical problems although it operated for a short period in the NRE website earlier. The technical issues are being addressed by the CBRED-PMO (wider DOE bandwidth and re programming of sections of the RE database) in coordination with DOE-ITMS and it is expected that the NRE database will be uploaded in the DOE website before the conclusion of CBRED.

The effectiveness of this component is rated **Satisfactory** considering the level of delivery of the target output of establishing the RE database.

EFFICIENCY

The project activities resulted in the development of the RE Database and Information Exchange System (REDIES). To allow for its testing and fine tuning, this information system was made virtual by uploading the accompanying data base in the internet in 2007 as a beta or trial version. Prior to uploading the system into the internet, the project implementers organized the REDBKC. This committee consisted of project partners serving as the core group who are owners/suppliers of RE information.

The REDBKC identifies, classifies and organizes RE data that are shared by each partner and then uploaded in the RE database. Prior to this, designated data administrators of the database keepers were trained on how to administer, maintain and use the RE database being published in the internet. The system was installed in the computers of the database keepers.

In uploading the RE database and making information banking and sharing through the web, implementers encountered technical problems. These include, among others, limited bandwidth of the DOE server which resulted in pulling out of the system in the DOE website and incomplete RE data shared by the members and uploaded in the system. More time and resources are needed to come up with a reliable database that is available in the internet.

CBRED continues to support the conduct of RE Resource Inventory under its final extension. The Project is assisted by technical experts from Solar and Wind Energy Management Division (SWEMD) of REMB on wind energy inventory while the DOE Visayas and Mindanao Field Offices were tapped to conduct the micro-hydropower energy resource assessment. The biomass energy resource assessment was contracted out to the Philippine Association of Renewable Energy Centers (PAREC).The resource inventory is expected to continue even beyond the project life to complete the data gaps.

The DOE is in the process of resolving the technical problems to put the RE database operational in the internet and service the information requirement of the planned users of

the system. It is optimistic that the RE Database will be effectively running in the internet before the end of the project.

On the development of the RE database, the participation of key partners (National Government Agencies, Independent Power Producers and civil societies) in the REIAC and REDBKC allowed for the development of the initial data sets that were inputted in the RE Database. The REDBK members' participation in the full development of the RE database was not sustained with the slowdown of PMO activities in 2007. Moreover, the low level of interest and participation by key partners in the REIAC and REDBKC activities were also brought about by the changes in the designated representatives of concerned agencies/institutions and privatization of government corporations.

The RE strategic communication and promotion plan was completed in 2005. As part of the promotion plan, the Green Energy Rating Awards Program was completed with two awards program in 2006 and 2008. The GERP is an innovative program that has demonstrated good outcome among RE players (developers and stakeholders) in promoting importance of RE and services. This is now ready for implementation by DOE.

On the other hand, the study for the development of RE Engineering Service Industry Program was completed and accepted by CBRED in 2008. RE service industry providers are being assisted by CBRED in complying with registration requirements.

The efficiency rating of this component is **Moderately Satisfactory**, mainly because of the RE database is still not fully operational and is not yet accessible in the internet.

Component 4 RE Initiatives Delivery and Financing Mechanisms

The major outputs for Component 4 are the establishment of three (3) pilot funds, namely:

(a) Project Preparation Fund (PPF)

(b) Micro Finance Fund (MFF)

(c) Loan Guarantee Fund (LGF)

These funds are intended to support RE projects that promote and apply innovative strategies and delivery mechanisms (e.g. Renewable Energy Service Company or RESCO, Concession, Community-Based and Lease-to-Own). These funds are intended to address the financing barriers to RE development.

The relevance, effectiveness and efficiency of the three funds under Component 4 were evaluated in terms of Program Management and Fund Management.

Program Management

Project Preparation Fund

RELEVANCE

PPF is a partial loan fund intended to assist project developers in paying for the cost of eligible project preparation activities. The PPF provides a zero interest loan of up to 50% of the project preparation cost. The balance shall be the proponent's equity.

Project development activities eligible for support by the PPF include the following:

1) Detailed feasibility study,
2) Detailed engineering design,
3) Micro-siting analysis (applicable to wind energy projects), and
4) Securing permits, licenses and approvals,
5) Any major activity required by the financing institution prior to financial closure or release of main project implementation loan.

The PPF provides a relevant lending window for project developers to pursue RE projects by financing the above activities which are normally shouldered by project proponents. This is a welcome financial support to proponents who wish to go into RE development, but are hampered by the high front-end cost particularly pre-developmental costs.

Under the PPF, proponents can request funding of activities related to securing permits, licenses and approvals, or any major activity required by the financing institution prior to financial closure or release of main project implementation loan, such as securing the Environmental Compliance Certificate, Fuel Sales Agreement (for biomass projects), Energy Sales Agreements and Water rights permits.

PPF's purpose is rated **Highly Satisfactory** in the criteria of relevance to achievement of the immediate objective.

EFFECTIVENESS

The PPF provides a partial loan fund intended to assist RE project developers in paying for the cost of eligible project preparation activities. The PPF provides a zero-interest loan of up to 50% of the project preparation cost. The balance shall be the proponent's equity. The fund has generated much interest from RE developers and project proponents in view of its pioneering objective. There may be a few, if any, lending facilities which allow the financing of project preparation costs such as feasibility studies, detailed engineering designs and securing of various permits, licenses and agreements.

However, the limited PPF funds present a funding constraint which limits the identification of more prospective beneficiaries of the fund. Another constraint is the 50% funding limit which most project proponents still find difficult to raise. Considering the Fund's noble

purpose which has benefited several beneficiaries, the PPF can be merited with a **Satisfactory** rating as far as the effectiveness criterion is concerned.

EFFICIENCY

The LBP-Program Lending Group (PLG) is the PPF Program Manager (PPF PM) and is responsible for the program management-related functions of PPF. Under the PLG is the Environmental Program and Management Department (EPMD) which is composed of three (3) officers directly handling project evaluation and account management.

The PPF Management Committee was constituted pursuant to the Program Implementation Agreement (PIA) and is composed of representatives from the DOE and LBP. The committee is responsible for the approval/disapproval of loan applications, making strategic decisions on the PPF program implementation and, as may be necessary, recommending policies and/or policy changes to the CBRED Project.

The EPMD has undergone training in RE project evaluation and is itself adept in this field. However, it was observed that no formal promotion or marketing strategy was adopted for the PPF except on the preparation of the PPF brochure and Guidebook for Applicants to the PPF.

Further, there were no documented set target for loan approvals and releases strictly implemented by LBP (Project Manager-PFM). The group was merely guided by the target of 15MW in terms of total combined capacity of RE projects funded by the PPF as of project completion date.

There were only four projects approved during the five-year implementation period, of which three are in current status, while one was not released due to expiry of loan availability period. The main fund constraint pinpointed was the high equity requirement of 50% under the PPF lending guidelines since the Fund only finances up to 50% of the project preparation costs. Another is the limited amount of PPF funds available which would not be able to accommodate more projects.

As of December 31, 2010, or four years and three months into the Fund implementation, total approvals amounted to Php 15.342M indicating a 100% utilization of the PPF versus the 75% target utilization by year 5. However, total releases as of same date amounted only to ₱6.62 M or just 43% of total loans approved. As of December 31, 2010, PPF loan portfolio stood at Php 6.620 MM.

The first PPF loan (TUREDECO – Limbatangon Mini-hydro Project) was approved in April 27, 2009 and was fully released. There were three loan approvals in 2010 resulting to an average portfolio growth of 44%. Loan releases to the two succeeding mini-hydro projects were slow and the last project approval still has to avail of the PPF loan. All four approved PPF loans have yet to file industrial loans with any government or private commercial bank.

In a project visit to TUREDECO, we were informed that the company is now discussing with DBP the possibility of financing the capital expenditures for the mini-hydro project. All three accounts are maintained in current status, while one account remains unreleased due to expiry of loan availability period.

A total combined capacity of 19.8 MW for the 4 RE projects approved under PPF was attained during the five-year implementation period vis-à-vis target capacity of 15 MW (for direct beneficiaries), or a realization rate of 132%.

The efficiency criterion rating of the PPF is **Satisfactory** considering the level of delivery of the target output. Had the PPF funds been higher, the possibility of approving more projects would have been possible.

Micro Finance Fund

RELEVANCE

The MFF is a loan financing mechanism for off-grid or small-scale RE projects for both power and non-power applications at concessionary rates and long-term financing. It is intended to fund micro-finance intermediaries for re-lending to small-scale, including household-level type of projects, especially in remote, off-grid areas. The MFF is available for lending to eligible borrowers under both the wholesale and the retail lending schemes, the purpose of which is to reach as many eligible borrowers in the grassroots level and be able to introduce to this sector of the community the RE concept and its benefits to the community's economic development.

The seed money from the GEF was earmarked for community-based energy and/or village power projects that will utilize RE technology, the total combined capacity of which is 500kW.

Funding under the MFF is limited to certain eligible projects which include:

- Solar photovoltaic (PV) systems (battery charging stations and balance-of systems)
- Hydropower (pico and lower capacities of micro-hydro)
- Biogas (backyard/household size)
- Biomass technologies for non-power applications
- Windmill for water pumping

The MFF is an important fund component of the CBRED Project since it provides financing support to loan applicants which can be re-lent to individual clients or groups of individuals in remote areas with limited or no access to traditional bank loans. Supportive of livelihood activities, the MFF can be given a rating of **Highly Satisfactory** under the criterion of relevance.

EFFECTIVENESS

The MFF is intended as a financing mechanism for loans to small-scale power projects in remote barangays with relaxed terms for long-term borrowing. PEF MFIs (e.g. NGOs and rural banks) that lend money to micro-enterprises (e.g. rural cooperatives) with the ultimate goal of poverty alleviation were tapped to lend for RE projects, since energy generation and livelihood projects are complementary.

Some achievements of CBRED MFF include community awareness of RE technology, financial support for RE developers and the ability of the DOE to work with the grassroots communities in pursuit of RE technology for the benefit of the poor. The MFF financed solar lanterns and Mabaga stove purchases of poor micro-entrepreneurs, farmers, and fishermen which the beneficiaries were able to use productively in their livelihood. In view of this, the rating for the effectiveness criteria for the MFF is **Satisfactory**.

EFFICIENCY

As provided in the PIA, the MFF PFM established a 'core group' of personnel (the Renewable Energy Unit or REU) who were trained in RE project evaluation and are responsible for the day-to-day implementation of the funding program. It is also responsible for accrediting participating MFIs based on mutually agreed accreditation criteria. The CBRED MFF group handles the loan applications, credit investigation, and appraisal of borrowers.

Committee

An MFF Management Committee was constituted and maintained during the effectivity of the agreement. It is composed of representatives from the DOE and PEF, with Ms. Veronica Villavicencio, President and CEO of PEF, as MANCOM Chairman. MANCOM is responsible for the approval/disapproval of loan applications, strategic decisions on MFF program implementations and, as may be necessary, recommendation of policies and/or policy changes to the CBRED Project.

Fund Utilization

PEF started to implement the MFF in October 2006 with 100% of lending focused on MFIs under a wholesale lending approach. As of December 31, 2010, fund utilization (inclusive of approved loans and grants) reached only 52.25% vis-a-vis a target of 75%, or cumulative loan and grant approvals of Php 12.31MM for the whole implementation period. Only 19 borrowers availed of the MFF facility vis-à-vis a target of 32 borrowers by Year 5, or a realization rate of 59.38%.

All these projects involved the purchase of solar lanterns and Mabaga cook stoves which were used by farmers, fishermen and micro-entrepreneurs. Total combined capacity of RE projects funded through MFF is expected to reach 500 kW in Year 5. However, total combined capacity of solar lanterns and Mabaga cook stoves financed reached only 22.174kW or a realization rate of 4.43%.

Problems Encountered

Among the problems encountered by PEF in the implementation of MFF include:

1) Readiness of the market on RE technology appreciation,
2) Unexpected need for social marketing of the MFF,
3) Availability of tested RE technology including proven financial viability of the technology, and
4) Lack of organized groups to champion RE projects especially in off-grid areas.

Repayment

Despite the problems encountered especially on the defective solar lanterns supplier by SURE, repayment for loan availments hit an impressive 98.31%. Past due rate stood only at 1.61% which is a lot better than the target percent repayment of loans for installed systems of 20%. Total outstanding loan portfolio as of December 31, 2010 stood at Php 3.021 MM of which 71% (Php 2.157 MM) is current, while 29% (Php 863,120.00) represents restructured – current and restructured-past due. Portfolio at Risk (PAR) and PAR rate stood at Php 73,125.00 and 2.42%, respectively.

Emission reduction performance of the supported projects is targeted to reach 330 MT tons in Year 5. Despite the projects funded, this was a hard target criterion for PEF to benchmark with as it was difficult to determine the emission reduction performance of solar lanterns and Mabaga stoves financed under the MFF. PEF suggests an alternative emission reduction basis of computation as it encountered difficulties in determining this standard. It was suggested by PEF that the target should have been expressed in Number of Households benefited by the MFF which was more determinable/quantifiable. Rating under the efficiency criterion is **Satisfactory**.

Loan Guarantee Fund

RELEVANCE

The LGF is intended as a partial loan guarantee mechanism for RE projects in remote off-grid locations. The LGF is meant to provide guarantee to the loan that may require a high level of securitization or for small, high-risk projects where proponents are inadequately capitalized and/or cannot provide sufficient collateral. This is intended to spur lending to RE project proponents by spreading the risks among the guarantor/s, lenders and the borrower-proponent. The LGF is a very relevant component of the CBRED Project as its objective is to spur investments in the RE field by mitigating the risks attendant to said initiatives. As conceptualized, the LGF is made available to RE project developers, including retail funders of small RE systems that could not fully meet the collateral requirements of banks and other financing institutions. The facility is intended to trigger lending to RE project proponents by spreading the risks among the guarantor, the lender, and the

borrower-proponent. As such, the LGF can be considered as a highly relevant sub-component and merits a **Highly Satisfactory** rating.

EFFECTIVENESS

The LGF had minimal impact due to low availment; hence, it barely hurdle the effectiveness criteria. Since the LGF facility was launched, LGUGC was able to approve one account only, that is, Gerphil Renewable Energy, Inc. for its 110 kW Panoon Falls mini-hydro project located in Barangay Poblacion, Impasug-ong, Bukidnon with a total project cost of P 13.164 MM. Allied Banking Corporation approved a loan of P9.2MM for the project payable over 10-years inclusive of a two- year grace period at a fixed rate of 10.5769% per annum. The LGF provides a maximum guarantee of 85% of the Main Project Implementation Loan but not to exceed Php 20 M. Following the above guidelines, the guarantee cover for the above account is Php 7,820,000 or 85% of Php 9.2 M, which represents a measly 11.06% utilization rate of the LGF of $1.606 MM or Php 70.66MM (P44:$1). The Gerphil plant has been marred by a series of technical problems and low water supply (February to March 2010). As a result of this, Gerphil failed to pay its quarterly interest dues and Allied Bank called on the LGF guarantee. Under the effectiveness criteria, the LGF is rated as **Moderately Satisfactory**.

EFFICIENCY

LGUGC was able to approve one account only, that is, Gerphil Renewable Energy, Inc. for its 110 kW Panoon Falls mini-hydro project located in Barangay Poblacion, Impasug-ong, Bukidnon with a total project cost of P 13.164 MM. Allied Banking Corporation called on the LGF guarantee when Gerphil failed to meet its loan obligations. Thus, outstanding loan balance under the LGF as of December 31, 2010 is nil.

The operating guidelines of the LGF, which provide for the basic lending features of the program are generally acceptable and were in fact subjected to stakeholders' consultations. However, the LGF fund structure was designed for small-scale projects that limit coverage to a maximum of Php 20 M. This hampered the efficiency of the LGF as there is a disjoint between the size of RE pipeline projects and the limited maximum guarantee coverage. This was the case for most pipeline projects under the LGF facility, which included: Lucky 7 Farms (a biomass project in Mindanao), Amertech Technologies (Steam boiler project in Luzon), Cantilian Mini-Hydro project (approved but LGU decided not to pursue the project) and SURE (Biomass project in Mindanao). The Php 20 M limit served as one major hindrance for the processing of these projects as well as other inquiries mostly involving RE projects with bigger capacities. The P20 M limit on the amount of the guarantee approvals only covers RE projects with a capacity of 500kW.

Moreover, for the LGF to be sustainable, there should have been a sufficient volume of loans to be guaranteed. These loans should be maintained in current status so as not to impair or deplete the LGF. The LGF should have been designed as a support facility to the other program funds such that there would be a tandem of loan and guarantee availments. As it is, the program funds appear independent from each other. There were two separate Program Managers for the LGF and the MMF, which should have been coordinating closely

as the LGF is supposed to support small-scale projects. There is no central body responsible for marketing and mobilizing all the three (3) program funds, which should be marketed in tandem if these are inter-related.

Lastly, the marketing of the LGF appears to be limited; hence, could be a factor why only one end-user (Gerphil Renewable Energy) availed of the facility. While LGUGC may have been efficient in running the program, it lacked advocacy, exposure, and marketing. Foremost, it lacked a funding component that would have paved the way for the availment of a guarantee.

Under the efficiency criteria, the LGF is rated **Moderately Satisfactory** in view of the constraints caused by certain program features and guidelines that hindered the growth of the LGF portfolio.

Funds Management

In terms of funds management, the three pilot funds were also evaluated. The following discussions present the results and ratings for each fund.

