# PROJECT BRIEF

## 1. IDENTIFIERS:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Number:</td>
<td>GE-P066532</td>
</tr>
<tr>
<td>Project Name:</td>
<td>Philippines Electric Cooperative System Loss Reduction Project</td>
</tr>
<tr>
<td>Duration:</td>
<td>7 years (2004-2010)</td>
</tr>
<tr>
<td>Implementing Agency:</td>
<td>World Bank</td>
</tr>
<tr>
<td>Executing Agency:</td>
<td>National Electrification Administration (NEA)</td>
</tr>
<tr>
<td>Requesting Country or Countries:</td>
<td>The Philippines</td>
</tr>
<tr>
<td>Eligibility:</td>
<td>The Philippines ratified the UNFCCC in August 1994</td>
</tr>
<tr>
<td>GEF Focal Area:</td>
<td>Climate Change</td>
</tr>
<tr>
<td>GEF Programming Framework:</td>
<td>OP 5</td>
</tr>
</tbody>
</table>

## 2. SUMMARY:

Rural electricity distribution in the Philippines is largely handled by 119 rural electric cooperatives (ECs), many of which have a history of weak operational performance, high system losses and inadequate financial performance. The roughly 25 percent of the ECs that are reasonably efficient and are financially self-sufficient are outside the scope of this project. The remainder are not in financially sound shape and incur high levels of distribution system losses, which translate into high tariffs and greenhouse gas emissions, and an inability to secure capital to improve their technical efficiency or to expand their distribution networks. As part of its ongoing power sector reform program, the Government is seeking to replace inadequate public sector financing and management of these poorly-performing ECs with private sector management and commercial investment. This project will help them launch that transformation.

The main objective of this proposed GEF Philippines Electric Cooperative System Loss Reduction Project is to achieve significant and sustained energy efficiency improvements in the Philippines’ rural ECs in order to provide current and prospective EC customers with reliable and least-cost power supply and to reduce GHG emissions. The project will develop and apply innovative contingent financing and contractual mechanisms to promote a blend of private sector investment, financing, management and operation and to achieve significant system loss reductions in ECs. The project would pilot the use of investment management contracts (IMCs) to attract private investors to manage and operate selected ECs under long-term, performance-based contracts, and to mobilize private finance without recourse to the government. For those ECs that are not able to attract private investors, access to affordable commercial term loans would be facilitated. To achieve these two objectives, the project has two components: (a) a loan guarantee facility to promote EC system management improvements and investments; and (b) a technical assistance program to facilitate the management improvement and investment processes. This stand-alone project will complement the Bank/GEF-supported Rural Power Project, which is designed to improve overall energy services and extend coverage in rural areas, and is scheduled for World Bank Board approval in June 2003.
### 3. COSTS AND FINANCING (MILLION US$):

<table>
<thead>
<tr>
<th>Source of Financing</th>
<th>Amount (Million US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Environment Facility (PDF B)</td>
<td>0.35</td>
</tr>
<tr>
<td>Global Environment Facility (Project)</td>
<td>12.00</td>
</tr>
<tr>
<td>Local Commercial Banks</td>
<td>37.50</td>
</tr>
<tr>
<td>Private Sector Investors</td>
<td>6.25</td>
</tr>
<tr>
<td>Local Communities (Electric Cooperative Equity)</td>
<td>6.25</td>
</tr>
<tr>
<td>Counterpart Financing (NEA)</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Total Project Cost (with PDF B)</strong></td>
<td><strong>62.85</strong></td>
</tr>
<tr>
<td><strong>Total Project Cost (without PDF B)</strong></td>
<td><strong>62.50</strong></td>
</tr>
</tbody>
</table>

### 4. Operational Focal Point Endorsement:

**Name:** Mr. Gregorio V. Cabantac  
**Title:** Undersecretary, Department of Environment and Natural Resources (ENR)  
**GEF Operational Focal Point**  
**Date:** December 10, 2002

### 5. Implementing Agency (IA) Contacts:

<table>
<thead>
<tr>
<th>Contact</th>
<th>Tel</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Robin Broadfield</td>
<td>(202) 473 4355</td>
<td>(202) 522-1666</td>
</tr>
<tr>
<td>EAP GEF Regional Coordinator</td>
<td>Ms. Selina Shum</td>
<td>(202) 522-1648</td>
</tr>
<tr>
<td>EAP Task Team Leader</td>
<td>(202) 473-8528</td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>A.</td>
<td>Project Development Objective</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1. Project Development Objective</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2. Key Performance Indicators</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3. Global Objective</td>
<td>1</td>
</tr>
<tr>
<td>B.</td>
<td>Strategic Context</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1a. Sector-related Country Assistance Strategy (CAS) goal supported by</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>the project</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1b. Global Operational Strategy/Program Objective addressed by the</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>project</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Main sector issues and Government strategy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3. Sector issues to be addressed by the project and strategic choices</td>
<td>4</td>
</tr>
<tr>
<td>C.</td>
<td>Project Description Summary</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>1. Project Components</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2. Key policy and institutional reforms to be sought</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>3. Benefits and target population</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>4. Institutional and implementation arrangements</td>
<td>10</td>
</tr>
<tr>
<td>D.</td>
<td>Project Rationale</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>1. Project alternatives considered and reasons for rejection</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2. Major related projects financed by the Bank and/or other</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>development agencies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Lessons learned and reflected in proposed project design</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4. Indications of borrower and recipient commitment and ownership</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>5. Value added of Bank and Global support in this project</td>
<td>11</td>
</tr>
<tr>
<td>E.</td>
<td>Summary Project Analysis</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>1. Economic</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2. Financial</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>3. Technical</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4. Institutional</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>5. Environmental</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>6. Social</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>7. Safeguard Policies</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>8. Business Policies</td>
<td>14</td>
</tr>
<tr>
<td>F.</td>
<td>Sustainability and Risks</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>1. Sustainability</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2. Replication Plan</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>3. Critical Risks</td>
<td>15</td>
</tr>
</tbody>
</table>
Annexes

Annex 1: Project Design Summary .................................................................17
Annex 2: Incremental Cost Analysis ..............................................................19
Annex 3: Description of the Project ...............................................................26
Annex 4A: STAP Roster Technical Review ...................................................37
Annex 4B: World Bank Team Response to STAP Reviewer Comments ...........39
A: PROJECT DEVELOPMENT OBJECTIVE

1. Project development objective (see Annex 1)

The main objective of the proposed GEF Philippines Electric Cooperative System Loss Reduction Project is to achieve significant and sustained energy efficiency improvements in rural electric cooperatives (ECs) in order to provide current and prospective viable EC customers with reliable and least-cost power supply over the long term. Towards this end, the project would (i) develop and test financial and contractual mechanisms to support private sector investment, management and operation, and risk sharing to support system loss reduction measures in selected ECs; and (ii) support commercial lending to other qualified ECs for efficiency improvements. For (i), the project would pilot the use of investment management contracts (IMCs) to attract private investors to manage and operate selected ECs under long-term, performance-based contracts, and to mobilize private finance without recourse to the government. For those ECs that are yet unable to attract private investors, access to affordable term loans would be facilitated under (ii).

2. Key Performance Indicators (see Annex 1)

The monitoring indicators of the proposed project will be of two types (Annex 1). The first will address EC performance-related aspects such as system losses, collection performance, debt service coverage and other technical and financial performance ratios. The second type will measure of greenhouse gas (GHG) mitigation impacts, including quantified energy savings and reductions in CO₂ emissions.

3. Global Objective (see Annex 1)

The global objective of the GEF support will be to reduce GHG emissions through the removal of barriers to energy efficiency investments in the rural power distribution sub-sector. This will be achieved through the pilot use of innovative contingent financing and contractual mechanisms to promote such investments.

B: STRATEGIC CONTEXT

1a. Sector-related Country Assistance Strategy (CAS) goal supported by the project (see Annex 1):
Date of latest CAS discussion: June 2002

This project is fully consistent with the Bank’s Country Assistance Strategy (CAS) for the Philippines, which emphasizes supporting accelerated growth and empowering the poor to participate more fully in development. In supporting these key areas, the CAS identifies priority agenda items for the Bank, which include improving rural infrastructure services, strengthening private sector investment and enhancing environmentally sustainable rural development. This proposed operation will positively contribute to each of these development areas as a part of a comprehensive Rural Power Program of reforms and priority investments that are critical for achieving the sector’s goals. It will complement targeted Bank/GEF support for the renewable energy aspects of the program under the Rural Power Project.

1b. Global Operational Strategy/Program Objective addressed by the Project

The project is fully consistent with the objectives of the GEF Operational Program No. 5: Removal of Barriers to Energy Efficiency and Energy Conservation (see section 2) and the project concept was approved by the GEF Secretariat for pipeline entry under this OP in November 2001.

It is also consistent with the Government of the Philippines’ (GOP) climate change mitigation strategy. The GOP ratified the UN Framework Convention on Climate Change (UNFCCC) in August 1994. The
recently-completed UNDP/ADB/GEF Asia Least-Cost GHG Abatement Strategy (ALGAS) report and
the preliminary outcomes of the UNDP/GEF Capacity Building Activity both highlighted the crucial role
of the energy sector in reducing Philippines’ GHG emissions and identified power system energy
efficiency improvement as a key tool to achieve large-scale GHG emission reductions.

2. Main sector issues and Government strategy

**Energy Sector.** The generation function in the Philippines electric power sector is currently dominated
by the government owned National Power Corporation (NPC) which, in addition to operating its own
generating plants, purchases power from independent power producers (IPPs) and sells it to both
distribution utilities and 150 large customers directly. NPC owns and operates all transmission facilities
in the Philippines, and is currently responsible for the dispatch of the three regional grids and numerous
non-integrated island systems. The distribution function (wires and sales) is a regulated monopoly in the
hands of 17 private utilities, approximately 119 rural ECs, and nine municipal/city/provincial utilities. In
addition, most commercial, industrial and institutional customers own stand-by generation acquired
during the drought-induced supply shortages and brownouts of the early nineties.

The Electric Power Industry Reform Act (EPIRA) was enacted in June 2001. The declared policy of the
State includes: (a) accelerating total electrification of the country; (b) ensuring the quality, reliability,
security and affordability of the supply of electric power; (c) enhancing the inflow of private capital and
broadening the ownership base of the industry in order to minimize the financial risk exposure of the
national government; and (d) assuring socially and environmentally compatible energy sources and
infrastructure. The EPIRA would provide the overall framework for far reaching structural reform
towards the development of an open and competitive power sector. Over the near to medium–term,
energy sector reform priorities are to: (i) restructure and privatize NPC to improve generation and
transmission efficiencies and move toward the creation of a fully competitive electricity market; (ii)
increase the electrification of rural areas, including privatization of NPC’s Small Power Utilities Group
(SPUG) and power generation in rural/remote areas and opening up unserved areas for new players and
private investment; (iii) rationalize tariff and subsidy policy; and (iv) strengthen key sector entities,
namely the Department of Energy (DOE), Energy Regulatory Commission (ERC) and National
Electrification Administration (NEA). In the interest of partnership, the Asian Development Bank (ADB)
will take the lead in providing financial support for power sector restructuring and NPC privatization,
while World Bank assistance will focus on the rural power sector.

Rural electrification is a pro-poor flagship program of DOE which aims to improve the quality of life in
rural areas through the provision of adequate, affordable and reliable energy services in a sustainable
manner. The latest DOE target, set in 2001, calls for increase of electrification at barangay (village) level
from 77% in 2000 to 100% in 2006.

**Rural Power Sector Reform:** In response to the challenges faced by the rural power sector, a recently
completed policy note provided recommendations for reform options to enhance efficiency and increase
the electrification of rural areas in a sustainable manner. In particular, a paradigm shift is recommended
to leverage limited government resources by attracting a diversity of new players and solutions from the
private sector to transfer financial resources, technology and management know-how within a competitive
and transparent rule-based framework. Given the large financing requirements for rehabilitation and
expansion investments, maximization of private investment is intended to be the central principle to
change the mindset of the sector which has thus far relied on public sector funding. However, it is
recognized that a transitional period would have to be allowed for the gradual buildup of private
investment in the sector. Thus, a dual track of public and private funding and public/private partnerships
structured to attract private financing is envisaged. In this regard, it is essential that a coherent sector
policy and related donor assistance ensure that scarce public sector funding does not compete with
potential private sector funding.
Rural Power Project: Complementary to this proposed GEF project, the Bank/GEF co-financed Rural Power Project (the first phase of an adaptable program loan or APL) will help the country expand the availability of affordable and reliable electricity services to meet the energy needs of rural communities in a sustainable manner. This would be accomplished under a two-pronged approach of (i) improving the quality and reliability of the 25% financially viable and efficient EC networks and (ii) increasing the provision for electricity service to other areas using least-cost options, with emphasis on piloting public/private partnership business models for decentralized electrification. Successful implementation of these pilot programs would then be replicated and scaled-up in subsequent phases of the APL. The use of a programmatic approach to improve existing rural power supply offers the best prospects of developing and implementing a comprehensive and coherent sector policy, mobilizing the required donor and public assistance to complement potential private sector investment, and phasing development interventions to coincide with reform progress.

The first phase APL, scheduled for Board approval in June 2003, is expected to support: (i) “quick win”, relatively low-risk, financially-viable investments to improve the efficiency of commercially-qualified ECs and transform them towards financial self-sufficiency; and (ii) pilot public/private partnership business models that bring in new players from the private sector for decentralized electrification. Technical assistance and training would also be included to address policy and institutional reforms and preparation for future APL phases, strengthening financial intermediaries for new and renewable energy (NRE) technologies and applications, consumer education about NRE applications in remote areas, and credit enhancements for NRE suppliers and end-users, as appropriate. (In this regard, a parallel renewable energy GEF-supported component was approved by the GEF Council in May 2002.) By the end of the program, it is envisioned that most of the ECs would have become financially self-sufficient and at least 90 percent of population would have access to electricity.

Refocused Role of NEA. NEA is the apex organization for rural electrification. In the past, the NEA financed about 90 percent of the ECs’ funding requirements. Recently, reform of NEA’s role in lending and related procurement has been driven by Executive Order 138, which is designed to rationalize directed credit policy and to restrict any new NEA lending to its own internal cash generation without recourse to the government. NEA is currently faced with serious liquidity problems and, thus, no longer able to be a significant lender to ECs. In addition, the NEA Board has approved the following policies to encourage new lenders and investors for the ECs: (i) a collateral sharing policy with new lenders that is critical for ECs to access commercial funding; and (ii) implementation of investment management contracts.

Status of Electric Cooperatives (ECs). Among rural ECs, there is a great diversity of performance and much more needs to be done, both in terms of efficiency improvements in existing operations and widening access to power supply services, than can be accomplished under the Rural Power Project. Of the 119 ECs in operation throughout the country, only about 25 percent of them are financially self-sufficient and able to benefit immediately from that project’s commercial finance. Among the remaining 75 percent, many incur high levels of distribution system losses, which translate into higher tariffs and high GHG emissions, and a constrained ability to expand their distribution networks. The GOP’s concern over the high system losses is reflected in the passage of the 1994 Electricity Anti-Pilferage Act (RA 7832). The ERC is responsible for the implementation and enforcement of RA 7832, and thus requires that every electricity distribution utility, including the ECs, submit monthly reports on the automatic cost adjustment formula used to recover system losses in their schedules of rates. However, despite the mandated system loss target of 14 percent in 2001 under RA 7832, 62 ECs (52 percent) had losses higher than the regulatory requirements.

EC Performance Improvements. In accordance with the EPIRA, Executive Order 119 (EO 119) calls for improvements of EC performance, including rehabilitation and restructuring, while providing for condonation of EC loans (from NEA and other government agencies) with corresponding reductions in
EC tariffs. In this connection, minimization of political interference and maximization of professional management and commercial operations are the key elements of the remedial action plan to improve EC performance. As elaborated below, one of a number of options to achieve this goal is use of a hybrid concession model known as an investment management contract (IMC). When applied to ECs, the IMC arrangement indicates an investment in, and the management of, one or more ECs by a private investor, the specific terms of which are governed by a contract between the EC and the IMC investor.

Barriers to loss reduction investments in ECs. Despite obvious and significant opportunities for energy efficiency improvements in many ECs, most of them have suffered from systemic operational and financial problems and have been unable to turn around their operations. The main barriers have been:

- *limited EC equity and creditworthiness*, which has prevented access to affordable commercial financing to undertake significant efficiency improvements, modernization of equipment and operation, and staff training;
- *limited public sector financing*, due to the precarious finances of NEA and competing GOP development priorities;
- *political interference in EC investments*, which has often resulted in extension of coverage to low density/remote areas and/or straining of existing networks;
- *weak management in some ECs*, which has resulted in sub-optimal business operations, system maintenance and staffing;
- *poor management systems*, including inadequate use of management and geographic information systems (MIS and GIS), that could improve system operations and planning analyses, billing, collection, and service;
- *lack of proper business incentives* for EC management and staff to achieve efficient operations and improve service quality and reliability; and
- *limited technical expertise within ECs*, on system improvement options, proper maintenance practices, modernization needs, etc.