Project Preparation Fund

RELEVANCE

As the CBRED-PPF Program and Fund Manager, the LBP performs program operations and fund management functions detailed in the Program Implementation Agreement (PIA). To finance the CBRED-PPF, the DOE made available to LBP investment and institutional credit funds in the amount of US$ 321,300. The PFM monitors PPF program operations and performance in terms of effectivity and efficiency of the PPF utilization and that of the borrowers.

The PPF PIA is a relevant document, which outlines the roles, responsibilities and obligations of DOE as the Executing Agency and LBP as the Program and Fund Manager towards the attainment of the CBRED goals and objectives and the protection of the PPF funds.

LBP plays two separate roles in the implementation of the PPF program, as PPF Program Manager (through its Program Lending Group) and as Fund Manager/Trustee (through its Trust Banking Department). The roles and relationships of these two functions were merely included in the PIA executed between the DOE and LBP.

Ideally, the PIA should have been executed as an 'omnibus' PIA which include parties such as, the DOE (as Executing Agency), the LBP President, representing the Bank Proper, and the LBP Trust Banking Head, to completely define the parties involved in the PPF management, and their roles and responsibilities. Representatives from the three entities (DOE, LBP – PLG, and LBP Trust) should act as witnesses to the Omnibus PIA. In view of this, rating for the relevance criterion for the PPF fund management is **Satisfactory**.

EFFECTIVENESS

LBP acts as both the Program and Fund Manager in the management of the PPF Funds. LBP Bank Proper appointed its own Trust Department to manage the PPF Funds. As Fund Manager, LBP Trust Department performs fund management-related duties and responsibilities. These include, among others:

1) Opening and maintaining specific and exclusive fiduciary accounts for the PPF,
2) Investment and/or reinvestment of the PPF,
3) Keeping and maintaining separate books of accounts and records for the PPF, and
4) Processing and releasing loan proceeds in accordance with approved disbursement schedules of each project and the PPF lending policies and guidelines.

It also opens and maintains separate records and books of accounts for each of the borrowers of the PPF and regularly provides monthly financial statements, disbursements and collection reports for the PPF. LBP Trust performed its role as PPF Fund Manager quite effectively and merits a **Satisfactory** rating under the effectiveness criteria.

EFFICIENCY

A PPF Management Committee was constituted and maintained during the effectivity of the agreement. It is composed of representatives from the DOE and LBP, the LBP Vice President and Head of Program Lending Group as MANCOM Chairman. MANCOM is responsible for the approval/disapproval of loan applications, strategic decisions on PPF program implementations and, as may be necessary, recommendation of policies and/or policy changes to the CBRED Project. LBP Trust receives its instructions from the LBP – PLG in the implementation of specific transactions. In view of this, rating for the efficiency criterion for the PPF fund management is **Satisfactory**.

Micro Finance Fund

RELEVANCE

As the CBRED-MFF Program and Fund Manager, the PEF performs program operations and management functions detailed in the PIA. To finance the CBRED-MFF, the DOE made available to PEF investment and institutional credit funds in the amount of $ 535,500. PEF monitors MFF program operations and performance in terms of effectivity and efficiency of the MFF utilization and that of the borrowers.

The MFF PIA is a very appropriate documentation which outlines the roles, responsibilities and obligations of DOE (as Executing Agency for CBRED) and PEF (as Program and Fund Manager) towards the attainment of the CBRED goals and objectives and the protection of the MFF funds.

However, PEF should have been designated only as Program Manager and not as Fund Manager, since the function of a Fund Manager/Trustee/Escrow Manager is not within the

scope of PEF's mandate. A separate Trust Agreement dated November 21, 2006 was actually executed between PEF (as Trustor) and ING Bank N.V. (Trust Department) with the latter being designated as Trustee for the MFF funds. In view of this, rating for the relevance criterion for the MFF fund management is **Satisfactory**.

EFFECTIVENESS

The Trustor PEF appointed ING Bank N.V. (Trust Department) as Trustee of the MFF, to manage and administer said Fund in accordance with the terms and conditions of the Trust Agreement entered into by the two parties. As Trustee, ING Trust has the power of control, direction, and management of the Fund which shall reside in and be the sole responsibility of the Trustee.

Moreover, the Trustor PEF shall confirm acts of the Trustee done in accordance with the Trust Agreement. The Trustee shall prepare an investment policy indicating asset allocation proposals, where the Trustee can invest or reinvest the Fund without distinction between principal and income, in any new securities or properties, real, personal or mixed, domestic or foreign shares of stocks, common or preferred equity issues, among others. The above documentation and implementation merit a **Satisfactory** rating under the effectiveness criteria.

EFFICIENCY

An MFF Management Committee was constituted and maintained during the effectivity of the agreement. It is composed of representatives from the DOE and PEF, with PEF President and CEO as MANCOM Chairman. The MANCOM is responsible for the approval/disapproval of loan applications, strategic decisions on MFF program implementations and, as may be necessary, recommendation of policies and/or policy changes to the CBRED Project.

As provided for in the Trust Agreement, the PEF set up the MFF Trust Account (MFF TA) in the name of the CBRED Project which was made available at no cost to and managed by the PEF as the MFF PFM. The MFF TA was opened with ING Bank - Trust Group and consists of a US Dollar Account and a Philippine Peso Account.

The US Dollar Account was funded initially by the transfer of UNDP, upon written advice by the DOE and in accordance with the Manual for National Execution (NEX) of UNDP-Supported Projects, a total amount of US $ 535,500 in two tranches: (a) 1st Release: US$300,000.00 and (b) 2nd Release: US$ 235,500.00.

Subsequently, the US Dollar Account was funded by all the income or interests earned on investment from this account. Funds from this account were disbursed to pay for all US dollar denominated expenses, loan proceeds for relending to MFIs for transfer to the Philippine Peso Account and expenses which cannot be defrayed by the Philippine Peso Account, i.e. if the available amount in the Philippine Peso Account is insufficient to cover the expenses.

The Philippine Peso Account was funded by disbursements from the US Dollar Account converted to Philippine peso for lending to wholesale borrowers of the MFF and for other approved activities, all the income or interests earned on investments from this account, all principal loan repayments and interests and all other incomes, fees and charges collected from the beneficiaries of the program emanating from the MFF loans denominated in Philippine Peso.

Funds in the Philippine Peso Account were used to defray operating expenses and disbursements to pay for all Philippine Peso denominated expenses, loans by MFIs for re-lending to their sub-borrowers and payments for MFF Program and Fund Manager fees.

In view of this satisfactory fund management arrangement, a rating of **Satisfactory** is given under the efficiency criteria.

Loan Guarantee Fund

RELEVANCE

The DOE as Executing Agency for the CBRED Project appointed the LGUGC as the LGF Program Manager pursuant to the PIA dated November 9, 2006. *As* the CBRED-LGF Program Manager, the LGUGC performs principal guarantee program operations and program management functions detailed in the PIA. To finance the CBRED-LGF, the DOE also made available to LGUGC investment and institutional credit funds in the amount of $1,606,500 to be held in escrow by the LGF Escrow Agent.

The LGF PIA is a very appropriate documentation which outlines the roles, responsibilities and obligations of DOE (as the Executing Agency for CBRED) and the LGUGC (as Program Manager) towards the attainment of the CBRED goals and objectives.

In addition to the PIA, a separate LGF Escrow Agreement was signed between DOE and BDO Trust Banking Group (BDO Trust) with the latter being appointed as Escrow Agent for the LGF Escrow Accounts. The PIA and Escrow Agreements are considered very appropriate means of documentation that established a clear definition of procedures to be followed in handling the funds for transparency reasons.

Thus, the fund management of LGF, as far as relevance is concerned, is rated as **Highly Satisfactory**.

EFFECTIVENESS

Under the Escrow Agreement, Escrow Agent BDO Trust is required to deposit the LGF Funds in Escrow Accounts consisting of: reserve accounts in the amount of $1,606,500 for the implementation of the CBRED LGF and revenue account in Philippine pesos funded by all the income or interests earned on investments from the reserve account and revenue account and all incomes of the fund except for recovery from collateral/guaranteed loans and all guarantee fees and other charges collected from the beneficiaries of the program.

The Agreement also provides that the Escrow Agent shall invest and reinvest the Escrow Accounts in liquid and relatively risk-free "Permitted Investments" such as Philippine government securities and other evidences of indebtedness of the government and any of its instrumentalities. The Escrow Agent is mandated to comply with any written instructions received from the LGF Program Manager.

In view of the clear delineation of roles, duties and responsibilities of the LGF Program Manager and Escrow Agent, the above documentation merits a **Highly Satisfactory** rating under the effectiveness criteria.

EFFICIENCY

Under the PIA, the LGF Management Committee was established and is composed of representatives from the DOE and the LGUGC. It is responsible for the approval/disapproval of guarantee applications, making strategic decisions on the LGF program implementation and as may be necessary, recommending policies and/or policy changes to the CBRED Project. LGUGC, as LGF Program Manager oversees the investment/re-investment of the funds in the Escrow Accounts in accordance with the provisions of the LGF Escrow Agreement executed on September 1, 2005 between UNDP and BDO Trust Banking Group as Escrow Agent.

The presence of a separate Escrow Agreement paved the way for an efficient implementation of the funding program thus earning a **Highly Satisfactory** rating as far as efficiency criteria is concerned.

Component 5 Training

The major outputs for Component 5 are the following:

1) Training needs assessment
2) Design of the training program
3) Development of the Modules,
4) Design and implementation of Monitoring and Evaluation (M & E System),
5) Implementation of the Training Activities, and
6) Design and Implementation of a Strategy for Sustainability.

The objective of Component 5 is to upgrade the capacity of major stakeholders in the country's RE sector in the various aspects of RE development and commercialization, particularly in the policy/regulatory, financial, market, technical and operational aspects.

The training component was started in early 2004 with the engagement of a Training Program Expert who was tasked to design the training programs, identify and coordinate with training institutions, develop training curricula and prepare course outlines. The actual conduct of the training programs started in 2007 when the Development Academy of the Philippines as training service provider was selected after undergoing competitive bidding as

required by UNDP rules. The lull between 2004 and 2007 was brought about by the discussions and decision on how to approach the training component: whether to create a pool of trainers/experts that will prepare the training modules or get a training service provider that will conduct the training programs. The limited budget for RE Training Programs was also considered in the context of whether a training service provider would accept the tasks of developing and designing training courses, and implementing the program, given the size of the budget. Despite the delay, the training programs materialized as essential support component for the development of RE in the Philippines.

RELEVANCE

Training, of course, is a relevant component of a program or project, particularly for concerns or topics that are quite new and pioneering like renewable energy. The modules offered under CBRED provided foundation and advanced knowledge on renewable energy. These were also designed to develop knowledge transfer agents (training the trainers).

The CBRED modules consisted of the following:

1) Basics of Renewable Energy
2) Project Development and Management
3) Project Appraisal
4) Pricing
5) Power Purchase Agreement
6) Project Financing
7) Entrepreneurial Skills
8) Social Marketing/Community Organizing
9) Database and Information Management
10) Technician's Training (Solar, Wind and Hydro)
11) Training of Trainers

All modules are considered relevant to understanding RE and promoting it as business enterprise and encouraging utilization.

Key training targets are barangay power associations, bank staff, DENR, DOE, LGUs with potential RE, SPUG areas and un-energized localities. Given the training modules developed and conducted, Component 5 is rated **Highly Satisfactory** for relevance

EFFECTIVENESS

Most of the participants were from the National Capital Region (313 or 59%), followed by those from Luzon (136 or 26%). Those from the Visayas accounted for only 5% (26 participants) while participants from Mindanao totaled 50 (10%).

Also, most of the participants were from academic institutions; none from PO communities and BAPAs due to some factors such as transportation and accommodation expenses not

covered by the training budget; cost of accommodation in Metro Manila was high; training duration was too long for some courses; and there were preference for on-site training.

To address the problem of access to the training program, the training service provider introduced a change by bringing the course to the sites (e.g., Palawan) and partnered with a locally based agency, the Palawan Council for Sustainable Development (PCSD). This was considered most appropriate not only in terms of making trainee participation cheaper, but also in being able to relate to actual RE opportunities and challenges.

On the whole, the training programs generated enthusiasm and interest among the participants. For having been able to reach out to many RE potential sectors/players, thru training, this component rating is **Satisfactory** for effectiveness

EFFICIENCY

The actual implementation of the training modules was delayed by some three years (after the preparation of the training design). This was a lot of time which could have been used for further training needs assessment, a standard process for developing and refining appropriate training programs. It may be pointed out, however, that training on Renewable Energy, just like other sectors, should be continuing and that starting it anytime can be helpful, but for a support project such as CBRED which is time-bound, opportunities for correct training design and improvement could have been optimized.

Reaching out to prospective key RE players required a more deliberate analysis of the target market. While selection of participants coming from key targets could be rationalized in terms of biased support (e.g., subsidizing cost for participants coming from remote areas), while balancing the allocation of training resources.

The component was able to conduct 14 training courses. With a total target number of 680 participants, 763 actually confirmed to attend the various courses. Given the limited budget, only 549 were approved by DOE and of these, 525 were able to participate although about 31% of the participants were not able to complete their registered course for some reasons. The training the trainer course was oversubscribed, that is, there were more participants than was targeted, overshooting accommodation and meal costs.

A Results-Based M&E System was developed covering the following: a) pre-training test; b) management of learning; c) debriefing sessions; d) post-training test; e) training evaluation and f) sharing of insights.

In spite of the delay in the conduct of training programs, the efficiency rating for this component is **Satisfactory,** considering that the planned modules were conducted within the project life and having trained some 525 participants even with a limited budget. It has to be noted that the training component has been able to assemble and develop a corps of trainers on RE who can be tapped for future similar training programs.

Component 6 Technology Support

The major outputs for Component 6 are the following:

1) Development of national standards for RE to serve the requirements of the industry
2) Financing program for NRE manufacturers is developed and implemented.

The absence of RE standards for projects implemented in the past resulted in the early failures of RE components rendering the RE systems unsustainable. This also eroded users' confidence on the reliability of the technology. The outcome on the development of national standards on RE is being achieved with the DOE now using the standards including best practices on RE development. The financial assistance program was developed and benefited seven RE manufacturers/suppliers, but implementation was discontinued due to slowdown of PMO operation and the loss of trained staff implementing the program. The technology improvement program of assisting local NRE manufacturers to improve product quality and efficiency will not be fully realized at project completion due to management decision for the postponement of the financial assistance program and its incorporation in the activities that will be supported by resources from the RE trust fund to be established under the RE Act.

RELEVANCE

To achieve the immediate objective, the PRODOC identified seven activities as follows:

1) Best practices documentation and making this available in the RE database and website
2) RE equipment standard setting
3) Assessment of capability of local RE users
4) Performance evaluation of locally produced RE equipment
5) Potential improvements and efficient designs for local RE equipment manufacturing
6) Financial assistance to local RE equipment manufacturing
7) Sustainable RE research and development

The planned activities were appropriate to achieve the component objective. In the course of the implementation some changes approved by the project management were made to adapt to changes in the project environment i.e. the RE Trust Fund to be created under the RE law covers the provision of financial assistance to local RE equipment manufacturers. The project management decided not to implement the facility to provide financial assistance to RE developers as this will qualify under the RE Trust Fund facility. CBRED management approved the changes and the realignment of resources for this activity to the purchase of measuring equipment for the resource inventory, essential inputs to the RE database development. Some gaps in the RE resource inventory will continue to be filled in by DOE as part of its regular mandate using the equipment acquired through CBRED.

The project developed standards for RE and the best practices compiled are now available to serve the requirements of the industry. The setting of the national standard for RE is

postponed for the meantime since the adoption of national standards may slow down the entry into the market of new RE equipment and systems.

With the project's recognition of long term impact of setting the national standards for RE and the availability of financial assistance to RE equipment manufacturers under the RE trust fund after project completion, the rating of achievement of component outcomes is **Satisfactory**.

EFFECTIVENESS

The planned beneficiaries have access to the results and services under the technology support component. Information dissemination is continuously provided to planned beneficiaries through the DOE-REMB units. RE systems designers and manufacturers have access to information and technical assistance established by the project. The RE standards developed by the project are being used/implemented by DOE in assisting RE developers involved in designing and implementing RE systems.

DOE REMB is the designated bureau that will continue to develop, operate, and maintain the CBRED project results and services. With the full implementation of RA 9513 with its IRR, that formalizes the national government support for the development of RE, CBRED benefits will continue to be delivered. Effectiveness rating for this component is **Satisfactory.**

EFFICIENCY

Standards for RE equipment and systems were developed by the project and best practices compiled in 2008. The proposed standards were submitted to the DTI Bureau of Product Standards (BPS) for certification and adoption as the Philippine National Standards (PNS). BPS is mandated to develop, implement, and coordinate standardization activities in the Philippines and ensures that the PNS developed are at par with international standards.

The DOE is now using the project-developed RE standards and compiled best practices approach in helping stakeholders improve the design and installation of RE systems. Technology improvement was implemented and reported completed. Six of the seven planned activities under this component were completed except the financial assistance to local RE system equipment manufacturers. The outputs from the activities have started delivering benefits to the target clients. The website of the DOE is being improved to accommodate the technical requirement of the CBRED developed RE database and is expected to be completed in the middle of 2011. Access to the RE database through the DOE website is expected to benefit more RE developers and other clients.