3. Sector issues to be addressed by the project and strategic choices (see also Annex 3)

Consistent with the government policy of fiscal prudence, maximization of private investment is the strategy for improving distribution sector performance, which has thus far relied on public sector funding. In light of the significant diversity of performance among the ECs, an agreement has been reached with DOE on a segmented financing strategy for ECs, including: (a) graduation of creditworthy ECs from public/donor funding for financially viable investments while, at the same time, allowing for increased autonomy for the ECs concerned; and (b) donor funding to focus on (i) financially viable investments for the transformation of marginal ECs that are not able to tap private funding; and (ii) expansion investments for the transformation of financially viable entities, including but not limited to ECs.

Using a screening methodology (see Table 1), those ECs that are eligible for commercial financing (Type A) and those that are inherently commercially unviable (Type D) were first excluded from the scope of this project. (The Rural Power Project’s credit line and newly formed Rural Electric Finance Corporation (REFC) would target these Type A ECs.) Of the remaining candidates, indicators of critical mass (size and density), high tariff margins, high losses, low collections, and the ability for projected cash flows to meet existing debt obligations were then reviewed. Based on this analysis, the remaining ECs were divided into (i) Type B ECs, which are strong candidates for private sector investment and operation through IMCs; and (ii) Type C ECs which are not yet able to attract commercial financing without recourse to the government. Under the project, an initial IMC pilot program will be implemented in about five of the strongest-performing Type B ECs to test the concept and, if successful, the program will be expanded to include more Type B and some Type C ECs. For Type C ECs that are not yet able to attract

\[1\] It is expected that all of the potential IMC pilot candidates will charge above the average EC tariff.
private risk capital, credit enhancements will be provided to facilitate their access to affordable, term
loans to achieve operating cost reductions and improve their financial positions. The strategy is that some
type C ECs could then be converted to Type B ECs over time and, eventually, to Type A. This dual-track
of IMCs and loan guarantees would allow the Bank/GEF to offer the best package of assistance and tools
with which to help transform the EC sub-sector. For those Type C ECs that would likely not be able to
attract private sector interest by themselves, they could be reviewed for possible clustering under three
scenarios: (a) ECs adjacent to Type A ECs could have management and operations merged; (b) ECs
adjacent to Type B ECs could be clustered if there was sufficient investor interest; and (c) clustering of
contiguous Type C ECs could be done to achieve a critical mass and investor bids for the entire cluster
given preference.

Table 1. Categorization of ECs

<table>
<thead>
<tr>
<th>EC Category</th>
<th>Characteristics</th>
<th>Size</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>Creditworthy, financially self-sufficient</td>
<td>Baseline: about 30 ECs (25% of total ECs)</td>
<td>Increased autonomy, phase out public sector financing Long-term target: increase to about 90% of total ECs</td>
</tr>
<tr>
<td>Type B</td>
<td>Not fully creditworthy, but larger size and density mean big potential efficiency gains (high losses/low collections)</td>
<td>Baseline: about 10 ECs (8% of total ECs)</td>
<td>Phase out public sector financing using IMC model Long-term target: convert all to Type A ECs</td>
</tr>
<tr>
<td>Type C</td>
<td>Marginal viability, unable to attract private financing at present</td>
<td>Baseline: about 44 ECs (37% of total ECs)</td>
<td>Public sector lending or credit enhancement Long-term target: convert all to Type A ECs</td>
</tr>
<tr>
<td>Type D</td>
<td>Operating in low density and disadvantaged areas – unviable</td>
<td>Baseline: about 35 ECs (29% of total ECs)</td>
<td>Smart subsidy from government Long-term target: decrease to about 10% of total ECs</td>
</tr>
</tbody>
</table>

Note: Screening is based on 2001 data. However, due to changing conditions, the categorization of specific ECs is dynamic in nature.

Type B ECs. Under a PHRD-financed technical assistance (TA) grant, a feasibility study was completed
for IMC pilots in five ECs, the management of which has been taken over by NEA due to their poor
management and financial performance. The findings of this study, including consultations with potential
private investors/operators, confirm the potential for pilot ECs to attract private risk capital and improve
the quality of service by turning over the management of EC operations to the IMC investors/operators
over a long-term contract period. The IMC would, by design, provide incentives for efficiency through
performance-based remuneration, enhance the accountability of service providers and mobilize private
finance. The duration of the IMC contract would be sufficiently long (up to 15 years) to provide an
incentive for private investment and to initiate and sustain improved operational efficiency and service
levels, the EC workforce culture and consumer expectations after the eventual departure of the IMC
contractor. As noted above, not all ECs would be attractive enough for private investments, thus the ECs
would have to be carefully screened. The NEA Board has recently approved the implementation
framework for IMCs, and promotion of this new approach was cited by the President of the Philippines in
her Ten-Point Program to reduce electricity rates through strengthening the ECs. In light of the potential
benefits of decreasing GHG emissions through significant reduction in power distribution system losses
and avoidance of fossil fuel power generation, GEF support for partial loan guarantees to help mitigate
investors’ perception of risk is proposed. Under a GEF PDF B, support for the second phase TA work is
underway to develop competitive bidding documents for performance-based IMCs in the pilot ECs.
Type C ECs. The provision of commercial loans to ECs would mark a significant shift from past financing arrangements. Previously, NEA represented the key financier and procurement agent of EC operations and investments. This public financing and management modality, while resulting in over a decade of EC operation and system expansion, has resulted in NEA’s insolvency, substantial accumulated debt to the ECs, poor service levels and high supply costs in many areas. Constrained public resources by NEA also resulted in years of under-investment by ECs in system rehabilitation, maintenance and loss reduction. This public financing approach and allocation of resources among ECs also allowed for political interference in their operations, often times prioritizing coverage expansion to marginally viable areas over much needed system improvements. In addition, review of EC financial indicators and investment plans by NEA did not allow for sufficient rigor and business discipline that would improve prospects for positive cash flows from each investment made by the ECs. Thus, it is the Bank’s view that, by shifting the key financing function from NEA to commercial lenders, and offering ECs increased autonomy, EC investment and operation plans will undergo more critical assessments by bankers while maintaining an arm’s length from political influence. However, ECs must be carefully screened to ensure that those accessing the loan guarantees have sufficient internal management and technical capabilities and quality business/investment plans to improve the financial positions of their operations over time.

Using selection criteria developed during project preparation, all the Type C ECs to be supported under this project are those that can improve performance with some limited help. Eligible ECs would have fairly good managers, the desire and commitment to turn around and an inherently viable structure (e.g. required consumer mix and network characteristics for profitable operations). (See Annex 3 for a more detailed description of eligibility criteria for Type C ECs.) Selected ECs would be potentially viable, but not yet able to attract private risk capital. They would be constrained in financing badly needed investments to enhance their revenues and operational efficiency, but could seek commercial funding after achieving an improved financial position over the medium and longer term. Building on the results of earlier studies on the rural power sector, ongoing PHRD-financed TA activity will develop a comprehensive institutional and financial restructuring program to break the vicious circle of under-investment to reduce system losses and improve operational efficiency, thereby transforming Type C ECs towards financial self-sufficiency. In this context, well-managed Type C ECs could benefit from affordable term financing for viable energy efficiency investments and system upgrades through GEF-supported credit enhancement facilities. Such instruments would allow commercial and development banks to provide extended loan maturities and reduced collateral requirements to improve these ECs’ access to domestic capital. With these financing barriers removed, prospects for investments in reducing system losses would be significantly enhanced, thus improving the ECs’ overall financial positions and operations and allowing conversion to Type B and, eventually, Type A ECs.

Barriers to Commercial Investments: While improved access to commercial capital, either from IMC investors or commercial lenders, could help remove some of the barriers listed previously, there are also inherent barriers to accessing affordable financing for these efficiency improvements. For the IMC mechanism, these include the following: (i) inadequate investor confidence with the EC’s own assessment of its baseline system performance; (ii) EC community skepticism about private sector management and potential benefits; (iii) GOP/EC community uncertainty about the investor’s ability to operate and turn around under-performing ECs; (iv) investor uncertainty about entering into long-term contracts with ECs; (v) limited access to affordable financing for investors to undertake large-scale investments in marginally viable ECs; and (vi) high perceived commercial risks associated with taking over EC operations. For Type C ECs, barriers to financing include: (1) perceived high credit risks and corresponding lack of willingness by local commercial banks to provide affordable term financing for efficiency investments; (2) inadequate management ability to maintain efficiency gains; and (3) limited technical expertise to develop and implement energy efficiency improvement projects.
Preliminary analyses have shown that attractive returns on equity for IMC investors in ECs are possible and a number of potential investors, including some Type A ECs, local private distribution utilities and international investors, have expressed an interest in the IMC concept. However, potential investors have expressed their preference for lower risk transactions than those presently proposed. Until the IMC model can be successfully tested, there is insufficient evidence that the risk-adjusted rate of return would justify private sector investments.