The RE law provided for a favorable environment for the development of RE systems. Its provisions include the setting up of a trust fund to develop energy systems, research and development and technology deployment, which are also addressed by this component. The results from this component will continue to be improved by DOE pursuant to the provisions of the RE law. Other activities lined up under this component also would qualify for financial

support from the RE trust fund and are expected to be implemented by DOE REMB after CBRED. Efficiency rating for this component is **Satisfactory**.

Overall Ratings per Component

Based on the discussions, six components have been subjected to evaluation by using three criteria, namely: relevance, effectiveness, and efficiency. The six components evaluated in terms of achievement of the project objectives, outcomes, and output in this study include:

- Component 1 RE Policy, Planning and Institutional Capacity Building
- Component 2 RE Market Service Institutionalization
- Component 3 RE Information and Promotion Services
- Component 4 RE Initiatives Delivery and Financing Mechanisms
- Component 5 Training
- Component 6 Technology Support

Upon rating each component and deriving the overall rating, the team considered the premise stated in the TOR, "while rating the project's outcomes, relevance and effectiveness will be considered as critical criteria. If separate ratings are provided on relevance, effectiveness and efficiency, the overall outcomes rating of the project may not be higher than the lowest rating on relevance and effectiveness. Thus, to have an overall satisfactory rating for outcomes, the project must have at least satisfactory ratings on both relevance and effectiveness."

Table 2 shows matrix of ratings on a per component basis. In totality, the overall rating for the achievement of the project objectives, outcomes and output is **Satisfactory**.

Table 2 Summary of Ratings for the Assessment of Project Results per Component

COMPONENT	RELEVANCE	EFFECTIVENESS	EFFICIENCY	OVERALL
Component 1 RE Policy, Planning and Institutional Capacity Building	HS	HS	HS	HS
Component 2 RE Market Service Institutionalization	HS	S	MS	S
Component 3 RE Information and Promotion Services	S	S	S	S
Component 4 RE Initiatives Delivery and Financing Mechanisms	HS	S	S	S
Component 5 Training	HS	S	S	S
Component 6 Technology support	S	S	S	S
OVERALL	**HS**	**S**	**S**	**S**

Rating: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

2.1.2 Sustainability of the Project Components

Component 1 RE Policy, Planning and Institutional Capacity Building

The sustainability of RE Policy, Planning and Institutional Capacity Building component is almost guaranteed by passage of the RE Law, the creation of the REMB and NREB and the various supporting systems that are being put in place. Such guarantee, however, will depend largely on the capability of the Department of Energy to adopt and implement programs, regulations, procedures that will lead to achieving the mandates under the law.

Henceforth, the internal planning process at DOE will have to give adequate focus on RE development and this will entail inclusion of RE in the agency's annual work and financial plan.

Sustainability will also be a function of the competence and effectiveness of the REMB and its staff, which means that the bureau should be fully organized and staffed to enable it to carry out its functions. Following this will be the deliberate continuing competency improvements and setting up systems that will facilitate RE work, both at the DOE and among its target RE stakeholders like project developers and funding institutions.

CBRED has generated a wealth of studies (e.g. policy) and recommendations some of which eventually found their space in the RE Law and the IRR. These CBRED information sets will continue to provide relevance and usefulness towards sustainability. With a law and its IRR providing directions, the sustainability rating for this component is **Likely**.

Component 2 RE Market Service Center

The initiative under this component on the creation of a functioning "one stop shop" to serve as single agency where RE project investors need to go to obtain all the legal papers and permits required for RE projects is in line with the prescribed mandate of DOE with the implementation of the provisions of the Renewable Energy Act. Institutional support is expressed with the designation of the REMB in DOE as the unit that will be responsible for providing the service to RE developers and the general public. Regular DOE staffs were designated in the interim to handle the activities related to RE Market Services institutionalization while the regular positions are still under review by the DBM. Financial support is expected to be provided for the full development of the one stop shop while the CBRED concept of an independent MSC maybe considered in the future. Sustainability of component 2 is **Moderately Likely** at end of CBRED.

Component 3 RE information and Promotion Services

The availability of the REDIES in the internet is expected to be improved before the end of the project. DOE-ITMS group is addressing the limited bandwidth of the DOE portal by doubling its capacity by April 2011. The REDIES will then provide project developers and other clients pursuing RE projects with convenient and faster access to RE information. The

Green Energy Rating Program (GERP) has demonstrated its effectiveness in promoting awareness on renewable energy among target stakeholders and general public. DOE has expressed interest to use this approach or mainstream it into its other promotion services. Likewise, the RE engineering service industry development initiated by CBRED will be supported by DOE beyond life of project.

Financial support for the development of an operational RE database is expected to be provided from regular DOE budget after the project. This will also apply to the continued conduct of RE resource inventory using regular DOE resources or contracting the private sectors to undertake specific inventories. The Renewable Energy Act has provision for the setting up of a fund that will be available to support RE information and promotion services.

The benefits from this component is likely to be sustained beyond CBRED with DOE since has prioritized the putting into operation of the RE database in the web. The sustainability rating for the component is **Moderately Likely**.

Component 4 RE Initiatives Delivery and Financing Mechanisms

For this component, the three funds were given separate sustainability ratings.

Project Preparation Fund

There is a limited source, if any, of funding to finance pre-operating costs for development projects. These costs are normally required by banks to be shouldered by project proponents. While the PPF objectives carry noble intention which is to bankroll pre-operating costs that include, among others, preparation of feasibility studies and engineering designs, sustainability of the PPF is not very assured (**Moderately Unlikely**) for the following reasons:

1. The loan carries zero interest thus limiting the revenue inflow opportunity for the PPF. Therefore, there is no assurance that funds would always be available to finance other PPF projects.
2. Only 80% of the loan is repaid if the preparatory activities resulted in a viable project and only 30% of the loan is repaid if the preparatory activities came up with the finding that the project is non-viable.
3. Earnings from temporary investment of idle fund will be insufficient to meet future approvals/disbursements.
4. There is therefore a need to review the operating policy guidelines and lending features of the PPF to ensure its sustainability towards the fulfilment of the objectives for which it was established.

Micro-Finance Fund

1. There was lack of market readiness on RE technology appreciation which was a major difficulty encountered by the PFM. Although several capacity building activities were conducted to create awareness and appreciation of RE technology among local

communities and the grass roots level, it was not easy convincing the targeted beneficiaries of the MFF with regard to the benefits and advantages of the technology. Moreover, unlike most other lending programs, there was an unexpected need for social marketing in the case of the MFF which made marketing of the technology more difficult. This problem should be immediately addressed in order to create and increase market demand that would make the funding mechanism more sustainable since RE technology is most appropriate to off-grid areas/communities in the Philippines.

2. The PFM cited the non-availability of tested RE technology including proven financial viability of the technology and lack of after-sales-service from technology suppliers as among the serious problems met by the PFM. This situation was observed in two of the 19 MFF loan availees (mostly farmers, fishermen and micro-entrepreneur end-users) who experienced technical problems on the solar lanterns distributed by two NGOs, namely, Silingang Dapit sa Sidlakang Mindanao (SILDAP) and Kalusugan Alang Sa Bayan, Inc. (KAABAY), accredited MFIs of PEF. End-use beneficiaries of both NGOs suffered problems with the solar lanterns, with the defective batteries rendering the units limited operating time or unserviceable. The suppliers included a short warranty period for the batteries that is considerably shorter than the agreed payment period by the household beneficiaries. Though the NGOs honored their obligations to PEF by paying their accounts on time/on maturity, they are now encountering difficulties in collecting payments from the final beneficiaries who refused to pay since the units are not functioning.

3. Similar solar lamp dissemination projects should provide for adequate warranty for components that will break down before the completion of actual payment by the final beneficiaries. This shortcoming must be addressed so that the program can hope to gain more support from various communities and other prospective project beneficiaries.

4. There is a lack of organized groups to champion RE projects especially in off-grid areas. To make the fund sustainable, champions must be identified within communities and private sector partnerships must be explored especially in the establishment of community-based RE systems and in missionary areas in the country.

5. One determining factor whether the RE financing programs would be sustainable even after the completion of the CBRED Project is the number of government and private banks who are now opening their lending windows for the financing of RE projects. With the implementation of the CBRED Project, many banks which include private commercial banks, have shown keen interest in bankrolling RE project proposals such as mini-hydro, hydro and wind farm projects. These banks include government financial institutions DBP and LBP who have several lending programs geared towards RE project development. DBP is implementing the World Bank – funded Rural Power Project (RPP) and the JICA-funded Environmental Development Project (EDP) which are marketed through retail lending or wholesale lending schemes with its PFIs acting as conduit banks. On the other hand, LBP has four similar lending windows, namely:

(1) RE for Wiser and Accelerated Resources Development (or REWARD) which is funded by Bank Funds; (2) Credit line for Energy, Efficiency and Climate Change (or CLEEC-P) funded by KFW of Germany; (3) Support for Strategic Local Development and Investment Program (or S2LDIP); and (4) Carbon Finance Support Facility (or CFSF).

6. Private Banks such as Bank of the Philippine Islands (BPI) have become even bolder by directly accessing funding from GEF which is managed by the World Bank. Other private banks like Banco De Oro, Allied Banking Corporation and Security Bank Corp. have also actively pursued loan syndications and stand-alone financing of RE projects. This positive outcome which could be partly traced to the implementation of the CBRED Program should be nourished and encouraged to ensure that funds are always available for RE projects.

The sustainability rating for the MFF is **Moderately Likely.**

Loan Guarantee Fund

1. Sustainability is hinged on fund mobilization to generate interest income and fees and collection efficiency to ensure funds reflow and continuous turnover. The LGF failed to meet both as it was only able to guarantee one account (Gerphil Philippines) which even failed to pay, thus, turning out to be a negative carry with respect to the fees collected against the payment of guaranteed amount.

2. For the LGF to be sustainable there should be sufficient volume of loans to be guaranteed and these loans should be maintained in current status so as not to impair/deplete the LGF.

3. Ideally, there should be program funds for lending to RE projects channeled through banks that have the capacity to market, evaluate and mobilize such funds. The LGF should be a support facility to the program funds such that there would be a tandem of loan and guarantee availments. As it is, the program funds appear independent from each other. There is no central body responsible for the marketing and mobilization of the three program funds which should be marketed in tandem if these are inter-related, which they are not, unfortunately.

4. With many participants in various capacity building programs conducted gaining better understanding of RE technologies, the background and objectives of the CBRED project as well as the different funds established by CBRED, the incremental gain in knowledge is not sufficient to equip them with a level of understanding to strategize and effectively carryout the implementation of their respective programs. A more focused capacity enhancement directed to the implementation of the specific lending programs is believed needed.

The sustainability rating for the LGF is **Moderately Likely.**

Component 5 Training

Training is a universally accepted method of sustaining a project because it creates interest in a subject as knowledge is built. The initial training modules developed under CBRED can be offered as regular courses. Examples are: 1) Basic Course on Renewable Energy and Clean Development Mechanism; 2) Doing Renewable Energy Enterprises/ Business and 3) Basic Technician Course. Already, RE courses are included in the operational plan of the Development Academy of the Philippines but they need to be disseminated and marketed. The DAP can be the catalyst in evolving RE education and training as regular support for RE development. That CBRED thru DAP has been able to assemble a reliable corps of trainers on RE is by itself an achievement that can be spun off to developing a RE knowledge management group in the Philippines.

RE may be offered as a Diploma Program, with the DOE briefing and working out with the Commission on Higher Education (CHED) and the Technical Education and Skills Development Authority (TESDA) on the need and prospects of developing RE certified technicians. The initial modules can be the take off for discussions but recognizing the necessity to update their contents.

Marketing the RE training programs or courses will however require further study on actual and potential needs of the sector. This also needs to be anchored on the effectiveness of the advocacy programs for renewable energy because creating demand for training programs targeting a wider and universal audience does not come as matter of preference. It is a matter or need for training which is considered by trainees or their sponsors are key input when venturing in RE projects. The "saleability of training programs, especially those fee-based, therefore is a key element for the sustainability of RE Training Courses, in particular, and for knowledge development and dissemination on RE, in general.

It is still the DOE's responsibility to continue and strengthen the training programs that have been initially offered through CBRED. The DOE recognizes this and has started to consider HR development in RE as a focus even as it expects future donor assistance to widen the training reach on RE.

While grants for RE training programs and capacity development are still being worked out, DOE can already include these HR activities in its annual work and financial plan, using agency funds and supplemented by other sources, just to ensure that CBRED initial training efforts are not stopped. On sustainability of this component the rating is **Moderately Likely**.

Component 6 Technology Support

Technology Support is a program for local RE equipment manufacturers to improve the quality, performance and cost of local RE equipment and systems towards greater consumer protection. There are two sub-activities under this component namely: (a) Standards Development wherein standards and best practices for RE equipment and systems were established, and (b) Technology Improvement Program wherein a financing support program for the improvement of manufacturing capabilities of RE equipment and systems

will be formulated and implemented. As for sub-activity number 2, both DOE and UNDP have agreed to discontinue the financing support program for local RE manufacturers with the RE Act (RA9513) in place and as RE Trust Fund to cater the needs of local RE manufacturers. In effect, the fund allotted for this purpose was re-aligned to purchase measuring equipment for energy resource survey/assessment.

The delivery of benefits from the results and services of technology support component will likely continue with the legal mandate now in place (RA 9513). DOE is designated as the responsible government agency to implement the provisions of the law and the activities under this component will qualify for funding support under the RE trust fund that will be established. With the DOE's reorganized set up to implement the RE Act, the REMB was created to take the lead in providing technical support to local RE equipment and systems manufacturers. The sustainability rating for his component is **Moderately Likely**.

2.1.3 Monitoring & Evaluation System

The project has adequately satisfied the reporting requirement of its principal stakeholders, UNDP, GEF, DOE and project partners in terms of indicators that are covered, timeliness and quality of the reports. There is good coverage of the activities that are accomplished, including implementation issues, recommendations, management decisions and actions. Approved changes to the project were properly captured by the reports. The PMO was guided by the reporting requirement of UNDP and GEF in preparation of its progress reports. The evaluation team did not find a formal documentation of a CBRED M&E plan or manual that will guide the users in the conduct of M&E of the various activities, outputs and outcome of CBRED. The review of CBRED documents/reports produced by the different components show plans for M&E of activities, outputs and results that will be pursued by DOE and RE key players/stakeholders when the outputs are in place and operational. Detailed M&E design for the proposed component M&E systems is not shown in the consultant's reports.

CBRED outputs include the Updated Integrated Renewable Energy Monitoring and Evaluation System (IREMES) Framework and Implementation Plan. The report describes the CTA-suggested process that CBRED needs to take in designing an integrated M&E that will cover RE development from policy implementation, program targets, pipeline projects, implementation, and operations of completed projects. Five modules are prescribed to cover all RE projects according to applications as follows: 1) grid-based RE power generating stations; 2) off-grid decentralized renewable energy systems; 3) communal services and applications; 4) individual home systems; and 5) hybrid systems and other RE applications and productive uses. The proposed M&E system will cover results that will be achieved from implementation of activities and delivery of outputs. The EUMB/REMD (now the REMB) is identified as the most appropriate unit in DOE to host and maintain the M&E system.

The steps in finalizing the design of an M&E system were presented as guide including proposed sets of indicators (from the PRODOC) that will be monitored and data gathering tools. Criteria for selection of appropriate indicators is included including data gathering and inputting formats and process for the aggregation and consolidation of reports covering

renewable energy generation and GHG emission reduction. The action plan for designing and implementing the M&E system is also part of the report on IREMES Framework and Implementation Plan.

The project produced the M&E requirements of its principal stakeholders by complying with their established reporting requirements, even with the absence of an M&E System Manual. The PRODOC as the basic document for M&E with annual plans that are periodically updated by project management guided the project in fulfilling its M&E requirement. The study report (Updated IREMES Framework and Implementation Plan) is seen as the Project's input for long-term M&E of RE development. Elements of sustainability were discussed in the IREMES to guide the designer/developer of the M&E system.

The review of progress reports showed that CBRED management used the M&E generated information in its decision-making process towards achievement of the planned results and outcomes described in the PRODOC.

At project completion, CBRED is rated **Satisfactory** in meeting its M&E responsibility and laying the ground for long term monitoring of renewable energy development. To meet its long term M&E responsibility, further M&E related work has to be pursued after the project. This will cover the detailed design and adoption of the Integrated M&E System for RE development, and training of designated staffs from DOE and other RE stakeholders.

2.1.4 Catalytic Role of CBRED

The project design is actually to increase rate, scale up or facilitate the RE development in the Philippines which can be considered largely underdeveloped. The focus of energy development is on large hydro, geothermal and fossil fuel based systems when the project was prepared. The project intervention addressed the barriers to RE development in the Philippines with varying levels of success at project completion. With the results and services produced by CBRED, the catalytic effect in the rate of RE development is observed.

The timing of the project implementation coincided with the deliberations in Congress for the passage of a RE law and provided opportunity for the project to influence the process by providing technical inputs to the congressional committees tasked for its review and resources for exposing the legislators to best practices on RE development in other countries. The RE Act (RA9513) provides the mandate for the implementation of government policies and programs to facilitate development of RE.

The policy studies under CBRED were forceful inputs to assisting the Congressional energy committees in clarifying the intent of the provisions of the bill for the better understanding of the law makers.

All CBRED components are considered vital for the development of RE in the Philippines. Their introductions through CBRED are significant contributions to updating and upgrading what have been started towards full development and utilization of RE potentials.