In terms of debt financing to Type C ECs, DBP, the Borrower for the Rural Power APL, has provided debt financing for 15 financially sound ECs (mainly Type A) from its own resources. In addition to a minimum debt service coverage ratio (at least 1.2 times) and equity funding of at least 10 percent of the investment costs, DBP also requires satisfactory collateral for loans to any EC. During the project team’s consultations with selected ECs, it was understood that this DBP’s collateral requirement is a major barrier to EC borrowing because EC assets have already been pledged to NEA as collateral on their existing loans. NEA has adopted a clear policy on collateral sharing with new lenders and more detailed guidelines to implement this policy are under preparation; successful resolution of this matter is anticipated and is recognized as an essential pre-condition for new financing. In addition to collateral sharing, a credit enhancement program would allow qualified more ECs to tap financing from DBP and other financial institutions, which is what the project will provide. The precise design of this mechanism will be resolved by Project Appraisal. The objective of the program will be to provide the necessary conditions for Type B and Type C ECs to access DBP financing and thereby break the vicious cycle of under-investment for rehabilitation.

C: PROJECT DESCRIPTION SUMMARY

1. Project Components (see Annex 3):

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicative Costs (US$M)</th>
<th>% of Total</th>
<th>IBRD financing (US$M)</th>
<th>% of IBRD financing</th>
<th>GEF financing (US$M)</th>
<th>% of GEF financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EC Loan Guarantee Program</td>
<td>60.0</td>
<td>96</td>
<td>0.00</td>
<td>0.0</td>
<td>10.0</td>
<td>83</td>
</tr>
<tr>
<td>2. Technical Assistance</td>
<td>2.5</td>
<td>4</td>
<td>0.00</td>
<td>0.0</td>
<td>2.0</td>
<td>17</td>
</tr>
<tr>
<td>Total Project Costs</td>
<td>62.5</td>
<td>100</td>
<td>0.00</td>
<td>0.0</td>
<td>12.0</td>
<td>100</td>
</tr>
</tbody>
</table>

This project would consist of two components: (a) establishment of a GEF-funded partial loan guarantee facility for (i) pilot IMC contracts (for selected Type B ECs), and (ii) commercial loans to qualifying Type C ECs; and (b) technical assistance to develop both financing mechanisms. For component (a), the principles of GEF contingent financing would be applied, whereby GEF funds would be used as a risk sharing tool to help attract private debt and equity capital and participation where there is little or no government involvement. Funds would be used to cover the ECs’ general credit risk and thereby to mitigate the access barriers to debt financing and equity investment in EC energy efficiency improvements. Through this financing mechanism, the project will test and demonstrate the viability of a new management and operational structure for ECs, using the IMC model, and transform Type B and C ECs to Type A over the medium and longer term. An estimated US$20 million in investment would be sought from private IMC investors (including equity and debt) for comprehensive improvements in EC operations and efficiency. A further $20 million in loans would be sought from commercial and development banks for Type C ECs in order to improve their system efficiencies. $10 million of GEF funds would be used to buy down the perceived risks associated with both the loans and the private investments. A GEF-supported TA component (b) would include $2.5 million of support to NEA, the ECs, the guarantee administrator (the Guarantor) and participating local commercial and development banks to cover the incremental costs of establishing and initially operating the new financial mechanisms. The design and operating modalities of each component are summarized below.
(a) Partial Credit Guarantee Facility: Given the high risk exposure of potential investors under the IMC model and the marginal creditworthiness of many Type C ECs, it is proposed that a partial loan guarantee facility be established using GEF funds. This facility would be managed by a selected financial institution (the Guarantor) and operate two windows, one for the pilot IMCs and the other for loans to qualified Type C ECs. Underlying principles of the facility would include: (a) the guarantee would provide risk mitigation to lenders and investors to support energy efficiency investments; (b) guarantees would not distort or undermine existing banking credit assessments or appraisal methods but would rather be used in conjunction with these to reduce risks for lenders and investors and thereby improve terms and access to financing and extend maturities for borrowers; (c) the requirement for GEF guarantee support would be determined by the nature of each investor/EC and relative status of the EC; and (d) the guarantee liabilities for a given transaction would be decreased over the life of the loan or contract, in line with the investor’s/creditor’s risk exposure.

While a number of specific guarantee design options are now under consideration, the proposed approach would be to design the credit guarantee program in concert with specific debt financing structures, given that the Project targets a limited number of investments in a specific sector, i.e., ECs, which will have similar credit and financial structure characteristics. This would require the guarantee facility to be developed and general terms defined in close coordination with potential commercial and development financial institutions (FIs) to the IMC investors and ECs. In developing a guarantee structure appropriate for the EC market, it is first important to note that rural power distribution is a public utility providing an essential service. If an EC experiences financial difficulties that result in debt service delays or default, it is necessary for the EC’s power system to continue to operate in some form. Thus, the guarantee would be structured so that guarantee claims payments are used to keep the defaulted loan current; the lender and Guarantor will not accelerate payment of the entire outstanding loan obligation in default events but would instead institute work out proceedings to correct default situations and restore the EC/borrower to financial viability. Further, the loans which the GEF guarantee program would support will include a requirement that the borrower set up a debt service reserve fund, which would provide a first line of defense and source of funds to meet debt service payments in event of cashflow shortages, before guarantee claims payments would be made. Such provisions would be developed on a project-by-project basis and include about 3-6 months of debt service to be provided solely by the borrower; a portion of the debt reserve fund could be capitalized into the loans themselves. In order to allow each investor to determine their tolerance for risk, the guarantee facility would allow for flexible guarantee coverage (up to certain maximum coverage) and charge investors an appropriately priced guarantee fee. These fees, combined with interest earnings from the GEF capital, could then be used to defray administration costs and serve as an initial loss reserve account for the guarantee program, allowing for preservation of the GEF capital. In terms of leverage, it is expected that the Guarantor may be selected, in part, on the basis of counterpart funding (from the Guarantor’s internal sources), in which case the GEF funds would likely be used in a first loss position vis-à-vis the counterpart guarantee funding; this approach will improve the risk position of the local guarantor and improve prospects for obtaining the counterpart guarantee funding.

GEF guarantee liability will be calculated against outstanding principal of guaranteed loans, and hence will track both the underlying loan term and amortization schedule. The guarantee program will define (i) an “Availability Period”, during which new guarantees can be issued, e.g., five to seven years, and (ii) a maximum guarantee term, e.g., seven to ten years. The maximum term will be determined based on overall EC project finance requirements. IMC contracts may be for 15 years, but the loan term for financing system improvements will likely be shorter, reflecting the economics of the projects and ability and willingness of lenders to extend term finance. The guarantee program for Type B and Type C ECs will be pooled to achieve greater flexibility to market response and economies in operation. By Project Appraisal, the governance of the guarantee facility would be established, institutional arrangements for

---

2 See Annex 3 for preliminary criteria for eligible projects that could be supported under the Project.
the administration of GEF funds finalized, and an exit strategy for unused GEF funds at the end of the project developed. The first best case strategy in guarantee programs such as these has been for the GEF monies to be permanently granted to the local Guarantor for continuation of the program; this decision would be made after appropriate evaluation and subject to good performance by the local guarantor and continued demand for the EC loan guarantee product. Other options would be considered and agreements would be reached during Project Appraisal.

(b) Technical Assistance: GEF grant funds will be sought to support capacity building in implementation, monitoring and evaluation of the pilots as well as dissemination of pilot results for further replication in subsequent phases. Activities under this component, which will be finalized by Project Appraisal, are expected to include: (i) TA and training for the Guarantor in transactions involving EC operations; (ii) workshops and information dissemination for interested ECs/investors on the IMC mechanism, EC improvement program and guarantee facility; (iii) periodic reporting and monitoring of the guarantee program, IMC investor performance, EC service levels, and protocol to determine actual energy efficiency gains; (iv) evaluation of pilot IMC contracts and dissemination of results to all interested ECs, potential investors and relevant government agencies; (v) development of refined bidding documents for expanded IMC program in future phases; (vi) assessment of efficiency gains for Type C ECs from improved access to commercial lending and sustainability of these improvements; and (vii) additional training and TA to NEA, EC Boards and other key stakeholders for general project support.