The inter-agency nature of CBRED implementation provided opportunities for raising cross-sectoral concerns on RE development while increasing the knowledge based on RE among the stakeholders. This process tends to lead to an integrated approach to agency programs such as those pertaining to environmental protection and climate change.

The CBRED training programs have been able to reach out to some extent to the various stakeholders and have been able to impart basic knowledge, information and know-how on RE. A multiplier effect to further disseminate RE information to a wider base can be expected out of these initial training programs.

2.2 Conclusion

The project has achieved varying levels of success in removing the barriers that were directly addressed by the 6 components. Increased levels of private sector interest to develop RE resources expressed through RE applications and signed contracts (205) registered with the DOE was achieved. These however were mainly influenced by the RE Act, although the CBRED project activities and outputs maybe credited to contributing to the quality of the content of the law and its IRR from policy analyses conducted by the project. Moving the RE proposals or expression of interest to actual operating RE projects would now depend on the DOE using the project outputs or continuing development and implementation of the partially operating project outputs (RE Database, RE standards, financial support for RE developers, etc). DOE capacity on assisting RE developers has improved but remains inadequate to meet the growing demand for the service even with the capacity building provided by the project.

The improvement in technical, policy, planning, institutional and financial capacity of government and private sector is starting to be realized but not at the level targeted during the preparation of the project. The indicator of improvement at project completion was set at 6 percent growth rate of RE development from the baseline of 5.5 percent. Actual growth rate reflected in the reports is 4.8 percent showing reduction or lower than without project scenario.

The more tangible impact of the CBRED Funds was the move of more private commercial and government banks to open their lending windows and grant financial assistance to RE projects. Banks are now setting up their own RE Financing Units and has been keen on marketing RE projects as part of their KRAs. PEF, Program Manager for the MFF even used its own fund to accommodate RE project financing. Private banks have gone a step further by directly tapping ODA funds e.g. GEF, which in turn is used to bankroll various RE project proposals.

Compounded by the lack of financing capabilities of the target users, especially in remote areas located far from the grid where RE technologies are appropriate, the CBRED Project established the MFF facility which was made available to qualified proponents whose goal is to address the barrier of limited loan funds earmarked for small-scale RE projects in off-grid areas. Thus, the project was able to create community awareness of RE technology. The

DOE was able to work with the grassroots communities in pursuit of RE technology for the benefit of the poor.

The Funds lent financial support for RE developers and RE system manufacturers/suppliers that will create a bigger market for suppliers of RE system equipment such as turbines and solar PV systems.

For PPF to be able to lend long-term support for RE development, there should be a reliable funding source just like any fund intended to subsidize the cost of undertaking any activity. In addition, some grant component for this purpose can be included in any future RE Project loan being negotiated with foreign funders. A portion of recoveries from the loan component of the RE Project Fund can also be allocated for the PPF.

There should be a lending facility for small, medium and large RE projects for a more holistic financing approach towards the development and propagation of the RE technology.

The RE Program should be structured in a holistic manner wherein wholesale funding should be provided to a wholesale bank , such as, DBP and LBP, for channeling to PFIs/MFIs for the purpose of funding RE initiatives. In this way, the PFIs/MFIs will be shielded from funding risk while the credit risk will be mitigated by the PPF and LGF facilities. The structure should be those availing of the program funds can be assisted under the PPF, the fee of which can be capitalized if and when the loan is granted. Because of the high risk nature of RE projects, the availment of the LGF can be made a condition or tied up as a condition to loan availment, thus, you will have a neat package, tying up the program funds, PPF and LGF all in one bundle. The MFF can be made part of the program funds but should not be disjointed from the PPF and LGF, which is the case now.

It is only under the above structure that the three funds will move in tandem. Using environmentally inclined wholesale banks as conduit is advantageous in the sense that they already have accredited PFIs/MFIs which they can influence and tap to mobilize the funds. They are also pushing green financing, hence, the RE program is within their mandate and thrust. For replicability, said banks can initiate loan syndications that would in the process capacitate other PFIs/MFIs to undertake such type of lending and replicate these on their own.

3. Recommendations and Lessons Learned

The following are the recommendations and lessons learned based on the results of evaluation.

3.1 Recommendations

Overall

1. The project has substantially succeeded in addressing barriers to the development of renewable energy resources in the country. Moreover, it renewed the interest of private

sector to invest in RE projects as expressed by the number of contracts with DOE for RE project development. To date, there are 205 contracts signed by DOE for the development of RE covering solar, hydro, wind, ocean wave/current and biomass resources. DOE should continue to actively monitor progress of development of contracts and assist proponents meet the regulatory requirements of government.

2. The local government units also expressed interest in developing RE resources for off-grid or remote communities. The fast pace of technology development in RE is making the use of RE attractive and feasible in areas endowed with sustainable RE resources.

3. The national government has implemented RE based projects as part of poverty alleviation projects but the approach has resulted in RE projects that failed to deliver long term benefits to their clients. The RE systems mostly located in remote areas were not adequately maintained due to lack of technical expertise and local components and the lack of ownership by the project beneficiaries. Local governments may address the issue of lack of ownership if they are the primary stakeholders of these RE systems.

4. DOE may pursue wider implementation of RE systems by addressing the difficulties faced by LGUs in developing RE resources for their constituents or fed into the grid and contribute to faster reduction in the generation of greenhouse gases from the use of fossil fuel based power generation system.

Component 1

DOE to continue M & E of RE policy implementation through the documentation of policy impact analysis and recommendations for policy revisions/modifications conducted internally by DOE or other institutions with stakes in RE development.

Component 2

The operation of the one stop shop to serve RE project investors should continue the positive contribution of the project following the MSC concept. DOE annual work and financial plan should provide adequate resources to equip REMB to provide the service to target clients.

Component 3

1. Explore practical solutions to demonstrate that the information system will run efficiently in the internet. The activities to put the RE database into operation identified by the project team should be supported by DOE resources and provide sufficient time for program adjustments/debugging before fully populating the system with data. To facilitate the development of the web-based database system, DOE to outsource the activity and involve the regular staffs that will be responsible for technical maintenance of the system when it is fully operational. Continuing technical support is needed with decreasing intensity as the system graduates to full operation.

2. Continue implementation of the public awareness program to support the national renewable energy program and mainstream the implementation of the Green Energy Rating Program to be supported by regular DOE funds or from the RE trust fund to be established under the RE Act. Private sector participation including media firms should be invited to sponsor awards program.

3. The project's results in the implementation of the ESID program should be supported by DOE beyond the project. The voluntary registration of local RE engineering service providers needs to be continued while the national standards for RE equipment and systems are still to be implemented. Benefits from the continuing technology development in the RE industry is leading to cost effective systems that can be made available with a developed local RE engineering service industry.

4. The project has succeeded in the consolidation of available RE information and identification of data gaps that needs to be addressed. It also provided some tools and equipment that DOE can use to collect the data. DOE should continue the conduct of resource survey/assessment to fill in the data gaps and update outdated data to make available reliable RE information to its clients.

Component 4

1. With the nearing completion of the CBRED Project, the sustainability of Component 4 (RE Initiatives Delivery and Funding Mechanisms) would depend on the design of a Transition Program that would ensure that the concerns and financing needs of RE projects initially identified during the pilot period would continue to be given priorities and support by all concerned sectors in the government and the private community who have shown keen interest in RE project development.

2. Program Manager should formulate a time-bound marketing and implementation plan for PPF, MFF and LGF.

3. There should be clear result-based performance indicators established and in place for each Fund that would be the basis for annual targets and which should form part of the KRAs of specific departments and lending personnel of Fund Program Managers.

4. For PPF to be able to lend long-term support for RE development, there should be a reliable funding source just like any fund intended to subsidize the cost of undertaking any activity. In addition, some grant component for this purpose can be included in any future RE Project loan being negotiated with foreign funders. A portion of recoveries from the loan component of the RE Project Fund can also be allocated for the PPF.

5. For a more sustainable MFF program, pre-operating expenses related to RE development (those not included among the purposes of the Project Preparatory Fund) should be included among the loan purposes under the MFF. It is also recommended that the DOE promote more community-based RE technology directed for the poor

which could be undertaken in partnership with private enterprises that promote RE development since NGOs do not have the capacity to do research and development.

6. Design a more holistic financing program that would mesh the three funds as discussed under Policy Recommendations using an environmentally inclined wholesale bank as conduit to ensure fund utilization through accredited PFIs/MFIs, thus expanding the marketing outlets.

7. Conduct a review of the implementing guidelines for each fund in order to identify means to make the funding programs responsive to the needs of the RE project proponents and consistent with the CBRED Project objectives.

8. The scope of the CBRED program should be consistent across the three funds such that LGF's coverage should not only be limited to a maximum of P20 M considering the size of investments in the RE field.

9. Ideally, the Program and Fund Manager should be two (2) distinct entities for check and balance purposes. Trust banks or trust departments/groups of government or private commercial banks could be tapped to serve as Trustee or Escrow Agent whose duties and responsibilities must be separate and distinct from those of the Program Managers to ensure transparency in the conduct of transactions.

10. While a general approach to training/capacity building is beneficial for general information, a more focused approach would be best for the effective implementation of each fund.

Component 5

1. Given the potent impact of training in helping develop RE in the Philippines, the training programs under CBRED should be continued as a DOE activity but needs to be reviewed for further improvement in approach (e.g., reaching the key target stakeholders) and enrichment in content (as result of a thorough training needs re-assessment).

2. Training programs should be a support activity of DOE while still developing local skills and building up knowledge and therefore be part of its internal expenditures until RD training becomes a demand-driven activity. When demand for RE training programs increases, this may be the time to encourage training service providers, initially, with partial DOE financial support, then gradually phasing out such support.

Component 6

1. Technology support to RE developers, suppliers and service providers has to be continued by the government through DOE. This will ensure that final beneficiaries of RE systems i.e. energy consumers, will benefit from affordable electricity rate.

2. The outcome of the application of RE standards developed by the project has to be reviewed and evaluated as input to the formulation of the National Standards for RE systems that will be issued by the DTI-BPS. The project results e.g. availability of quality control measures, testing and verification facilities should be strengthened to ensure the quality of RE products and components.

3. The fast pace of development in technology and its applications to RE products and systems is reducing the cost of RE systems and products. The development of local capacity to produce RE products and components has to be supported by DOE to provide an environment that encourages private sector investment.

3.2 Lessons Learned

Overall

The change in implementation arrangement at mid-project as experienced in CBRED required more than 50% additional time to complete the planned activities in the six components. The measures implemented by DOE and UNDP to mitigate the impact of the change appeared inadequate to catch up with the project schedule. The designation of a DOE project manager on concurrent capacity to oversee day to day operation of the project and the available number of contractual technical support personnel did not allow the project to catch up with lost time to ensure quality of outputs and completion of activities on schedule.

Component 1

Efficient coordination work as demonstrated by the REIAC and the PMO was an effective mechanism in harnessing resources for policy studies and legwork that strengthened the push towards the final passage of the RE Law and the adoption of the IRR. This effort provides realistic lessons for similar or related undertakings in the future.

Component 2

Management decision to change the project implementation approach should consider options that will allow the project team to adapt to the change but still equipped to deliver the project results. The establishment of the MSC is most affected with the resignation of the trained technical staffs and designation of DOE personnel that would have to undergo similar capacity building.

Component 3

The participation of the key institutions involved on RE development is driven by their need for a reliable and accessible source of information in pursuing RE projects. The project REDBK served as the forum for this activity with considerable RE data shared to become part of the national RE database.

Developing information systems that will be available in the internet takes time and up to date technical skills to avail of the current development in information technology. Adequate resources (time and budget) should be allocated to establish an efficient information system providing service to clients.

Innovative communications and advocacy approaches deliver effective results in reaching target clients on RE development either as project developers, or service. The Green Energy rating Program delivered good results from target stakeholders.

Component 4

1. CBRED succeeded in creating community awareness of RE technology, financial support for RE developers and the ability of the DOE to work with the grassroots communities in pursuit of RE technology for the benefit of the poor.
2. Despite some constraints experienced in the implementation of the three funds, this component justified the power of stakeholder consultation. Project fund design and lending guidelines were prepared in consultation with the RE stakeholders, which included government and private financing institutions, micro-lending sectors, RE project developers, and government agencies and non-governmental organizations who have forged strategic partnerships towards RE development in the country as a means of improving the lives of Filipinos especially in the off-grid areas of the country.
3. Synergy among program components is ideal so these would move in tandem towards the attainment of over-all objectives.
4. Marketing is essential in any activity because even if there are available funds, they will not move if there is no information dissemination. Also, each agency has its area of specialization. While DOE is in charge of the energy sector, it has no expertise in marketing and promotion, lending activities and fund mobilization, hence, unable to make the three funds fly.
5. Guarantee cannot be a stand-alone activity. It has to be tied up to the presence of a risk, such as credit risk, in the case of the RE program. Its success is hinged on how effective the lending component is implemented. Unfortunately, because of the disjoint, there is no such lending component, except for the MFF, which provides limited opportunities for the PPF and LGF.

Component 5

Delaying implementation of the training modules as a project component creates a gap in pursuing advocacy and creating interest and demand. For a new policy/program and emerging national concern, training remains an important approach in building knowledge and skills.

Component 6

The use of CBRED output on Standards for RE Equipment and Systems while waiting for the approval of PNS for RE has provided for early delivery of benefits to RE developers and stakeholders.

Annex 1. Terms of Reference for the Evaluation

TERMS OF REFERENCE

Purpose

The evaluation of the CBRED Project will assess and rate project results, the sustainability of project outcomes, the catalytic effect of the project, and the quality of the project's monitoring and evaluation systems. The evaluation will also identify "lessons learned and best practices" from the CBRED Project and offer recommendations that might improve design and implementation of other UNDP/GEF Projects.

Background

The Global Environmental Facility (GEF) is an international financial mechanism that provides grants to developing countries for projects and activities that protect the global environment. Working closely with GEF is the United Nations Development Programme (UNDP), which provides capacity building assistance in the implementation of GEF projects. Under GEF's Operational Program No.6 entitled "Promoting the Adoption of Renewable Energy (RE) by Removing Barriers and Reducing Implementation Costs", UNDP is assisting the Department of Energy (DOE) in implementing the PHI/Ol/G33 "Capacity Building to Remove Barriers to Renewable Energy Development in the Philippines" CBRED Project.

The CBRED Project aims to reduce the annual growth rate of green house gas (GHG) emissions by replacing part of the current fossil fuel use in the Philippines through the removal of major barriers to the development and widespread utilization of renewable energy resources. The specific objectives of the Project include: (1) strengthening the capacity of relevant GOP agencies to formulate, enact, and implement sound RE Policies, (2) providing RE information for stakeholders to build markets, (3) increasing coordination among organizations concerned with RE (4) assisting market penetration of RE, especially in remote off-grid communities, and (5) improving the quality of RE technologies and systems.

To achieve these objectives, the Project is implemented in six (6) components, namely: (1) Policy, Planning, and Institutional Capacity Building, (2) Market Services Institutionalization, (3) Information and Promotion Services, (4) RE Initiatives Delivery and Financing Mechanisms, (5) Training Program, and (6) RE Technology Support. To achieve the above outcomes, the GEF has provided US$5,143,048; the government, and private stakeholders, collectively provided a total of USS18, 621,000 in co-financing in the form of activities and/or projects.

Specific Objectives

The evaluation of the CBRED Project should properly examine and assess the perspectives of the various stakeholders. The following areas should be covered in the final evaluation report:

1) General Information about the Evaluation

The final evaluation report should include information on when the evaluation took place; places visited; who was involved; the key questions; and, the methodology. The final evaluation report will also include the evaluation team's TOR and any response from the project management team and/or the country focal point regarding the evaluation findings or conclusions as an annex to the report.

2) Assessment of Project Results

The final evaluation will assess achievement of the project's objective, outcomes and outputs and will provide ratings for the targeted objective and outcomes. The assessment of project results seeks to determine the extent to which the project objective was achieved, or is expected to be achieved, and assess if the project has led to any other short term or long term and positive or negative consequences. While assessing a project's results, the final evaluation will seek to determine the extent of achievement and shortcomings in reaching the project's objective as stated in the project document and also indicate if there were any changes and whether those changes were approved. If the project did not establish a baseline (initial conditions), the evaluator should seek to estimate the baseline condition so that achievements and results can be properly established. Assessment of project outcomes should be a priority. Outcomes are the likely or achieved short-term and medium-term effects of an intervention's outputs. Examples of outcomes could include but are not restricted to stronger institutional capacities, higher public awareness (when leading to changes of behavior), and transformed policy frameworks or markets. An assessment of impact is encouraged when appropriate. The evaluator should assess project results using indicators and relevant tracking tools.

To determine the level of achievement of the project's objective and outcomes, the following criteria will be assessed in the final evaluation:

- **Relevance:** Were the project's outcomes consistent with the focal areas/operational program strategies and country priorities?
- **Effectiveness:** Are the actual project outcomes commensurate with the original or modified project objective?
- **Efficiency:** Was the project cost effective? Was the project the least cost option? Was the project implementation delayed and if it was, then did that affect cost effectiveness? Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

The evaluation of relevancy, effectiveness and efficiency will be as objective as possible and will include sufficient and convincing empirical evidence. Ideally the project monitoring system should deliver quantifiable information that can lead to a robust assessment of the project's effectiveness and efficiency. Outcomes will be rated as follows for relevance, effectiveness and efficiency:

Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency;

- **Satisfactory (S):** The project had minor shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency;
- **Moderately Satisfactory (MS):** The project had moderate shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency;
- **Moderately Unsatisfactory (MU):** The project had significant shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency;
- **Unsatisfactory (U)** The project had major shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency;
- **Highly Unsatisfactory (HU):** The project had severe shortcomings in the achievement of its objective, in terms of relevance, effectiveness or efficiency.

While rating the project's outcomes, relevance and effectiveness will be considered as critical criteria. If separate ratings are provided on relevance, effectiveness and efficiency, the overall outcomes rating of the project may not be higher than the lowest rating on relevance and effectiveness. Thus, to *have* an overall satisfactory rating for outcomes, the project must have at least satisfactory ratings on both *relevance* and effectiveness. The evaluators will also assess other results of the project, including positive and negative actual (or anticipated) impacts or emerging long-term effects of a project. Given the long term nature of impacts, it might not be possible for the evaluators to identify or fully assess impacts. Evaluators will nonetheless indicate the steps taken to assess long-term project impacts, especially impacts on local populations, global environment (e.g., reduced greenhouse gas emissions), replication effects and other local effects. Wherever possible evaluators should indicate how the findings on impacts will be reported to the GEF in future.

Capacity Development

The effects of the CBRED Project activities on strengthening the capacities of the DOE, private sector investors, peoples'/community organizations or civil society organizations will be assessed.

Leverage

An assessment of (BRED Project's effectiveness in leveraging funds that would influence larger projects or broader policies to support its goal will have to be conducted.

Awareness Raising

- CBRED Project's contribution to raise awareness of environmental issues and of the GEF will be examined;
- CBRED Project's contribution to promote policy or advocacy activities and collaboration among communities will be assessed.

3) Assessment of Sustainability of Project Outcomes

The final evaluation will assess the likelihood of sustainability of outcomes at project termination, and provide a rating for this. Sustainability will be understood as the likelihood of continued benefits after the GEF project ends. The sustainability assessment will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. The sustainability assessment should also explain how other important contextual factors that are not outcomes of the project will affect sustainability. The following four dimensions or aspects of sustainability will be addressed:

- Financial resources; Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining the project's outcomes)?

- Socio-political: Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the long term objectives of the project?

- Institutional framework and governance: Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.

- Environmental: Are there any environmental risks that may jeopardize sustenance of project outcomes? The final evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

On each of the dimensions of sustainability of the project, outcomes will be rated as follows:

- **Likely (L):** There are no or negligible risks that affect this dimension of sustainability.

- **Moderately Likely (ML):** There are moderate risks that affect this dimension of sustainability.
- **Moderately Unlikely (MU):** There are significant risks that affect this dimension of sustainability.
- **Unlikely (U):** There are severe risks that affect this dimension of sustainability. All the risk dimensions of sustainability are critical. Therefore, the overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an 'Unlikely' rating in either of the dimensions then its overall rating cannot be higher than 'Unlikely'.

4) Catalytic Role

The final evaluation will also describe any catalytic or replication effect of the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the catalytic role.

5) Assessment of Monitoring and Evaluation System

The final evaluation will assess whether the project met the minimum requirements for project design of M&E and the implementation of the Project M&E plan. GEF projects must budget adequately for execution of the M&E plan, and provide adequate resources during implementation of the M&E plan. Project managers are also expected to use the information generated by the M & E system during project implementation to adapt and improve the project.

Given the long duration of many GEF interventions, projects are also encouraged to include long term monitoring provisions to measure mid-term and long-term results (such as global environmental effect, replication effects, and other local effects) after project completion. The final evaluation report will include separate assessments of the achievements and shortcomings of the project M&E plan and of implementation of the M&E plan.

<u>M&E during Project Implementation</u>

- **M&E design.** Projects should have a sound M&E plan to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART (Specific, Measurable, Achievable, Realistic and Timely) indicators and data analysis systems, and evaluation studies at specific times to assess results and adequate funding for M&E activities. The time frame for various M&E activities and standards for outputs should have been specified.
- **M&E plan implementation.** The final evaluation should verify that: an M&E system was in place and facilitated timely tracking of progress towards the project objective and outcomes by collecting information on chosen indicators continually through the project implementation period; annual project reports were complete, accurate and with well justified ratings; the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs;

and, projects had an M&E system in place with proper training for parties responsible for M&E activities to ensure data will continue to be collected and used after project closure.

- **Budgeting and Funding for M&E Activities.** In addition to incorporating information on funding for M&E while assessing M&E design, a separate mention will be made of: whether M&E was sufficiently budgeted at the project planning stage; and, whether M&E was adequately and timely funded during implementation.

Project monitoring and evaluation systems will be rated as follows on quality of M&E design and quality of M&E implementation:

- **Highly Satisfactory (HS):** There were no shortcomings in the project M&E system.
- **Satisfactory(S):** There were minor shortcomings in the project M&E system.
- **Moderately Satisfactory (MS):** There were moderate shortcomings in the project M&E system.
- **Moderately Unsatisfactory (MU):** There were significant shortcomings in the project M&E system.
- **Unsatisfactory (U):** There were major shortcomings in the project M&E system.
- **Highly Unsatisfactory (HU):** The Project had no M&E system

The overall rating of M&E during project implementation will be solely based on the quality of M&E plan implementation. The ratings on quality at entry of M&E design and sufficiency of funding both during planning and implementation stages will be used as explanatory variables.

Monitoring of Long Term Changes

M&E of long term changes is often incorporated in GEF supported projects as a separate component and it may include determination of environmental baselines, specification of indicators, provisioning of equipment and capacity building for data gathering, analysis and use. This section of the final evaluation will describe the actions and accomplishments of the project in the establishment of a long term monitoring system. The review will address the following questions:

Did this project contribute to the establishment of a long term monitoring system? If it did not, should the project have included such a component? What were the accomplishments and short comings in establishment of this system? Is the system sustainable, I.e. Is It embedded in a proper institutional structure and has financing? Is the information generated by this M&E system being used as originally intended?

6) Assessment of Processes that Affected Attainment of Project Results

Among other factors, when relevant, it is suggested that the evaluation team considers the following issues affecting project implementation and attainment of project results. However, evaluators are not expected to provide ratings or separate assessment on the

following issues but they could be considered while assessing the performance and results sections of the report:

- **Preparation and readiness.** Were the project's objectives and components dear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?

- **Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives, from government and civil society, involved in the project? Did the recipient government maintain its financial commitment to the project? Has the government approved policies or regulatory frameworks that are in line with the project's objectives?

- **Stakeholder involvement.** Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project's design, implementation, and monitoring and evaluation? For example, did the project implement appropriate outreach and public awareness campaigns? Did the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the design, implementation and evaluation of project activities?

- Were perspectives of those that would be affected by decisions, those that could affect the outcomes-and those that could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and the powerful, the supporters and the opponents, of the processes properly involved?

- **Financial planning.** Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds. Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize?

- **Implementing/ Executing Agency's supervision and backstopping.** Did Implementing/Executing Agency staff identify problems in a timely fashion and accurately estimate their seriousness? Did Implementing/Executing Agency staff provide quality support and advice to the project, approve modifications in time and restructure the project when needed? Did the Implementing/Executing Agencies

provide the right staffing levels, continuity, skill mix, and frequency of field visits for the GEF projects?

- **Co-financing and Project Outcomes and Sustainability.** If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for the variance? Did the extent of materialization of co-financing affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?

- **Delays and Project Outcomes and Sustainability**. If there were delays in project implementation and completion, then what were the reasons? Did the delay affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?

7) Lessons and Recommendations

The evaluators will present lessons and recommendations in the final evaluation report on all aspects of the project that they consider relevant. The evaluators will be expected to give special attention to analyzing lessons and proposing recommendations on aspects related to factors that contributed or hindered: attainment of project objectives, sustainability of project benefits, innovation, catalytic effect and replication, and project monitoring and evaluation. Evaluators should refrain from providing recommendations to improve the project. Instead they should seek to provide a few well formulated lessons applicable to the type of project at hand or to GEF's overall portfolio. Final evaluations should not be undertaken with the motive of appraisal, preparation, or justification, for a follow-up phase. Wherever possible, the final evaluation report should include examples of good practices for other projects in a focal area, country or region.

8) A Note on Component 4, RE Initiatives Delivery and Financing Mechanisms: The CBRED Funds

Under Component 4, the CBRED Project established three pilot funds that apply innovative strategies and delivery mechanisms to support RE projects. These are the Project Preparation Fund (PPF) the Loan Guarantee Fund (LGF), and the Micro-Finance Fund (MFF).

<u>Impact Evaluation</u>

The evaluation will look at the entire concept of the CBRED Funds Program, including its management and results, since its establishment in 2007 to date. The evaluation will seek to assess the relevance, effectiveness and sustainability of the Funds Program. The impact evaluation of Component 4 shall take into consideration the extent to which the vision is realized, which could be long after the project life. It is expected that at the end of the project, the CBRED Funds will have a portfolio of 18.5 MW of RE projects, with more funds becoming available for re-lending once the policies related to sustainable financing are fully operational.

Design of the Financing and Delivery Mechanisms

The design of the three financing schemes shall be reviewed. The purpose, scope and limitations of the (BRED Funds shall be assessed in terms of effectiveness and relevance to the target clientele. Loan terms, loan repayment period, eligibility criteria, risk guarantees, etc. shall be examined for sustainability.

Program and Funds Management

This line of inquiry will seek to assess the management factors that contributed (positively/negatively) to the achievements of the (BRED Funds' objectives in the selected projects and at the program level. This will include, among others, a review of the appropriateness and effectiveness of management tools (systems, structures, etc.) to carry out the Fund objectives, an assessment of the mechanisms in place to gather and evaluate the results of projects supported by the (BRED Funds Program as well as their integration in defining the program's direction, a look at the respective roles of various players (e.g.: program and fund manager, the implementing partner, etc.), and a review of criteria used in project selection.

Recommendations for a Sustainable Program for Renewable Energy Financing

Based on the analysis made of the CBRED Funds Program, a set of policy and program recommendations for the long-term financing support of renewable energy project development shall be elaborated. These recommendations shall be in the form of a sustainable financing program outlining all necessary policy and financing activities to support the program. These recommendations will be submitted to concerned institutions for consideration and possible implementation.

Methodology

The evaluation will consist of a desk review of relevant project documents and reports related to the planned evaluation and of the GEFs. The expert will then conduct focused group discussions, meetings, and interviews with the Project Director and other partners on topics and issues that relate to the implementation and impact of the project. The Expert is expected to become well versed as to the objectives, historical developments, institutional and management mechanisms, project activities and already documented "lessons learned" of the project. Information will be gathered through document review, group and individual interviews and site visits. More specifically, the evaluation will be based on the following sources of information:

- Review of documents related to the project such as project document, quarterly and annual progress reports, other activity/component specific deliverables, reports and evaluation, if there are any, etc.

- Structured interview with knowledgeable parties, i.e., Project Director, Project Personnel, Sub-Contracting Parties/Entities, National Consultants, UNDP Country

Office Counterparts, members of the Project Steering Committee/s, Community-Based/Peoples Organization/s, Project Beneficiaries or grantees, etc.

- A number of visits to various pilot project sites, if feasible. The site visits should be discussed with the Project Coordinator and UNDP.

Timing and Submission of the Report

The CBRED Project evaluation will begin on September 2010 and should be completed by the November 2010. A first draft evaluation report will be prepared by the expert within the evaluation period and initially will be shared with the Executing Agency (i.e., Renewable Energy Management Bureau on behalf of the Department of Energy to solicit comments or clarifications. The draft report will be presented to the Project Steering Committee and the other stakeholders for further deliberations and in order to obtain feedback necessary for finalization. A final report will be prepared and delivered within two weeks after the evaluation exercise highlighting important observations, analysis of information and key conclusions including its recommendations. The report (in 10 copies) will be prepared and submitted to the UNDP CO copy furnished the DOE-REMB.

Roles and Responsibilities

The UNDP-GEF Regional Technical Advisor for Climate Change will assist the UNDP CO and members of the evaluation team in preparing for the final evaluation of the project. The evaluation team will be composed of an independent highly qualified expert together with two independent national consultants. The executing agency shall provide in advance copies of the necessary documents needed by the experts during the evaluation period. Likewise, the DOE shall provide the list of contact persons representing the various stakeholders of the project, which will be the basis for the tentative itinerary/schedule of activities, which the expert will prepare. The DOE will finalize the schedule of activities in consultation with the expert and UNDP CO staff. The DOE and UNDP-CO, Manila will coordinate the logistical arrangements for the evaluation.

Budget

All the costs incurred for the conduct of the evaluation shall be charged against project funds. The interested individuals or group of consultants should submit a proposal with a budget estimate for consideration by the Selection Committee. Payment of Expert/s' professional fees shall be made in accordance with the Contract to be issued in this regard.

Outputs

The following are the required outputs of the final evaluation:

1) A succinct written review of the status of the CBRED Project discussing the above points and that may include relevant maps or tables pertinent to the review where available. The report should be delivered to UNDP and the Chairman of the Steering

Committee of the project, not later than December 14,2010 in hard copy form plus CD-ROM in electronic file format e.g. MSWord.
2) Presentation of the evaluation findings and recommendations to the UNDP and PMO
3) Complete Final Evaluation Report (hard copy and in electronic format)

Team Composition

1) One international consultant knowledgeable on Climate Change and Renewable Energy, with solid experience in project management (implementation, monitoring and evaluation process) and familiarity with promotional activities in the areas of energy and environment.
2) One national consultant who has extensive knowledge in the energy and environment situation of the Philippines, with experience in developing performance indicators, project appraisal and evaluation of development projects.
3) One national consultant with proven experience in banking and finance, including micro-credit schemes in the Philippines, strong familiarity with the financing issues in the RE sector in the Philippines, and experience in preparing financial arrangements and financial project evaluation.

Qualification Requirements

1) Evaluators must be independent of both the policy-making process and the delivery and management of assistance to the CBRED Project. They should not have been engaged in the activities to be evaluated, or responsible in decision-making roles for the design, implementation or supervision of the project. In cases where a member of an evaluation team has been involved with some aspects of the project, this member should refrain from evaluating those aspects. In cases where project evaluation team members are not independent, are biased and are not free of conflict of interest, UNDP will put in place a final evaluation quality control review by its independent evaluation office.
2) Evaluators will be impartial and will present a comprehensive and balanced appraisal of the strengths and weaknesses of the project or activity being evaluated.
3) The evaluation team should comprise of professionals with strong evaluation experience, with requisite expertise in the subject matter of the project, and with experience in economic and social development issues.
4) Evaluators should be knowledgeable about the relevant policies of the GEF.
5) Evaluators should ensure that while conducting the final evaluation they take into account the views of all relevant stakeholders. The TORs for this GEF project's final evaluation and its schedule should be made known to key stakeholders.
6) Evaluators should become familiar with the project document and should use the information generated by the project including, but not restricted to, baseline and information generated by its M&E system. Evaluators should also seek the necessary contextual information to assess the significance and relevance of results.