2. Key policy and institutional reforms to be sought

Policy and institutional reforms are being sought under the associated Rural Power APL, which would allow this operation to fully realize its objectives. These reforms are consistent with the thrust of EPIRA, an indicative action plan for policy and institutional reform over the medium- and long-term. This reform framework covers the following priority areas: (a) rationalization of tariff and subsidy policies for both grid and off-grid electrification, which would be covered in part by the implementing rules and regulations of the EPIRA; (b) rationalization of franchise areas and opening up unelectrified areas to qualified third parties; (c) segmented financing strategy and transformation of marginal ECs towards financial self-sufficiency over the longer-term; (d) comprehensive institutional and financial restructuring of NEA; and (e) privatization of SPUG, which is critically dependent on the rationalization of tariff and subsidy policies as noted above. However, it should be noted that this stand-alone GEF operation can be implemented in the absence of the Rural Power APL, so no cross-conditionality provisions would be necessary.

3. Benefits and target population

Without implementation of the IMC model or loan guarantees for ECs, these companies are expected to remain financially distressed, with limited access to funding for investment upgrades or refinance debt. Under the baseline scenario, these systems will likely continue to deteriorate and outages, system losses and payment arrears will continue and even increase over time. If the IMC model can be developed and tested and commercial lending to qualifying ECs restored, the benefits could be substantial. Money losing ECs could be potentially turned around and realize significant improvements in system efficiency levels achieved. In addition, service in remote areas could be improved, tariffs reduced and system extension could be made in viable areas, providing a significant catalyst for further economic development in these communities. Improved power quality and reliability would also improve prospects for future end-use energy efficiency programs, since high-efficiency equipment often requires high quality and reliable power to function optimally. And, the rehabilitation of ECs would pave the way for more commercial and competitive services in rural areas through out the country. Under the PDF B, work is underway to design the IMC bidding documents to include strict performance requirements and service levels for the investor as part of their remuneration package. Key EC service levels will be closely monitored throughout this project under the TA component.
4. Institutional and implementation arrangements


b. **Executing agencies.** The executing agency would be NEA.

NEA would have overall responsibility for the Project, including implementation of the ongoing PDF B preparation grant, preparation of bidding documents for the IMC pilots, assistance in negotiating IMC agreements, selection of local Guarantor to administer the GEF loan guarantee facility, development of legal agreements with the selected Guarantor, supervision of the Guarantor, implementation of the TA activities and reporting to the Bank. As noted previously, a local financial institution will be selected to serve as the Guarantor. The Guarantor would assume primary responsibility to identify and administer EC loan guarantee transactions for both the IMC pilots and Type C loans. The Guarantor would work with local FIs to structure acceptable term financing for the system upgrades and loss reduction investments in EC networks.

D: PROJECT RATIONALE

1. Project alternatives considered and reasons for rejection

A number of other modalities were considered to address existing deficiencies in targeted EC operations and barriers to energy efficiency investments and improvements. These included:

   o **NEA support for investment financing and procurement:** An obvious option would be to provide substantial public financing to ECs to facilitate investments in energy efficiency gains, along with management and staff training, business development support, and good practice information about high-performing ECs. However, the business-as-usual approach is precisely what the GOP wishes to shift away from and the performance of earlier projects using this approach has been unsatisfactory.

   o **Fully privatize ECs:** ECs are currently considered to be private cooperatives, owned by the communities in their service territories. Thus the full sales of EC assets and operation to a private company is at present neither a politically feasible or socially desirable option at this stage. Furthermore, the EPIRA requires that any transfer of ownership of ECs will result in the call for all past EC debt repayment to the GOP’s Power Sector Asset and Liability Management Corporation (PSALM). However, as sectoral reforms progress and ECs can improve their viability, this could represent a longer-term goal.

   o **Standard Energy Service Company (ESCO) Contracts:** Standard ESCO contracts, where a private firm could design, finance and implement energy efficiency projects within an EC system under a performance contract and payments would be made from energy savings, represent another option for the IMC pilot ECs. However, since many of the problems of ECs targeted for IMCs have operational and managerial problems that extend beyond technical losses, such a model would alone be insufficient to address the range of deficiencies and sustainable removal of barriers as noted above.

2. Major related projects financed by the Bank and/or other development agencies
### Sector Issue

<table>
<thead>
<tr>
<th>Bank-financed</th>
<th>Project</th>
<th>Latest Supervision (PSR) Ratings (Bank-financed projects only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural power</td>
<td>IBRD/GEF Philippines Rural Power Project</td>
<td>Implementation Progress (IP) S</td>
</tr>
<tr>
<td>Energy efficiency loan guarantees</td>
<td>GEF China Second Energy Conservation Project</td>
<td>Development Objective (DO) S</td>
</tr>
<tr>
<td>EE loan guarantees</td>
<td>GEF Romania Energy Efficiency Project</td>
<td>S</td>
</tr>
<tr>
<td>Rural electric cooperative management and equitization</td>
<td>IDA/GEF Vietnam System Efficiency, Equitization and Renewables (SEIER) Project</td>
<td>S</td>
</tr>
</tbody>
</table>

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

### 3. Lessons learned and reflected in proposed project design

In many ways, this Project breaks new ground in areas of management contracts for rural electric cooperatives. The IMC hybrid model was developed specifically for the Philippines context and has not been tested elsewhere. Still, the Bank team has considered other rural electrification experiences and lessons from elsewhere. The Bank is currently conducting a review of best practices in rural electrification. Some emerging lessons from this review and incorporated in designing the proposed program include: leverage of private sector participation, investment and risk sharing; use of output-based aid instruments such as contractor performance-based incentives; the necessity for programs to keep political pressures from interfering with expansion plans and operations; and the necessity of effective institutional structures to implement programs.

For GEF partial loan guarantee programs, reviews of Bank/IFC/GEF programs in Hungary, Romania, Poland and China highlight the need for clear and transparent appraisal methods for all subprojects, broad risk sharing to guard against moral hazard, benefits to work with existing financial institutions for the Guarantor and participating financial institutions, cost-recovery considerations early in project design, and a clear understanding of target market and credit considerations.

### 4. Indications of borrower and recipient commitment and ownership

The GOP has also supported a national energy efficiency and conservation policy. DOE’s Philippine Energy Plan (PEP) (2000-2009) calls for major energy efficiency programs covering the entire spectrum of energy users and projects savings of more than 700 MW and $2.1 billion in displaced fuel imports over the 10-year period. DOE is also seeking the approval of an Energy Conservation Bill, which will provide a national framework for energy conservation and incentives for investments. Other government initiatives include: (i) the ENERCON Program, which promotes the efficient use of power and fuels in public buildings and agencies and mandates consumption reduction targets of 10 percent; (ii) regulation requires all power utilities to submit demand-side management plans annually for review and approval; and (iii) regulation (RA 7832) requires utilities and ECs to achieve annual targets of reduced system losses.

### 5. Value added of Bank and Global support in this project

The setting cited by “Philippines: Strategies Towards 2010” has remained valid for Bank assistance in the country and, in particular, in the rural power sector. The GOP has consistently stated that it relied on the Bank not so much for lending volumes, but first and foremost to help “crack the tough nuts.” The current precarious position of NEA and many of the ECs, thus, present an opportunity to address a major challenge of the GOP and the rural power sector that, until now, has been unresolved.
Given the Bank’s leading work in the rural power sector in preparation of its Rural Power APL, the Bank is uniquely positioned to provide the level of comprehensive support to issues relating to improving service within the existing ECs, extending coverage of the ECs to viable areas and supporting further expansion through off-grid and other systems, based on least-cost planning. This project, together with the associated Rural Power APL, provides a full set of interventions to help GOP address many of its sectoral objectives over the coming years. Furthermore, there is potential for cross-benefits from this more comprehensive program. For example, a Transactions Advisor is now being recruited to support both the IMC and mini-grid programs to improve project management and coordination efficiencies.

E: SUMMARY PROJECT ANALYSIS

1. Economic
   [ x ] Summarize issues below
   [ ] To be defined
   [ ] None
   Economic evaluation methodology:
   [ ] Cost benefit
   [ ] Cost effectiveness
   [ x ] Incremental Cost
   [ ] Other (specify)
   The incremental cost analysis of the Project, along with the global environmental benefits, are outlined in Annex 2, including preliminary quantitative estimates. These figures will be confirmed and updated at Project Appraisal.

2. Financial
   [ x ] Summarize issues below
   [ ] To be defined
   [ ] None
   During detailed project preparation, full financial analyses of representative ECs and energy efficiency investments will be completed. In all cases, the project would only seek to support those investments that have commercially robust rates of return, creditworthy IMC investors and viable Type C ECs (both in terms of financial positions and management).

3. Technical
   [ x ] Summarize issues below
   [ ] To be defined
   [ ] None
   There are no significant technical issues associated with this Project. As a safeguard for the IMC pilots, each potential investor will be pre-qualified to ensure that, among other things, they have sufficient technical abilities to operate the given EC. IMC investors and Type C ECs will prepare investment proposals to local FIs, who will appraise these loan applications based on their financial and technical merits. Some provision of TA is expected, both to assist the FI technical assessments as well as for Type C ECs to prepare quality loan applications and investment plans.

4. Institutional

4.1 Executing agencies. NEA will assume responsibility for selection and supervision of the Guarantor, issuance if IMC bidding documents and negotiation support to ECs, procurement and implementation of related TA activities and reporting to the Bank. These activities constitute a major shift away from the direct management and financing of ECs that NEA has undertaken to date. By Project Appraisal, a local financial institution will be selected to serve as the Guarantor based on an assessment of its technical and financial qualifications. Also by Project Appraisal, it is expected that the five pilot IMC EC candidates will be selected as well as an initial group of Type C ECs. Initial work to identify and assess commercial lenders interested in the EC market, in addition to DBP, will be undertaken.
4.2 Project management. Overall project coordination and reporting will be the responsibility of NEA. Management of the guarantee program will be delegated to the Guarantor, with appropriate safeguards and reviews established.

4.3 Procurement issues. No procurement will be required under the EC loan guarantee facility, which account for 96 percent of the total project costs. The TA activities will include a number of small consulting assignments, to support the activities previously mentioned. All procurement of consultants will follow current Bank guidelines and be done by NEA.

4.4 Financial management. Disbursements for the guarantee would likely be made in two tranches, with the first one provided as an advance to the Guarantor to allow it to book its initial subproject pipeline. (Such disbursements do not follow existing Bank policy with respect to invoiced goods, works and services and will likely require a disbursement policy waiver from the Managing Director, as in the case of the China Second Energy Conservation Project.) Ownership of this reserve account and its revenues, appropriate reserve fund governance, etc. would all be discussed and agreed during Project Appraisal. A full appraisal of the selected Guarantor would be conducted before or during Appraisal to review their financial management procedures, financial position, appraisal methods, etc. Additional TA funds would be considered to support NEA supervision of the Guarantor, financial management training for NEA/EC staff, etc.

5. Environmental

5.1 As in the case of the Rural Power Project, it is proposed that this project be rated a Category FI project, and the same environmental and social safeguard framework be adopted for this project. No significant adverse environmental and social impacts are expected under the project. Indeed, the project will result in major positive environmental benefits, in terms of improved EC system efficiency, and these benefits (e.g., energy savings, reduced air pollution, reduced greenhouse gas emissions) will be measured and quantified during the project.

5.2 Environmental category and justification/rationale for category rating: FI – Financial intermediary assessment

The Environmental Assessment Policy Framework and Operational Manual of the Rural Power Project as a whole also applies to this stand-alone GEF project. In addition, a separate Operational Manual will be prepared for this project to include environmental screening procedures for each sub-project. This screening process will define the level and scope of the environmental assessment and management of impacts that needs to be accomplished for each investment.

6. Social

6.1 The Recipient has developed a “Policy Framework And Procedural Guidelines: Social Safeguard Policies” in line with local laws, decrees and Bank policy. This policy framework includes a “Policy Framework for Land Acquisition, Resettlement and Rehabilitation of Project-Affected Persons”. This policy framework has been discussed and disseminated within the government.

6.2 Participatory approach. Development of the project concept was based on the PHRD-supported feasibility study on the use if IMC contracts for rural ECs in the Philippines. During this work, extensive consultation was done with government agencies, the ECs themselves, EC Boards and their community representatives and potential investors and lenders. At present, there is strong for testing this approach which, if successful, could offer substantial benefits for all stakeholders. Ongoing PDF B work is developing processes and procedures for community involvement and consultation in the development of draft IMC contractual provisions, selection/award and negotiations to be finalized by Project Appraisal.
7. Safeguard Policies

7.1 Do any of the following safeguard policies apply to the project?

<table>
<thead>
<tr>
<th>Policy</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)</td>
<td>Yes</td>
</tr>
<tr>
<td>Natural habitats (OP 4.04, BP 4.04, GP 4.04)</td>
<td>No</td>
</tr>
<tr>
<td>Forestry (OP 4.36, GP 4.36)</td>
<td>No</td>
</tr>
<tr>
<td>Pest Management (OP 4.09)</td>
<td>No</td>
</tr>
<tr>
<td>Cultural Property (OPN 11.03)</td>
<td>No</td>
</tr>
<tr>
<td>Indigenous Peoples (OD 4.20)</td>
<td>No</td>
</tr>
<tr>
<td>Involuntary Resettlement (OD 4.30)</td>
<td>Yes</td>
</tr>
<tr>
<td>Safety of Dams (OP 4.37, BP 4.37)</td>
<td>No</td>
</tr>
<tr>
<td>Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)</td>
<td>No</td>
</tr>
<tr>
<td>Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)</td>
<td>No</td>
</tr>
</tbody>
</table>

8. Business Policies

8.1 Check applicable items:

[ ] Financing of recurrent costs (OMS 10.02)
[ ] Cost sharing above country 3-yr average (OP 6.30, BP 6.30, GP 6.30)
[ ] Retroactive financing above normal limit (OP 12.10, BP 12.10, GP 12.10)
[ ] Financial management (OP 10.02, BP 10.02)
[ ] Involvement of NGOs (GP 14.70)

F: SUSTAINABILITY AND RISKS

1. Sustainability

Under the IMC model, the prospects for sustainability of energy efficiency improvements under the contract term would be high, since the financial benefits to the investor would be clear and the performance requirements stated in the contract. If the model proves viable and benefits to the EC communities can be confirmed, it is expected that the EC Boards would be encouraged by their constituents to promote similar management and operational structures in the future. Furthermore, management and employee incentives are expected to be introduced and maintained in order to promote good business practices. Sustainability of efficient operations after the investor transfers the operation back to the community, though, is a potential risk as noted above. Under the management contracts, measures would be sought to mitigate this risk, such as: (i) contractual requirements to provide staff and management training along with performance incentives; (ii) documentation of efficiency gains, improved service levels, tariff reductions (under TA component) to demonstrate benefits to communities; and (iii) other TA efforts, such as management and EC Board training, standard future performance contracts for EC management, etc. In addition, the duration of the IMC contract would be sufficiently long (up to about 15 years) to initiate and sustain the change management towards operational efficiency and improved service levels as well as the culture of EC workforce and expectations of consumers even after the eventual departure of the IMC contractor. And, the Bank’s long-term presence in the rural power sector through its APL instrument would allow for continued assistance interventions to address sustainability issues.

For the Type C ECs, sustainability of efficiency gains would require that eligible ECs have sufficient management and technical capability to implement and retain efficiency gains achieved during the project (see Type C EC eligibility criteria in Annex 3). Commercial loan applications submitted under the project would be assessed by a local bank in terms of their commercial viability, sustainability, projected debt service, etc. which would impose an extra level of discipline on the ECs. This would also be
supported by the development of project screening criteria for the guarantee program (see Annex 3) as well as some complementary TA efforts to further enhance their capabilities.

2. Replication Plan

As noted previously, the IMC concept has replication potential in the Philippines. If the pilot is successful, the model can be applied to more Type B ECs and some clustering of Type C ECs. The Type C EC guarantee window and other parallel activities under the Rural Power APL will also be undertaken to improve operations in the less viable ECs, which is expected to lead to even more IMC candidates. Over the medium-term, some 15-30 ECs throughout the Philippines could potentially benefit from the IMC model. Also, given the prevailing operational conditions with rural ECs and distribution companies in other countries, such as Vietnam, Bangladesh and India, the IMC model would offer a significant and innovative option for private sector participation in a difficult and socially sensitive sub-sector. Future potential program sustainability and replication can come from the following possibilities which will be promoted in program design and operation:

- Guarantor expands their EC lending guarantee program with other funds, and/or increases their leverage ratio (maximum guarantee liabilities to GEF guarantee reserve funds).
- Lenders come to understand and accept EC credit risks and lend without guarantees - the program will seek to recruit and engage new commercial lenders in the EC term loan market.
- The EC reform program succeeds and the pathway to EC sustainability is demonstrated.
- The IMC model works, more commercial (IMC) investors are mobilized, more ECs take this path, and IMC investors fund their investments without any guarantees on their debt.

The guarantee program is premised on the concept that there is a gap between perceived risks of lending to ECs - under current banking practices and given lack of experience in EC term lending - and real risks. Additionally, investments in system upgrades, which have not always received a priority, could be demonstrated to have lower risk profiles, since they generate distinct revenue streams and could directly improve EC profitability. The current state of affairs is a vicious cycle: EC financial performance is hindered by inefficient distribution systems and EC’s can not access financing to upgrade their systems because of poor financial performance. The program will mobilize new financing to start to meet the tremendous backlog of needed investments in EC distribution system upgrades and can start a virtuous cycle of improving financial performance. The program will bring to bear improved management for the ECs - at both corporate and project levels - and can thereby can reduce EC financial performance risks. Projects will be selected that will more than pay for themselves from financial returns, both in reduced power purchase (energy savings) and maintenance costs and increased revenues.