Annex 2. Evaluation Question Matrix

Evaluation criteria	Key questions	Evaluation Approach	Main source of information
Relevance- extent to which CBRED development initiative and its intended outputs or outcomes are consistent with national and local policies and priorities and the needs of intended beneficiaries	• Does the CBRED content match the requirement of the Philippine government and the private sector? • Do the objectives of the project adequately capture the issues that need to be addressed? • Is the project addressing issues of high priority • Is the approach of the project appropriate?	• Review of governments' current policy on RE and private sector activity on development and implementation of RE based electric generating plants • Key Informant Interviews • Review of project objectives if still reflects the actual problems and reality on the ground	• Government documents/reports on the RE sector • RE industry associations reports • DOE officials and partner agencies/ institutions
Efficiency- measures how economically CBRED resources or inputs (such as funds, expertise and time) were converted to results.	• Were stated outcomes or outputs achieved? • Was the CBRED project cost effective? • Was the project the least *cost* option? • Was the project implementation delayed and if it was, then did that affect cost effectiveness?	• Review activity schedule (work plan) and resource schedule available and used by CBRED project management? • Review extent inputs are provided on schedule and results delivered on schedule • Assess quality of delivery of results	• CBRED Project annual progress reports • CBRED Monitoring reports • Mid-term review report
Effectiveness-actual CBRED project outcomes are commensurate with the original or modified project objective. It also reflects contribution made by the project results to the achievement of	• Have all planned beneficiaries' access to project results and services? • Are planned beneficiaries using and also benefiting from the results/services?	• Assess contribution made by the project results to the achievement of project purpose	• Annual Progress reports • Mid Term Evaluation • Reviews/evaluation reports conducted • Interviews with project stakeholders and planned

Evaluation criteria	Key questions	Evaluation Approach	Main source of information
project purpose.	• what is the likelihood that the project purpose will be achieved as measured by the OVIs • What progress toward the outcomes has been made?		beneficiaries
Impact- measures changes in human development and people's well-being that are brought about by development initiatives, directly or indirectly, intended or unintended.	• Is the Development Goal likely to be attained • What are the effects of the project on capacity development of DOE, and other stakeholders • What are the effects of the project on leveraging funds that would influence larger projects or broader policies to support its goal • What are the effects of the project in raising awareness of environmental issues and GEF • What are the project's contribution to promoting policy or advocacy activities and collaboration among communities • Other positive and negative impacts	• Review of project reports on contributions on building capacities of DOE and other stakeholders; on leveraging funds; awareness raising; policy advocacy • Key informants interview • FGD	• Annual Progress reports • Mid Term Evaluation • Reviews/evaluation reports conducted • Interviews with project stakeholders and planned beneficiaries
Sustainability- measures the extent to which benefits of initiatives continue after GEF assistance has come to an end. It covers the	• Financial viability- Are there any financial risks that may jeopardize sustenance of project outcomes? What is the	• Review of project reports, views of project stakeholders including planned beneficiaries	• Annual progress reports • interviews with stakeholders

Evaluation criteria	Key questions	Evaluation Approach	Main source of information
relevant social, economic, political, institutional and other conditions are present and, based on that assessment, making projections about the national capacity to maintain, manage and ensure the development results in the future	likelihood of financial and economic resources not being available once the GEF assistance ends (resources from public and private • Sectors, income generating activities) Socio-political: Are there any social or political risks that may jeopardize sustenance of project outcomes? • Institutional framework and governance: - Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? • Environmental: Are there any environmental risks that may jeopardize sustenance of project outcomes?	• Key informants interview • FGD	
Catalytic Role	• Are there any catalytic or replication effects of the project	• Key informants interview • FGD	• Annual Progress reports • Mid Term Evaluation • Reviews/evaluation reports conducted • Interviews with project stakeholders and planned beneficiaries •

Evaluation criteria	Key questions	Evaluation Approach	Main source of information
Monitoring and Evaluation System- assessments of the achievements and shortcomings of the project M&E plan and of implementation of the M&E plan	• Whether the project met the minimum requirements spelled out in these M&E documents, including the long-term monitoring provisions. • Was the budget provided adequate for the execution of the M&E plan • Did the CBRED project management use the information generated by the M&E system to adapt and improve project • Did CBRED include provision for the monitoring of long term results after completion	• Review of the M&E framework, M&E plan, reports produced and records of management meeting for the use of the M&E information • Assess CBRED M&E system for monitoring long term results	• M&E system documentation • Revisions of the M&E framework, M&E plan • M&E reports • Sample proceedings or records of meetings • Reports of budget and resources provided for M&E • Interviews with M&E staffs, CBRED management and stakeholders

Annex 3. List of supporting documents reviewed

1. CBRED Medium Term Report
2. UNDP Handbook on Planning, Monitoring and Evaluation for Development Results
3. Chief Technical Adviser Final Report by Rogelio Z. Aldover
4. Policy Expert Final Report by Edna A. Espos, June 2004
5. Renewable Energy Planning and Modeling Expert (1st Interim Report by Rodelio T. Pardique)
6. Final Report RE Engineering Service Industry Development (ESID) Subcontract, December 2007
7. Final Report RE Database and Data Information Exchange System
8. Final Report Market Service Center Business Planning and Development (Vol 1, Vol 2 and Addendum), Nov. 2005
9. Final Report CBRED RE Policy and Market Development Studies, April, 2007
10. Final Report CBRED RE Advocacy and Promotion Campaign, Technical Assistance, May 2006
11. Final Report Non-Utility Generation (NUG) Advisor by Atty. Ramon Chingcuangco, November 2004
12. Final Report CBRED NRE Resource Inventory Nov. 2004
13. Final Report RE Initiatives Delivery Financing Mechanisms, Subcontract, January 2007
14. CBRED Project Briefer
15. CBRED Project PowerPoint Presentation (presented to the Team last Nov. 24, 2010)
16. Program Implementation Agreement
17. Escrow Agreement LGF with Banco de Oro
18. NRE Planning model (NRE planning model developed or improved under the CBRED project. Installed in DOE)
19. Annual reports of the Market Service Center (MSC): MSC organizational set-up and annual reports prepared from its inception.
20. NRE Resource Inventory: Documentation of the inventory
21. Consolidated NRE Database, Report on the establishment of the consolidated NRE database
22. Company profiles of energy service providers
23. Engineering and energy consulting firms registered as NRE service providers
24. Annual reports of the NRE funds established
25. Annual progress reports from inception

26. Documentation of NRE best practices
27. Documented national standards on RE equipment
28. Assessment reports of local NRE manufacturers
29. Documented financing scheme for local NRE equipment manufacturers
30. Memorandum of Understanding between DOE, UNDP, PNOC, PNOC-EDC, National Transmission Commission, DOST-ITDI, UP-Diliman, Manila Observatory, De la Salle University, Renewable Energy Association of the Philippines, Philippine Association of Renewable Energy Centers, Kabang Kalikasan ng Pilipinas and Philippine Electric Plant Owners Association
31. Memorandum of Agreement between DOE and Sibol, Agham at Technolohiya (SIBAT)

Annex 4. List of individuals and groups interviewed or consulted and sites visited

Name of Key Informant	Agency/Organization	Date of Visit
Dir.Mario Marasigan, DOE Renewable Energy Management Bureau, CBRED Overall Project Director Dr. Ronnie Sargento,PhD CBRED Project Manager, OIC-HOEMD Josette Inocencio-Technical Specialist Marilou B. Ruales-Technical Specialist Shirley L. Barrameda-Administrative Officer Ma. Victoria Amuag-Finance Officer Jorel C. Ramirez- Administrative Assistant	**CBRED Project Management Office** Department of Energy Energy Center, Merritt Rd., Fort Bonifacio, Taguig City	November 24, 2010 **consultation during the project duration.
Ms. Amelia Dulce Supetran Portfolio Manager-Environment Ms. Imee Manal Program Officer - Environment	**United Nations Development Program** 30th Floor, RCBC Plaza, Ayala Avenue Makati City	December 23, 2010
Ms. Thelma Sensales Account Manager Mr. Ernesto Hernandez Account Officer for CBRED	**LGU Guarantee Corporation** Unit 2801, Antel 2000, 121 Valero Street, Salcedo Village, Makati City	December 20, 2010
Mr. Geronimo V. Olanday Senior Economic Development Specialist	**National Economic and Development Authority (NEDA)** J.Escriva Avenue, Ortigas Complex, Pasig City	January 7, 2011 11:00 am

Name of Key Informant	Agency/Organization	Date of Visit
Renewable Energy Management Bureau (REMB) Division Heads Ms. Ruby B. De Guzman OIC-Chief, BEMD Mr. Ronaldo Angeles SRS II-SWEMD Mr. Gaspar Escobar, Jr. OIC-NREB/TSMD Mr. Ariel Fronda OIC-GEMD Mr. Michael Pastor Senior SRS-GEMD	**Department of Energy (DOE)** **Renewable Energy Management Bureau** Energy Center, Meritt Road, Fort Bonifacio, Taguig City	January 07, 2011 2:00pm
Mr. Prudencio E. Calado III, Department Manager, EPMP Ms. Josefina A. Ramos, Head, Environmental Program Mgt. Unit, EPMP Ms. Geraldine E. Villalobos Accounts Management Specialist, EPMP	**Land Bank of the Philippines (LBP)** 30th Floor, LANDBANK Plaza, 1598 M.H. del Pilar corner D. J. Quintos Sts., Malate, Manila 1004	January 13, 2011

Name of Key Informant	Agency/Organization	Date of Visit
Mr. Camilo G. Sanchez, Bank Executive Officer, Trust Marketing Department		
Ms. Victoria S. Lopez Executive Director Ms. Florinda Concepcion	**Sibol ng Agham at Teknolohiya (SIBAT)** 4th and 5th Floors, No. 40 Matulungin St. Barangay Central,Diliman Quezon City	January 24, 2011 10:00am
Ms. Jocelyn S. Goco IACCC, Secretariat Head	**Department of Environment & Natural Resources-Inter-Agency Committee on Climate Change (DENR-IACCC)** Visayas Avenue, Quezon City	January 24, 2011 3:00pm
Dr. Enrico C. Paringit Assistant Professor	**UP Solar Laboratory** **Department of Geodetic Engineering** **College of Engineering** University of the Philippines, Diliman, Quezon City	January 26, 2011 9:00am
Mr. Menardo H. Cajayon, Trust Officer	**Banco de Oro – Trust Banking Group** 15th Floor, South Tower, BDO Corporate Center, 7899 Makati Avenue, Makati City	January 28, 2011
Mr. Alberto Bienvenido First Senior Vice President Mr. Julito Catapusan, Jr. Senior Manager	**Allied Bank** Ayala Avenue cor. Legaspi St. Makati City	

Name of Key Informant	Agency/Organization	Date of Visit
Mr. Alan Delideli Executive Director Ms. Louisa Hermoroso, In-charge of SOLAR Lantern Project	**SILDAP Office** Tagum City	January 31, 2011
Ms. Jessibel Marie Sanchez Executive Director	**Kalusugan Alang Sa Bayan, Inc. (KAABAY)** 496 South St., DBP Village, Ma-a, Davao City	January 31, 2011
Engr Ulderico Pelono Acting Plant Manager& Managing Director Mr. Marcus Cataraja, Technical Head, Operations Mr. Lemuel Jason Gonza, Jr Electrical Engineer	**Panaon Mini hydro power plant** **Impasugong, Bukidnon**	February 1, 2011
Fr. Emeterio L. Barcelon S.J. Executive Director	**Turbines Resources and Development Corporation (TUREDECO)** CH 110 Champion Hall, Xavier University, Cagayan de Oro City	February 2, 2011
Ella Alicaba, Project Officer Rosfel Paderon, Support staff	**Alliance for Land And Livelihood and Resettlement (ALL R UP)** Del Rosario Extension, Cebu City	February 3, 2011

Name of Key Informant	Agency/Organization	Date of Visit
Atty. Angela Consuelo S. Ibay Climate Change and Energy Program Head	**Kabang Kalikasan ng Pilipinas (WWF-Philippines)** 4th Floor JBD Plaza #65 Mindanao Avenue, Brgy. Bagong Pag-asa, Quezon City	February 07, 2011 5:00pm
Mr. Allan Cajes Managing Director Center for Sustainable Human Development Mr. Bobby Julian Teaching Fellow	**Development Academy of the Philippines (DAP)** DAP Building, San Miguel Ave., Pasig City, Philippines	February 04, 2011 1:00pm
Sec. Raphael P.M. Lotilla (former DOE Secretary) Executive Director	**Partnership in Environmental Management for the Seas of East Asia (PEMSEA)** DENR Compound, Visayas Avenue, Quezon City	February 14, 2011 10:30am
Ms. Loreta G. Ayson Undersecretary (former Component 5 Sub-committee Chair, CBRED Project REIAC)	**Department of Energy (DOE)** Office of the Undersecretary Energy Center, Meritt Road, Fort Bonifacio, Taguig City	February 14, 2011 2:00pm
USec. Demetrio Ignacio Undersecretary	**Department of Environment and Natural Resources** **Office of the Undersecretary for Policy and Planning** Visayas Avenue, Quezon City	February 15, 2011 4:00pm

Annex 5. Log Frame Matrix: Framework Design

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
A. Development Goal			
1. The annual growth rate of GHG emissions from activities using fossil fuels is reduced through the removal of the major barriers to the development and widespread implementation of renewable energy applications to replace part of the current fossil fuel use in the Philippines.	1.1.1. The annual growth rate of GHG emissions from fossil fuel-based activities in the country is reduced by 29,578,500 MT CO_2 by the year 2010.	1.2.1. Documentation of annual data on fossil fuel and NRE utilization for power generation and industrial process heating from DOE. 1.2.2. Documentation of estimates of annual GHG emissions reduction from the replacement of fossil fuel by renewable energy in power generation and industrial process heating.	1.3.1. Monitoring activities under the project on renewable energy utilization are fully supported. 1.3.2. Reports of estimates of GHG emissions reduction from various sources are consistent.
B. Project Purpose			
2.1 The overall capacity (technical, policy, planning, institutional, financial) in the country, both in government and the private sector, to develop , design and make use of the energy potentials of NRE resources is significantly improved.	2.1.1. The Project induces an average growth rate in NRE consumption of about 8% during the period 2001-2010. The Project will also lead to increasing numbers of households, businesses, and institutions in remote, rural areas with access to renewably-generated electricity.	2.2.1. Documentation of the annual inventory of NRE system installed capacity from DOE. 2.2.1a. Documentation of the number of industries that installed new NRE based power generation facilities. 2.2.2. Annual energy balance report from the DOE.	2.3.1. Compliance of NRE users to the reporting requirements of the proposed Project to DOE.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
C. Project Outcomes			
1. NRE Policy, Planning and Institutional Capacity Building			
1.1 Establishment of NRE Inter-Agency Committee (NREIAC)	* Interagency Committee meets regularly starting early 2002	Monitoring meeting schedules and attendance profiles	GOP buy-in to Interagency concept.
1.2 Technical Assistance on NRE Bill	* 2 workshops conducted in 2002. * Outcomes of the workshops are used for NRE policy formulation by 3rd quarter 2002.	Attendance profiles Workshop proceedings and recommendations for the NRE Bill	GOP will involve relevant stakeholders in NRE policy
1.3 NRE Policy Analyses	Consultation meetings with relevant stakeholders and legislative members conducted during 2002-2003.	Minutes of consultation meetings	NRE remains a priority for the GoP.
NRE Electricity Policy Study	Findings of policy reviews and recommendations regarding NRE electricity policies completed by 1st quarter 2003.	Study report	DOE and legislators support the study and will seriously consider the recommendations for the NRE Bill and other NRE-related issues:
NRE Electricity Pricing Study	Findings of pricing policy reviews and recommendations regarding NRE electricity pricing completed by mid-2003.	Study report	DOE and legislators support the study and will seriously consider the recommendations for the NRE Bill and other NRE-related issues.
NRE-based Power Generation Market Strategy	Findings of review of market development strategies for NRE-based power producers completed by 3rd quarter 2003.	Study report	DOE and legislators support the study and will seriously consider the recommendations for the NRE Bill and other NRE-related issues.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
1.4 NRE Planning Model	* More reliable NRE Planning model is used by NEA/RECs by mid-2003. * More systematic NRE planning starting 2004.	NRE Planning Model used by NEA and RECs	NEA and DOE support the development and utilization of a more reliable NRE planning model.
	Existing planning tools are updated and used to program NRE in Barangays by second half of 2003.	Annual report of NEA	REC finds NRE technologies attractive.
1.5 Integrated Energy Planning	Findings of energy planning methods and recommendations regarding capacity building on integrated energy planning completed by mid-2003.	Evaluation report	
	Enhanced energy planning models and forecasting tools completed by end 2002 and ready for use by DOE by mid-2003.	Energy Planning Model installed in DOE	
1.6 Policy Implementation, Monitoring & Evaluation	* Evaluation of the policy implementation and impacts starting 2004 and every year thereafter.	Documentation of policy impact analysis and recommendations for policy revisions/modifications.	NRE policy impact analysis is a regular activity of the DOE.
	Relevant recommendations on policy improvements are made and implemented by end each year starting Year 3	Documentation of policy reviews and recommendations	NRE Bill includes provision of policy reviews on NRE issues.
2. NRE Market Service Institutionalization			
2.1 Set-up a Market Service Center	MSC structure in place and	Operational organizational structure	A Board of Directors and a CEO is

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
(MSC)	operational by second half of 2002 MSC is functioning as a fee-for-service agency by 2006.	Annual Reports of the MSC	selected to aggressively promote quality NRE market services.
2.2 Preparation of MSC Business Plan	MSC business plan is approved by Oct 2002.	Documentation of business plan	Project starts mid-2002
2.3 Capacity Building for MSC Staff	MSC staffs are knowledgeable in the various aspects of NRE market services are providing such services by Jan 2003.	Documentation of staff training and staff time sheets	Staff NRE market service activities are monitored and recorded in time sheets
3. NRE information and Promotion Services			
3.1 NRE Resource Inventory	Additional and updated NRE resource inventory data available to the public by mid-2003.	Documentation on the resource inventory	Survey to cover areas not included in previous surveys.
3.2 National NRE Database Development	Components of a publicly accessible NRE database are resident in at least 6 agencies and is linked by a website by 2004, and used by NRE project developers and researchers.	Number of requests for data	Information can be readily assemble info database formats and keepers will allow public access.
3.3 Integrated NRE Information Exchange Service	▪ Mechanics for the information exchange set-up by end 2002 ▪ Request for information by other organizations (local and abroad) are served by 2003.	Documentation on the information service Documentation of information service requests and receipt	Links with NRE-related agencies. NGOs and private sector in the country and abroad are established.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
3.4 NRE website Development	NRE website developed by second half of 2002 and fully operational by 2003.	Number of "hits" in the website	Project proponents are web conversant and the website is advertise widely.
3.5 Consolidation of NRE Databases	NRE databases and other related databases are included in the National NRE Database by 2004.	Updated National NRE Database	Agencies where NRE-related data reside will cooperate in the sharing if their data/information.
3.6 NRE Advocacy & Promotion	• A continuous program of awareness raising and promotion of NRE is in place by end 2002, and carried out every year thereafter. *Funds are continuously allocated by the DOE in the program. Potential proponents are informed of NRE benefits starting 2003.	Documentation on the program DOE's annual budget allocation for the program Number of NRE promotion events. Attendance at the events. Breadth and relevance of NRE promotion material.	The program will continuously be evaluated and improved based on findings and recommendations of the evaluation. Media and promotional campaigns are properly designed and targeted.
3.7 NRE Engineering Service Industry Development	• At least 10 engineering and energy consulting firms are registered as providers of NRE services by end 2003 *Institutional and regulatory requirements for the industry are defined by mid-2003.	Company profiles of the NRE service providers *Documentation on institutional and regulatory requirements of the NRE in industry	NRE industry is regarded as a special industry, which will be governed by specific laws and provided special incentives.
3.8 Green Energy Rating Program	• Guidelines for the rating program prepared by end 2002. *Rating program starts in mid-2003 and ratings given by end 2003.	Documentation on the guidelines Documentation on the ratings	Private sector views the program as an incentive to improve marketability and relevant government agencies support the program.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
4. NRE Initiatives Delivery & Financing Mechanisms			
4.1 NRE Fund Establishment - Project Preparation Fund - Loan Guarantee Fund - NRE Micro Finance Fund	Funds established by 4th quarter 2003 and implementing guidelines and fund management arrangements approved by 1st quarter 2004.	Documentation on the approved mechanics and guidelines for each fund.	*Banks are familiar with all aspects of NRE Project financing and implementation. *Arrangements with partner banks (for fund management) are partner banks (for fund management) are completed. *Seed money contributions from EIES, GEF and DOE are confirmed.
4.2 Assistance Services to Finance Applicants	At least 25 applicants for each fund served/processed by the MSC each year starting 2004	Number of applications processed.	Preference given to projects that have already undergone pre-feasibility analysis.
4.3 RE Delivery & Financing Mechanisms Demo Promotion	At least 50 applicants for each fund are received after the workshop.	Number of applications received.	Private sector is interested in availing of the loans provided under the financing schemes.
4.4 Selection Criteria & Selection of NRE Eligible Projects	Eligibility criteria for each fund are set and approved by end 2003	*Documentation on the selection criteria *List of eligible projects	Preference given to projects that have already undergone pre-feasibility analysis.
4.5 Monitoring & Evaluation of each Demo Sites	At least 50 sites are monitored and evaluated 2005.	*Documentation on the monitoring and evaluation activities	The projects to be monitored are those in their 2nd year of operation.
4.6 Financing & Delivery Mechanisms Review	Evaluation of the effectiveness and viability of the financing schemes and the delivery mechanisms completed by mid-2005.	Documentation on the review	