3. Critical Risks

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk Rating</th>
<th>Risk Minimization Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Outputs to Objectives (see Annex 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMC investor ability to turn-around EC operations</td>
<td>M</td>
<td>Contractual provisions and incentives to improve operations, efficiencies, collection, etc.</td>
</tr>
<tr>
<td>ECs ability to turn-around operations with loan guarantees</td>
<td>S</td>
<td>Careful development of financial and management eligibility criteria for ECs and parallel TA activities.</td>
</tr>
<tr>
<td>No future political interference in EC operations</td>
<td>M</td>
<td>Ongoing policy dialogue with GOP, continued support for sector reforms, increased autonomy of ECs.</td>
</tr>
<tr>
<td>Stable energy demand in EC territories</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>ECs can maintain efficiency improvements beyond IMC contracts and project period</td>
<td>M</td>
<td>Contractual provisions requiring staff/management training and complementary TA activities.</td>
</tr>
<tr>
<td>Ability and willingness of local banks to lend to ECs during and beyond project period</td>
<td>M</td>
<td>Use of guarantee mechanisms to share risks, with high initial coverage, and dissemination of results.</td>
</tr>
</tbody>
</table>
The table below lists the risks identified and the measures to minimize their impact:

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk Rating</th>
<th>Risk Minimization Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness and ability of private investors to submit high quality IMC bids and secure sufficient equity</td>
<td>M</td>
<td>Careful screening of Type B ECs to ensure profitability potential; guarantee to facilitate access to local debt financing; pre-qualification of IMC investors; TA.</td>
</tr>
<tr>
<td>Ability of ECs to find suitable energy efficiency investments</td>
<td>N</td>
<td>Pre-qualification of potential financial institutions, close Bank monitoring of selection, adequate budgetary support for start-up costs.</td>
</tr>
<tr>
<td>Selection of high quality guarantor</td>
<td>M</td>
<td>Pre-qualification of potential financial institutions, close Bank monitoring of selection, adequate budgetary support for start-up costs.</td>
</tr>
</tbody>
</table>

Risk Rating – H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible Risk)

Given the paradigm shift in strategic approach to the energy sector and ECs, there are a number of risks associated with this project. Proper analysis of risks associated with the project and rigorous design of bidding documents, guarantee provisions, and legal frameworks which clearly assign various project risks will be an essential aspect of further project preparation work. Key risks include:

- **High number and quality of IMC bidders:** Global realities indicate that private sector investor interest in the energy sector, and rural distribution sub-sector in particular, is weak. Without a strong number of quality IMC proposals, it is unlikely that this alternative model can be properly tested or have good prospects for success. Furthermore, it remains uncertain whether the selected ECs will be able to attract a sufficient number of quality bids to ensure attractive terms. During ongoing project preparation, careful screening of potential IMC pilot candidate ECs will help ensure a high potential for commercial returns on equity, would be selected. Ongoing dialogue with potential investors, which include some Type A ECs, other local distribution utilities and some Asian utility companies indicate that the proposed loan guarantee facility would help reduce the perceived risks to them and greatly enhance their ability to access affordable term debt financing for needed investments. Proper preparation of EC system data and bidding documentation, sufficient lead times for advertisements and bid preparation, easy access to technical information on ECs, etc. will also help ensure that investor responses are strong.

- **Ability for Type C ECs to turn around operations:** Type C ECs, which are, by definition, not yet able to attract private investors, require substantial capital to improve their operations and networks. However, it is not certain that access to financing alone, without any other form of management/operational intervention, would be sufficient to bring them to full creditworthiness. The partial loan guarantee proposed would improve their ability to access affordable term financing. Extensive efforts will also be made to screen potential EC borrowers to ensure that only those with strong management performance and reasonable financial positions would be eligible for the program. If appropriate, some reasonable actions may need to be proposed by the local bank and taken by EC management in order to access the loan guarantee facility. Since the program will be implemented as a pilot, strict adherence to developed screening criteria will be critical to ensure early successes.
## Annex 1: Project Design Summary

**Philippines EC System Loss Reduction Project**

### Hierarchy of Objectives

<table>
<thead>
<tr>
<th>Sector-related CAS Goal:</th>
<th>Key Performance Indicators</th>
<th>Monitoring &amp; Evaluation</th>
<th>Critical Assumptions (from Goal to Bank Mission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improved rural infrastructure services</td>
<td>• Quantified energy (GWh) savings</td>
<td>• NEA and EC statistics, Project progress reports, Project surveys and evaluation reports</td>
<td>CAS and GEF Objectives to Bank Mission: Improved rural access to modern services</td>
</tr>
<tr>
<td>2. Strengthened private sector participation</td>
<td>• Improved EC service quality, financial positions and coverage</td>
<td></td>
<td>Promotion of environmentally sustainable development</td>
</tr>
<tr>
<td>3. Enhanced environmentally sustainable rural development</td>
<td>• Increased private investment and management of ECs/reduced need for public support of ECs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Quantified reductions in emissions and local pollutants from EE investments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CAS and GEF Objectives to Bank Mission:
- Improved rural access to modern services
- Promotion of environmentally sustainable development

### Development Objective:

- **GLOBAL OBJECTIVE:**
  - Reduction of greenhouse gas emissions
  - Quantified reductions in CO₂ emissions

### Development Objective:

- **Achieve significant and sustained energy efficiency improvements in rural ECs**
  - Energy (GWh) savings
  - Number of successful IMC transactions
  - Number/Value of commercial loans to ECs
  - Aggregate commercial investments in EC efficiency improvements

### Outcome/Impact Indicators:

- NEA, EC, Guarantor project progress reports
- Supervision missions
- Results of IMC negotiations and performance

### Development and Global Objectives to CAS
- Stable macroeconomic conditions
- Appropriate energy pricing/distribution regulation
- Private sector willingness to invest in EC businesses
- Improved banking and local capital markets

### OUTPUT FROM EACH COMPONENT:

<table>
<thead>
<tr>
<th>1. Loan Guarantee Facility</th>
<th>Output Indicators</th>
<th>Project reports</th>
<th>(from Outputs to Objective)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IMC pilots</td>
<td>a1. Quality IMC bids received/evaluated</td>
<td>NEA, EC, Guarantor project progress reports</td>
<td>• IMC investor ability to turn-around EC operations</td>
</tr>
<tr>
<td></td>
<td>a2. Loan guarantees issued to improve IMC terms (if so, the guarantee needs to be offered prior to the bidding closure)</td>
<td>Supervision missions</td>
<td>• ECs ability to turn-around operations with loan guarantees</td>
</tr>
<tr>
<td>b. EC loan guarantees</td>
<td>b1. Loan guarantees issued</td>
<td>Results of IMC bids</td>
<td>• No future political interference in EC operations</td>
</tr>
<tr>
<td></td>
<td>b2. Commercial bank loans closed for energy efficiency improvements</td>
<td></td>
<td>• Stable energy demand in EC territories</td>
</tr>
</tbody>
</table>

| 2. Technical assistance   | Technical assistance and training programs developed and delivered | NEA, EC, Guarantor project progress reports | • ECs can maintain efficiency improvements beyond IMC contracts and project period |
|----------------------------|---------------------------------------------------------------------| Supervision missions | • Ability of banks to lend beyond project period |

### Critical Assumptions

- No future political interference in EC operations
- Stable energy demand in EC territories
- Improved banking and local capital markets
### Project Components

<table>
<thead>
<tr>
<th>Project Components:</th>
<th>Inputs: (budget for each component)</th>
<th>Project reports:</th>
<th>(from Components to Outputs)</th>
</tr>
</thead>
</table>
| 1. Loan Guarantee Facility | 1. Total cost $60 million (GEF: $10M, Commercial: $50M)  
   a. $5 million (GEF)  
   b. $5 million (GEF) | • NEA, EC, Guarantor project progress reports  
   • Supervision missions  
   • Bank disbursement reports | • Willingness and ability of private investors to submit high quality IMC bids and secure sufficient equity  
   • Willingness of commercial banks to lend to qualified IMC investors and ECs  
   • Ability of ECs to find suitable efficiency investments |
| a. IMC pilots  
   b. EC loan guarantees | | | |
| 2. Technical Assistance | 2. Total cost: $2.5 million (GEF: $2M, NEA: $0.50M) | • NEA, EC, Guarantor project progress reports  
   • Supervision missions  
   • Bank disbursement reports | • Selection of high quality guarantor  
   • Interest by banks in lending to ECs |
Annex 2: Incremental Cost Analysis

Overall Context for Energy Efficiency in the Philippines

The Philippine energy sector’s fuel mix is characterized by 61 percent fossil fuel, 4 percent hydro, 21 percent wood products and 14 percent renewable energy (including large geothermal), with the percentage fossil fuel expected to grow an additional 11 percent (to 72 percent) over the next decade. Demand for electricity, which was 39,401 GWh in 1999, is expected to grow at a rate of 12 percent for the next three years and then slow to a rate of 9 percent annually for the following 20 years. This rate of growth means electricity demand is likely to grow as a percent of the total energy consumed nationally from 28 percent in 1996 to 48 percent in 2010 and 56 percent in 2020.