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
4.7 Demo program Results Evaluation	*Evaluation of the demonstration program accomplishments completed by 3rd quarter 2006 *Replication of NRE projects on both on and off-grid as well as electricity and thermal/mechanical applications with estimated aggregate capacity of at least 50 MW by 2006.	Documentation of the evaluation report Number of NRE projects accessing financing	Non-technical barriers are primary to the replication of NRE projects. Pilot mechanisms do not interfere with replication through the market place.
4.8 Sustainable Follow up Program Design	Follow-up program based on the evaluations and the creation of an NRE fund using loan repayments from the demo program completed by mid-2005.	Documentation of the program design	
5. NRE Training Program			
5.1 Design & Preparation of Training Materials	Training materials completed/updated 2 months before each training course.	Training materials	Capacity building needs of relevant stakeholders are already identified.
5.2 Organization of Training Programs & Study Tours	Organization and coordination completed at least 1 month before each study or training course.	Documentation of arrangements made	
5.3 Conduct of Training Course & Study Tours			
Study Tour: NRE Policy	10 government and corporate policy and decision makers completed the study tour by end 2002.	Number of study tour participants and documentation on the results of the study tour.	NRE remains a priority for the GoP and for relevant private sector groups and industries.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
TC: NRE Trainers	25 NRE technology trainers accredited by DOE by end 2002	List of accredited NRE technology trainers and training course report	The market demand for NRE will attract relevant target groups. Training the trainers will be successful in leaving NRE pedagogy in institutions.
TC: Institutional Capacity Building	25 government and private sector personnel trained by end 2003	Training course report	NRE is a priority for the GoP and relevant institutions (government and private) accepts the need for a coordinated effort towards NRE development.
TC: Rural Electricity Planning	25 NEA staff trained and applying the techniques/skills learned by end 2003	Training course report and documented "one-on-one" post-interviews of course participants.	NEA supports NRE-based power generation as part of its rural electrification program. The market demand for NRE will attract relevant target groups.
TC: Energy Pricing and NRE Electricity Pricing	25 DOE and ERB personnel trained and applying concepts learned by end 2003	Training course report and documented "one-on-one" post-interviews of course participants.	NRE is a priority of the GoP and policies geared towards establishing "level playing field" are at least being worked out.
TC: NRE Project Financing	25 DOE and banking/financing sector personnel trained and providing support to CBRED by end 2003.	Training course report and number of trainees providing support to Component No. 4 implementation	The market demand for NRE will attract relevant target groups.
TC: PPA Contracts and Negotiations	25 DOE/NPC personnel and prospective IPPs trained and applying concepts learned by 2004.	Training course report and documented "one-on-one" post-interviews of course participants.	The market demand for NRE will attract relevant target groups. Electricity market allows NRE-based power producers.

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
TC: Basic Concepts of Rural Electrification	One training course conducted each year starting 2002 for LGUs, BAPAs, ECs and rural banks till 2004	Training course reports	The market demand for NRE will attract relevant target groups.
TC: NRE Project Management	One training course conducted each year starting 2002 for LGUs, BAPAs, ECs till 2004.	Training course reports	The market demand for NRE will attract relevant target groups.
TC: NRE Technicians Training	At least 20 technicians recognized by DOE in Luzon, Visayas, and Mindanao each year starting 2002 till 2004.	List of recognized NRE technicians and training course reports	Recognized NRE technicians are employed by NRE system operators.
TC: NRE Project Appraisal for Rural Financial Intermediaries	One training course conducted each year starting 2002 for rural banks and micro finance enterprises till 2004.	Training course reports	The market demand for NRE will attract relevant target groups. Concerns about risks associated with NRE projects is already reduced
TC: Rural NRE Entrepreneurial	One training course conducted each year starting 2002 for "O-Ilaw" proponents, NGOs/Pos till 2004.	Training course reports	The market demand for NRE will attract relevant target groups. Concerns about risks associated with NRE projects is already reduced.
TC: NRE System Design, Operation and Maintenance	At least 20 engineering and energy consultant as well as NRE system equipment manufacturers recognized by DOE to provide NRE services each year during 2002-2004.	List of recognized NRE consultants and NRE system equipment manufacturers and Training course reports	NRE Industry is supported by the government
5.4 Documentation & Database Development & Management	Database of training materials and evaluation report prepared by end 2003 and regularly updated each year.	Database installed at the DOE	

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
5.5 Training Program Review	First evaluation of training program results completed by 1st quarter2003 and evaluation carried out each year thereafter.	Documentation of review reports	
5.6 Training Program Results Dissemination	Training program evaluation report prepared and disseminated by mid-2003 and every year thereafter.	Training program evaluation reports	The market demand for NRE will attract relevant target groups.
5.7 Sustainable Follow up Training Program Design	Sustainable follow-up program based on the evaluation completed by mid-2004	Documentation of follow-up program	GoP and private sector supports continuing education in the area of NRE.
6. NRE Technical Support			
6.1 NRE System Utilization Best Practices	*Compendium of best practices completed and disseminated by mid-2003. *Best practices information included in NRE Database and Website by end 2004 and accessed by project developers and NRE users.	Documentation of best practices No. of access to database and no. of hits in website	The market demand for NRE will attract relevant target groups to utilize the best practices.
6.2 RE Equipment Standard setting	National NRE system equipment standards established in 2004	Documented national standards	The industry is ready to set standards and become self regulating
6.3 Assessment of Capabilities of Local NRE Manufacturers	Assessment of capabilities) technical, financial and human resources) of leading local manufacturers completed by mid-2003.	Assessment reports	Local NRE equipment manufacturers will cooperate and willing to divulge information about their operations

Project Strategy	Objectively Verifiable Indicators	Means of Verifying Success	Assumptions
6.4 Performance Evaluation of Locally produced NRE Equipment	Performance evaluation of selected locally made NRE equipment completed by end 2004.	Performance evaluation report.	Local NRE equipment manufacturers will cooperate and willing to divulge information about their operation.
6.5 Potential Improvement & Efficient Designs for Local NRE equipment manufacturing	Identified/verified improvements recommended to local manufacturers and arrangements for TA in employing improvements completed by mid-2005.	Documentation of identified improvements and recommended actions	Industry market volume and profit margins justify significant improvements in equipment quality.
6.6 Financial Assistance to Local NRE System Equipment Manufacturers	*Financing scheme for funding assistance to local NRE equipment manufacturers (including eligibility criteria and funding guidelines) approved by mid-2005 *Selected manufacturers avail of loans and implement improvements in their design and/or production process.	Documentation of financing scheme (including eligibility criteria and scheme mechanics). List of equipment manufacturers benefited by the financial assistance.	*Industry market volume and profit margins justify significant improvements in equipment quality. *Loan terms are acceptable to local equipment manufacturers.
6.7 Sustainable NRE Research & Development	NRE R&D program supported by NRE equipment manufacturers completed by mid-2006.	Documentation of the program	Local equipment manufacturers express interest and financial support.

Annex 6. Progress towards Achievement of Project Objectives (June 2010)

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
Objective: The annual growth rate of GHG emissions from activities using fossil fuels is of the major barriers to the development and widespread implementation of renewable energy applications to replace part of the current fossil fuel use in the Philippines.	1. The annual GHG emissions from fossil fuel-based activities in the country is reduced (in million tons CO_2	0	6.06	4.56 (add'l 1.96)	6.55 (add'l 2.013)	10.617
	2. The Project induces an average growth rate in NRE consumption	5.5	6.0	5.0	4.0%	4.8
Outcome 1: RE Policy Planning and Institutional Capacity Building Remove the policy and energy planning barriers and address the institutional issues regarding the development and implementation of RE initiatives in the country.	1. Establishment of REIAC/PSC and formulation and endorsement of policies, laws and regulations favorable to renewable energy goals by Year 2					
	a. No. of REIAC/PSC resolutions on RE policies/project	0	3	8	9	5
	b. Ave. percentage of attendance for REIAC meetings	0	67%	75%	67%	71%
	c. Ave. percentage of attendance for PSC meetings	0	67%	71%	57%	53%
	2. Formulation of RE Bill and Alternative Mechanisms by Year 2					
	a. No. of groups lobbying for the	1	30	11	11	Activity completed

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	passage of the RE Bill (cumulative)					
	b. No. of legislators supporting the RE Bill (cumulative)	6	110	95	113	Activity completed
	c. Enhance RE Bill enacted into law by Year 5.		RE Bill	RE bill as urgent bill; the draft Committee Report on the Senate version of RE Bill is being reviewed by tech. staff of the Chair of the Senate Committee on Energy	Continued lobbying. Lower House passed the RE Bill September 19, 2006. Senate filed committee report endorsing the passage of the Bill on December 18, 2006. Office of the President certified the Bill as urgent legislation on February 2, 2007	Activity completed
	3. Completed RE Policy Analyses in support of the RE Bill					
	a. No. of policy studies approved by REIAC (cumulative)	0	4	4	4	Activity completed
	b. No. of policy recommendations reviewed by	0	15	13	14	

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	REIAC/PSC (cumulative)					
	c. No. of policy provisions included the formulated RE Bill	0	12 (2000)	12	12	
	4. Use of RE Project Planning Tool institutionalized					
	a. No. of RE project developers adopting improved RE planning models/tools (cumulative)	0	40	0	0	
	b. No. of RE projects designed and assisted by the MSC using the RE planning tool each year	0	5	0	0	
	5. Use of IEP Model institutionalized.					
	a. No. of Institutions which agreed to participate in annual Integrated Energy Planning (cumulative)	0	35	6	5	
	6. RE Policy Implementation, Monitoring and Evaluation	No M&E	M&E System	Plan for the Implementation	Implementation of IREMES	
		System for RE policy implementation	For RE policy implementation is developed and implementation	Integrated RE Monitoring & Evaluation System (IREMES)	System design previously developed is Included in the integrated	

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
			by NREIAC	approved.	database jointly being developed with	
Outcome 2: RE Market Services Institutionalization Create and operationalize a "one-stop-shop" to serve as the single agency where NRE project investors need to go to obtain all the legal papers and permits required for RE projects.	1. Setting up and institutionalization of the MSC			Spin-off organization was deferred by one year	MSC Operations Simulation Report for the spin-off completed	The one-stop-shop function of the proposed MSC will be taken over by the TSMD of DOE's REMB
	a. No. of RE projects packaged by MSC	0	16	0	0	MSC discontinued operations in 2007
	b. No. of RE clients assisted by MSC (cumulative)	0	125	26	45 (add'l. 19)	MSC discontinued operations in 2007
	c. Percentage of satisfied RE clients assisted by MSC		90%	No survey done yet	No survey done yet	MSC discontinued operations in 2007
	2. Preparation and implementation of MSC Business Plan and Evaluation					

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	a. MSC Business Plan approved by DOE/Updated yearly		Updated	MSC Business Plan approved MSC has been simulating its business operation in the interim	Updated MSC Business Plan incorporating comments is for second presentation to PSC/REIAC in their next meeting	MSC discontinued operations in 2007
	b. Percent of year-ahead MSC financed through its previous year generated income	0	25%	N.A.	N.A.	MSC discontinued operations in 2007
	3. Capacity Building for MSC staff					
	a. Person-days training undergone per year (cumulative)	0	300	149 (add'l 85)	206.5 (add'l. 57.5)	MSC discontinued operations in 2007
	b. No. of MSC staff members providing TA services to RE projects	0	5	5	5	MSC discontinued operations in 2007
Outcome 3: RE Information and Promotion Services Establish a national RE information and promotion services facility in forms that are useful, innovative, readily accessible and known to target clients such as potential private investors, manufacturers,	1. RE resource inventory					
	a. Percentage of existing RE resource databases assessed	Comprehensive updated data not available	100% Completed (2006)	100% Additional surveys being done to fill in the data gaps.	100%	Completed
	2. National RE database developed					

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
engineering service providers and policy makers.	a. No. of institutions participating as members of the RE Database Keepers Committee	0	16	16	16	15 (plus SRA)
	b. Percentage completion of the National RE Database	0	100% (Feb 2007)	35%	50% (completion Dec 2007)	90%
	3. Integrated RE information exchange					
	a. No. of clientele assisted (cumulative)	0	350	114	133 (add'l)	330
	4. RE Website Development					
	a. Percentage completion of website design implementation	0	100% (Jun 2007)	80%	96%	100%
	b. No. of Internet users browsed the RE website (cumulative)	0	750	150	307 (add'l 157)	1682
	5. Consolidation of RE Database					
	a. Percentage of RE databases reformatted/reproduced and consolidated	Not consolidated	100% Feb 2007	35%	50%	
	b. %Operational		100%	0%	80%	
	6. RE Advocacy and Promotion					
	a. No. of institutions reached by IEC activities		1,390	300	440 (add'l 140)	

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	b. No. of potential and-users reached by IEC activities		981,000	481,000	1,578,000 (add'l 1,097,653)	
	c. No. of potential RE-based projects identified for development		140	99	169 (add'l 70)	
	7. RE Engineering Service Industry Development					
	a. No of RE engineering service assisted to comply with registration requirements	Program not in place	20	0 System of registration is being established; consultative process ongoing assessed	0 System of registration being reviewed for adoption.	
	8. Green Energy Rating Program					
	a. No. of End-User who received Green E award	Program not in place	18	0	0	
	b. No. of RE project developers who received Green-E award		18	Agreement with Host Institution signed	7 (add'l 1 achievement citation)	
Outcome 4: RE Initiatives Delivery and Financing Mechanism Remove the financing barriers and address issues on RE project	1. RE Fund Establishment					
	a. Percent of Project Preparation Fund (PPF) utilized	Funding facility not in place	75%	0%	0%	31%

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
development and implementation by providing financial support to project developers in conducting projects that demonstrate innovative strategies and delivery mechanisms	b. Percent of Loan Guarantee Fund (LGF) utilized	Funding facility not in place	75%	0%	0%	11.46
	c. Percent of Micro-Finance Fund (MFF) utilized	Funding facility not in place	75%	0%	0%	37.91
	2. Assistance Services to Financing					
	a. No. of applications processed under PPF	0	20	0 Established guidelines for processing applications and identified potential RE projects	2 Documents submitted to LBP	13
	b. No. of applications processed under LGF	0	9	0 Established guidelines for processing applications and identified potential RE projects	0 Project pipeline being developed from companies interested.	8

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	c. No. of applications processed under MFF		32	0 Established guidelines for processing applications and identified potential RE projects	1 Project pipeline being developed from groups interested.	32
	3. RE Delivery and Financing Mechanisms Demonstration					
	a. No. of project developers who signify interest (PPF), cumulative	0	45	35	48 (add'l 13)	
	b. No. of project developers who signify interest(LGF), cumulative	0	22	12	20 (add'l 13)	54
	c. No. of project developers who signify interest (MFF), cumulative	0	60	7	56 (add'l 49)	
	4. Implementation of RE-based energy projects supported by funding mechanisms (cumulative)					

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
	a. Installed capacity (PPF)	0	100 MW Direct: 15 Ind./Post: 85	0 Potential projects identified with 40 MW capacity	0	
	b. Installed capacity (LGF)	0	3 MW	0 Potential RE projects identified with 40 MW capacity	0	
	c. Installed capacity (MFF)	0	500 KW	0 7 projects lined up for Year 4 implementation capacities are not yet determined	0	
	5. Monitoring & Evaluation of demonstration projects a. Percent repayment of loans from installed systems (PPF)	N.A	20%	0%	0%	

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
				Lending guidelines and procedures developed for implementation	Continued promotion and marketing	
	b. Percent utilization of guarantee facility (LGF)	N.A.	Minimum default rate of 10% on guarantee payments (no loan to collect since LGF is a mere guarantee)	0% Lending guidelines and procedures developed for implementation	0% Continued promotion and marketing	
	c. Percent repayment of loans from installed systems (MFF)	N.A.	20%	0% Lending guidelines and procedures developed for implementation	0% Continued promotion and marketing.	
Outcome 5: RE Training Program The capacity of major stakeholders in the country's RE sector in the various assets of RE development	1. Planning and Needs Assessment completion and DOE approval by DOE of the 3-year training program			Completed Year 2		Completed in Year 2
	2. Design of Training courses			Completed Year		Completed in

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
and commercialization, particularly in policy/technical and operational aspects are upgraded.				2		Year 2
	3. Conduct of Training courses					
	a. No. of trainees in various courses (cumulative) o Regular RE Training o Study Tours o Specialized Training		680 35 <u>0</u> 715		31 DAP started the RE Trainers' Training courses 8 <u>16</u> 55	Regular public offerings of training courses by DAP scheduled for 3rd quarter 2009 is re-scheduled for the 2nd Semester 2010.
	b. No. of technicians included in DOE inventory (cumulative)		80	0	0 Training scheduled within 2007.	52 completed Technicians' Training Course.
	c. No. of RE engineers, consultants and resource persons included in DOE inventory (cumulative)		80	0	0 Training scheduled	71 Completed Trainers Training

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
					within 2007.	Course.
	d. No. of RE training reports accepted by DOE within the year (cumulative)		33	0	0 RE Training Program just started	24
	e. Overall % of trainees that are applying acquired knowledge and skills in RE activities				0 No survey done yet TSP to develop system	90% of total number of trainees
	4. Sustainable Training Design					
	a. Completed evaluation of 3-year RE training program		100% (April 2008)	N.A.	N.A.	RETP Final Report completed on September 2009
	b. Completed sustainable RE training program accepted by DOE		Accepted (April 2008)	N.A.	N.A.	
	c. Funding allocated for continuing RE Training Program from: o GOP o Private Sector				Program just started. TSP to develop funding plan	

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
			50% 50%	N.A. N.A.		
Outcome 6: RE Technology Support The upgrading of the quality and efficiency of locally manufactured RE products is fully supported.	1. Standards set for prioritized RE equipments and components					
	a. No. of RE manufacturers/ suppliers following RE standards	N.A.	64	0 Finalization of RE Standards	0 RE standards to be endorsed for adoption as PNS	The DOE-REMB has been adopting the RE Standards and Best Practices approach even without the PNS
	2. RE technology support program					
	a. No. of local manufacturing practices assessed for process improvement (cumulative)	0	10	3	3	Hiring of international expert to assess local manufacturers was discontinued because of the incentives (RE Training Fund) under the RE

Project Objective and Outcome	Description of Indicator	Baseline Level	Year 5 Target Level	Year 3 Level at 30 June 2006	Year 4 Level at 30 June 2007	June 2010 Level
						Law
	b. No. of local RE equipment manufacturers/suppliers availing of the product improvement program (cumulative)	0	0	0	0 Development and promotion of the program is ongoing.	Discontinued because of the incentives (RE Training Fund) under the RE Law
	c. No. of manufacturers/suppliers provided with financial assistance to adopt improved procedures (cumulative)	0	7	N.A.	0 Development and assistance of the program is ongoing.	Discontinued because of the incentives (RE Training Fund) under the RE Law

Annex 7. Proposed Draft Renewable Energy Guarantee and Loan Fund (REGLF)

I. RENEWABLE ENERGY FINANCING POLICY

The Renewable Energy Guarantee and Loan Fund (REGLF) is a policy-based funding and guaranty facility based on the principle of accelerated sustainable development and advancement of renewable energy resources. It encompasses both environmental protection and socio-economic development taking into consideration the use of renewable energy in various economic activities. It shall be governed by a strategic policy to align with the global shift to cleaner, affordable fuels and shall provide an opportunity for energy independence and security for the Philippines.

The REGLF shall also be aligned with the government's policy thrusts as declared in the Implementing Rules and Regulations (IRR) of Republic Act No. 9513, otherwise known as the Renewable Energy Law, quoted as follows:

a. Accelerate the exploration and development of renewable energy resources such as, but not limited to, biomass, solar, wind, hydropower, geothermal, and ocean energy sources, and including hybrid systems, to achieve energy self-reliance through the adoption of sustainable energy development strategies to reduce the country's dependence on fossil fuels.

b. Increase the utilization of renewable energy by institutionalizing the development of national and local capabilities in the use of renewable energy systems and promoting its efficient and cost-effective commercial application.

c. Encourage the sustainable development and utilization of renewable energy resources as tools to effectively prevent or reduce harmful emissions and thereby balance the goals of economic growth and development.

d. Promote the full development and use of renewable energy as a tool to address the cross-cutting issues of gender, poverty and economic development; and

e. Establish the necessary infrastructure and mechanism to carry out the mandates specified in the law and other existing laws.

A. Objectives of the Program

The objectives of the REGLF include the following:

1. To provide financial support to various RE project developers in line with the government's rural electrification program in areas where the generation of electric power using these various RE technologies is proven to be a viable alternative to conventional power generation systems.

2. To improve the quality of life of Filipinos, especially the rural folk, by stimulating economic activity with the use of renewable and environment-friendly alternative sources.

3. To provide a guarantee facility that will support RE project developers that have proven to be viable but are unable to meet the collateral requirements of banks/financing institutions; and

4. To assist in the prevention or mitigation of climate change through the development of Clean Development Mechanism (CDM) projects and related support services such as the financing of eligible transaction costs for CDM sequestration projects, and establishment of the Carbon Credit Fund.

B. Wholesale Lending and Retail Lending

The REGLF will be implemented by using two (2) lending processes namely wholesale lending and retail lending. The retail lending will be part of the Program Manager's regular mandate as a financial institution which aggressively supports RE development projects.

Wholesale lending approach shall also be utilized and its advantages are as follows:

1. Wide accessibility. The Program Manager shall be a financing institution whose branches nationwide can be tapped as its marketing network to promote RE development projects in view of its accessibility to clients through its branch network.

2. Credit Risk Hedge. Under wholesale lending, the credit risk is spread over more banks/financing institutions which protects the Program Manager and the DOE which acts as Fund Administrator.

3. Loan Syndications. The Program Manager together with Participating Financial Institutions (PFIs) can form a loan syndicate to bankroll bigger RE development projects that shall need more funding requirements. The PM can initiate loan syndications that would in the process capacitate other PFIs/MFIs to undertake such type of lending and replicate these on their own.

The eligibility for wholesale lending is determined as follows:

1. A Management Agreement between DOE and the Program Manager shall be executed to officially designate the latter as program administrator under wholesale and retail lending operations.

2. PFIs and MFIs are evaluated by the Program Manager as to financial eligibility using an accreditation criteria and guidelines prepared by the Program Manager and approved by the NREB.

3. Sub-borrowers (fund End-users) and sub-projects are evaluated by PFIs as to financial and technical eligibility. Loan features of PFIs/MFIs shall be mirrored in their loans to the sub-borrowers.

4. Retail lending sub-borrowers and sub-projects are evaluated by the Program Manager's own marketing units.

5. A REGLF Management Committee (MANCOM) shall be constituted and maintained during the effectivity of the Management Agreement. It shall be composed of representatives from the DOE with the Program Manager as MANCOM Chairman. MANCOM is responsible for the approval/disapproval of loan applications, strategic decisions on the REGLF program implementations and, as may be necessary, policy recommendation and/or policy changes to the NREB.

6. The Program Manager shall formulate a time-bound marketing and implementation plan for the REGLF. Clear result-based performance indicators shall be established and in place to serve as basis for annual targets and Key Result Areas (KRAs) of specific departments and lending personnel of Program Managers.

C. Fund Management and Administration

There shall be one (1) Program Manager (PM) who shall administer and implement the REGLF. The Program Manager shall be a bank or financial institution preferably with existing wholesale lending operations in order to take advantage of its existing accredited PFIs/MFIs whom the PM can influence and tap to mobilize the funds. Under this structure, it is expected that the various fund components under the REGLF will move in tandem under a more holistic lending scenario.

The PM shall perform program operations and management functions. It shall have the following duties and responsibilities:

1. Act as the Program Administrator for the REGLF
2. Abide by the lending policies, guidelines and procedures which shall be mutually agreed upon among parties and adopted for the REGLF
3. Actively promote and market the REGLF to ensure that the REGLF attains a highly satisfactory fund utilization
4. Ensure that the targets and performance indicators for the REGLF are achieved
5. Provide a core group of personnel who will be trained for program administration and project evaluation and supervision work
6. Review and finalize the Operating Policy Guidelines and Manual for the REGLF Program
7. Accredit Participating Financial Institutions (PFIs) and Micro-Finance Institutions (MFIs) under its wholesale lending operations based on mutually-agreed accreditation criteria

8. Conduct annual renewal of the credit lines of PFIs under its wholesale lending operations
9. Process applications of RE projects under the loan, guarantee or CDM facility of the REGLF Program
10. Handle credit investigation and appraisal of borrowers
11. Monitor REGLF program operations and performance in terms of effectivity and efficiency of the REGLF utilization and that of the borrowers in terms of emission reductions performance against REGLF Project targets and performance indicators.
12. Monitor performance of borrowers (PFIs/MFIs) and sub-borrowers (fund End-Users) under its wholesale lending operations and PM retail borrowers under its retail lending operations.
13. Provide liaison with other RE key sector stakeholders
14. Perform other administrative functions related to REGLF Program management.

The Program Manager shall also have fund management-related duties and responsibilities. However, a *separate Fund Manager* shall be appointed for check and balance purposes. In accordance with the RA 9513, the Trust departments/groups of government financial institutions (GFIs) shall be tapped to serve as Trustee or Escrow Agent whose duties and responsibilities must be separate and distinct from those of the Program Managers to ensure transparency in the conduct of transactions.

D. RE Technologies to be Financed

The REGLF shall support various projects for the following RE technologies:

1. Hydro (mini, micro, pico, ram pump)

2. Biomass-based (biogas, direct burning for power and non-power applications, cook stove)

3. Wind (power and non-power applications)

4. Geothermal (waste heat recovery)

5. Solar photovoltaic (Balance of systems replacement, battery charging stations, water pumps, except individual PV solar home systems)
6. Solar water heater

7. Other small RE Technologies

E. Estimation of Fund Requirements for REGLF

For REGLF to be able to lend long-term support for RE development, there should be a reliable funding source just like any fund intended to subsidize the cost of undertaking any activity. The REGLF should be structured in a holistic manner wherein wholesale

funding should be provided to the PM, for channelling to PFIs/MFIs for the purpose of funding RE initiatives.

The REGLF can be funded by the *Renewable Energy Trust Fund (RETF)* as provided for under Rule 11 (Sec. 32-34) of the IRR for the RE Act of 2008 (RA 9513). The RETF shall be established to enhance the development and greater utilization of renewable energy. It shall be administered by the DOE as a special account in any of the GFIs. The RETF shall be used exclusively, among others, to provide funding to qualified research and development institutions engaged in RE studies jointly through the public-private sector partnership and to provide support to the development and operation of new RE resources to improve their competitiveness in the market. The funds may be used through grants, loans, equity investments, loan guarantees, insurance, counterpart fund or such other financial arrangements necessary for the attainment of the objectives of the RE Law. The use or allocation thereof shall be, as far as practicable, done through a competitive and transparent manner.

As provided under the RE Law, the RETF shall be funded from:

1. Proceeds from the emission fees collected from all generating facilities consistent with RA No. 8749, or the Philippine Clean Air Act.

2. One and a half percent (1.5%) of the net annual income of the Philippine Charity Sweepstakes Office (PCSO).

3. One and a half percent (1.5%) of the net annual income of the Philippine Amusement and Gaming Corporation (PAGCOR).

4. One and a half percent (1.5%) of the net annual dividends remitted to the National Treasury by the Philippine National Oil Company (PNOC) and its subsidiaries.

5. Contributions, grants and donations.

6. One and a half percent (1.5%) of the proceeds of the Government Share collected from the development and use of indigenous non-RE Resources.

7. Any revenue generated from the utilization of the RETF; and

8. Proceeds from fines and penalties imposed under the Act.

As a guide in the amount of funds to be allocated for the REGLF, a comprehensive summary of potential pipeline RE sub-projects for financing under the REGLF shall be prepared by the selected Program Manager in coordination with the DOE. These sub-projects shall be sorted and ranked according to maturity and stage of development/completion. Priority shall be given to sub-projects in first ranking to enable the REGLF to address their financing requirements. It should be emphasized that the pipeline list is not a final list for REGLF financing but will keep changing over time,

with the addition of new projects or elimination of listed ones as new loan applications are received from prospective borrowers. Thus, some of the sub-projects previously assigned a lower ranking may move up the list in their order of priority as documentary requirements are completely satisfied in the course of the PM's evaluation.

II. REGLF PROGRAM FEATURES

A. Program Components

Synergy among program components is ideal to enable them to move in tandem towards the attainment of the over-all objectives of the REGLF. The lending program shall have the following components:

1. Credit Program – to finance RE investment requirements

   There should be a lending facility for micro, small, medium and large RE projects for a more holistic financing approach towards the development and propagation of the RE technology.

2. Guarantee Program – to extend loan guarantee accommodation to RE project borrowers

3. Clean Development Mechanism – to assist CDM eligible projects in securing carbon credits which can be utilized as additional fund to accelerate loan amortization payment and/or security for the loan.

B. Eligible Beneficiaries/Borrowers

1. Private Corporations (at least 60% Filipino-owned)
2. Enterprises or Individual Project Developers
3. Renewable Energy Service Companies/Corporations (RESCOs)
4. Qualified Third Parties (QTPs) for energy projects
5. Private Utility Operators
6. Local Government Units (LGUs)
7. Non-governmental Organizations (NGOs)
8. Local or National networks of NGOs
9. Electric Cooperatives (ECs)
10. Cooperatives other than ECs
11. People's Organizations (POs)
12. Social Action Centers
13. Community or neighborhood foundations/associations
14. Participating Financial Institutions (PFIs) – under wholesale lending approach
15. Micro-finance Institutions (MFIs) – under wholesale lending approach

C. Eligible Projects

1. Power Generation/Distribution Projects involving RE Technologies
2. Rehabilitation/Expansion/Modernization of existing RE projects
3. Clean Development Mechanism Projects
   a. Emission Reduction Projects (e.g. RE Projects)
   b. Carbon Sequestration Projects
      - Afforestation – planting of trees on agricultural land
      - Reforestation – planting of trees on denuded forest land

D. Eligible Project Purposes

1. Loan

   a. Capital Investment
   b. Working Capital
   c. Project Preparation Costs
      - Detailed Feasibility Studies
      - Detailed Engineering Design
      - Micro-siting analysis (for wind energy projects)
      - Securing permits, licenses, and other approvals related to the project
      - Securing clearances and other approvals required prior to financial closure e.g.:
        - Environmental Compliance Certificate
        - Fuel Sales Agreement (for biomass projects)
        - Energy Sales Agreements
        - Water Rights Permit

   Note: Reconnaissance or pre-feasibility study phase are not eligible for financing.

   d. Interest during Construction
   e. Consultants' Services

2. Guarantee

   REGLF guarantee facility shall be available to Micro, Small and Medium-sized RE projects to address the problem of lack of collaterals/securities requirements of banks. The guarantee, however, will be limited to those RE projects with approved loans which used funds other than the REGLF. Projects with approved loans under the REGLF are not eligible under the guarantee facility.

   All other RE projects, including large RE ventures, with loan approvals from banks and did not use the REGLF loan facility could be granted a guarantee cover of up to a maximum of 80% of approved loan, but in no case shall the guarantee exceed a maximum cover of P100.0 million.

3. Clean Development Mechanism (CDM)

   Under this facility, the REGLF shall assist CDM eligible projects in securing carbon credits which can be utilized as additional fund to accelerate loan amortization payment and/or security for the loan.

E. Loan Features

The REGLF loan features below shall depend on the actual fund source tapped for the REGLF and the results of negotiation with prospective Funders, domestic or foreign.

1. Repayment Term
   Up to a maximum of ten (10) years with a maximum grace period of three (3) years on principal repayment.

2. Interest Rate
   Prevailing market rate, fixed or variable.

3. Other Fees
   - Commitment Fee
   - Front-end Fee

4. Equity Requirement
   - Private Corporations/Individuals - Minimum of 20% based on Total Project Cost
   - Other Borrowers e.g. LGUs, ECs, NGOs – Minimum of 10% based on Total Project Cost

F. Collateral Requirements

1. Real estate mortgage
2. Chattel mortgage
3. Assignment of receivables
4. Assignment of Power Purchase Agreement
5. Assignment of Carbon Emission Reduction Purchase Agreement (ERPA), if any
6. Assignment of revenues
7. Assignment of Notice of Payment Schedule (NPS)
8. Internal Revenue Allotment (IRA) for LGUs
9. Loan Guarantee, if any
10. Assignment of insurance cover
11. Joint and Several Signatures
12. Promissory Notes
13. Assignment of billed receivables
14. Other acceptable asset/s