The energy sector accounts for over 26 percent of the total country’s greenhouse gas (GHG) emissions. Due to the projected increase in electricity demand, GHG emissions from the power sector is expected to increase from 14 million tones of carbon dioxide equivalent (tCO\textsubscript{2}e) in 1996 to about 60 million tCO\textsubscript{2}e in 2010 and 133 million tCO\textsubscript{2}e in 2020 (under a business as usual scenario).\textsuperscript{3} This is based on an average carbon intensity for grid-based electricity of 0.569 kg of CO\textsubscript{2}e/kWh\textsuperscript{4}. The rural power sector, represented by poor efficiencies and lack of capital investment, contributes a disproportionately large amount to these emissions. In fact, rural power, especially in remote island areas, is characterized by a high dependence on diesel or bunker fuel for generation, resulting in a higher carbon intensity than the Philippine energy sector as a whole. Over the past decade, connections in rural areas have substantially increased, representing a majority of new connections in the country, thus increasing the countries emissions of GHGs at a rapid pace. It is expected that the 119 ECs serve over 4 million households nationwide today.

In 1996, energy efficiency and demand-side management (DSM) practices represented energy savings that were equivalent to approximately 3 percent of the total power generated. This figure is expected to rise to 9 percent in 2010 but drop to 7.5 percent in 2020. An increase in energy efficiency and DSM activities of 1 percent could represent a reduction in GHG emissions of approximately 600,000 tCO\textsubscript{2}e and a 0.5 percent decrease in national emissions. Efficiency improvements in EC networks could, therefore, represent a strong source of potential GHG emission reductions that are marginally better than other efficiency improvements in urban and peri-urban energy suppliers in the Philippines.

Concept and Barrier Removal Strategy

The main objective of the proposed GEF Philippines Electric Cooperative System Loss Reduction Project is to achieve significant and sustained energy efficiency improvements in rural electric cooperatives. To this end, the project proposes two components: (a) establishment of a GEF-financed partial loan guarantee facility, and (b) technical assistance (TA) to support the National Electrification Administration (NEA), the ECs, the Guarantor, and participating local commercial and development banks. These GEF financed activities would enable the: (i) development and implementation of a financial and contractual mechanism, namely investment management contracts (IMCs) that will support private sector investment, management and operation, and risk sharing to support system loss reduction measures in selected ECs; and (ii) support of commercial lending to other qualified ECs for efficiency improvements. The outcome of this project will be demonstration of alternative management contracts and financing instruments that facilitate commercial energy efficiency investments in rural ECs.

\textsuperscript{4} “Standardised Baselines and Streamlined Monitoring Procedures for Selected Small-scale Clean Development Mechanism Project Activities” by the Ministry of Housing, Spatial Planning, and the Environment of the Netherlands.
The global objective of this project is to reduce GHG emissions through the removal of barriers to energy efficiency and system loss reduction investments in the rural power distribution sub-sector, thus contributing to GEF’s climate change goals. Significant global environmental benefits can be achieved by reductions in the system losses currently experienced by many rural ECs in the Philippines and upgrades across their networks. The gains associated with such energy efficiency measures have been successfully captured by public and private sector entities in other developed countries, at low financial and economic costs. The local objective of this project is to transform EC into financially self-sufficient entities over the longer-term and provide the 7,000 islands (spread over 300,000 square kilometers) reliable electricity services.

Electrification is a capital intensive undertaking. The ECs are in constant need of long-term investment funds to rehabilitate and upgrade their distribution systems. In the past, the NEA financed about 90 percent of the ECs’ funding requirements. However, the NEA is currently faced with serious liquidity problems and its role to provide credit to ECs has been curtailed. In accordance with EPIRA, Executive Order 119 provides for strengthening of EC services and performance. The ultimate objective is to attain the transformation of EC into empowered, competitive, efficient and financially viable organizations through significant improvements in the following areas:

- **Management and institutional strengthening by:**
  1. Developing a performance-based incentive system to motivate EC’s Board of Directors, management, and employees; and
  2. Developing objective and transparent criteria for hiring and promoting managers, employees, and election of boards of directors.

- **Setting platform for EC financial self-sufficiency through:**
  1. Developing investment strategy to seek financially viable investments and prioritize capital expenditures based on financial rate of return; and
  2. Achieving profitability by maximizing operational efficiencies and revenues.

- **Improving operating efficiencies and customer service quality through:**
  1. Reducing operating costs through improvement in technical and non-technical losses levels and improving worker productivity through financially viable investments; and
  2. Improving customer service quality, supply system reliability, and power quality through financially viable investments and effective consumer service handling.

Deployment of this new approach in the Philippines faces significant barriers, in particular the perceived incremental risks by financiers to participation in the innovative financing structures of energy IMC and general investments in upgrades to marginally viable (Type C) ECs that cannot attract outside financing. For those ECs that are being considered for an IMC the major barriers include: (i) inadequate investor confidence with EC assessment of baseline system performance; (ii) EC community skepticism about private sector management and potential benefits; (iii) GOP/EC community uncertainty about investor’s ability to operate an EC; (iv) investor uncertainty about entering into long-term contracts with ECs; (v) limited access to affordable financing for investors to undertake large-scale investments in marginally viable ECs; and (vi) high perceived commercial risks associated with taking over EC operations. Type C ECs are characterized as having: (1) limited creditworthiness and corresponding lack of willingness by local commercial banks to provide affordable term financing for efficiency investments; (2) inadequate management ability to maintain efficiency gains; and (3) limited technical expertise to develop and implement energy efficiency improvement projects.

The GEF funding will be used to address the barriers noted above and, in particular, ease commercial lending for these perceived high risk transactions through partial loan guarantees. The funds will significantly leverage private sector resources and, after project implementation, funds will remain for replication and/or be redirected to the benefit of the Philippines and the global environment. Risks to the
GEF guarantee funds will be mitigated by a risk-sharing arrangement with beneficiaries of the guarantee, as well as sound management during implementation by qualified institutions and individuals. The TA activities will support the implementation, administration, monitoring and evaluation of the system efficiency pilot projects as well as dissemination of results for further replication in subsequent phases. In addition, this project would test mechanisms to attract private sector participation and investment in ECs while reducing market barriers of policy, information, institutional capacity and financing that hinder the wider adoption of sound energy efficiency practices within this sub-sector.

**Description of the Contingent GEF Financing Modality**

Approximately 80 percent of the GEF grant will be used for a contingent financing modality, namely a commercial loan guarantee facility. US$10.0 million will be used as a “contingent grant” to capitalize a reserve account to guarantee commercial loans for energy efficiency projects among ECs. This facility is deemed necessary due to the high perceived risks by commercial lenders and private investors to invest in these types of businesses.

The contingent financing modality for this project builds upon several concepts, also used in the case of the GEF China Second Energy Conservation and GEF Romania Energy Efficiency Projects, whereby:

- **Gross Contingent Grant.** The initial GEF grant to support the capital reserve of the proposed loan guarantee facility is a gross grant ($10.0 million proposed for this purpose). The distinction between a conventional grant and this contingent grant is that the latter will be partially or fully returned to the initial beneficiary (we are estimating 70 percent will be paid back), or otherwise redeployed (e.g. perhaps for other types of guarantees), at the end of the project, for uses in other GHG reduction programs as agreed with the Bank and GEF.

- **Final or Net Grant.** At the end of the project, as much of the contingent grant as possible will be redeployed for use in other agreed GHG mitigation projects. The amount which is not returned for redeployment will be regarded as the Final Grant (and represent reserve losses from defaults less generated fees and interest earnings). While estimates have been prepared on the basis of reasonable assumptions and expected performance of the facility, the size of the Final Grant cannot be known with any precision until the project closes.

- **Incremental cost.** The incremental cost associated with the contingent grant for the capital reserve is equal to the difference between the future value of the Gross Grant and the money that is returned at the end of the project. Since the Final Grant will not be known until project closure, the incremental cost also will not be known until the project closing date.

The advantage of the contingent finance approach is its inherent capacity to match the net GEF grant with the actual incremental costs stemming from project risk. The incremental cost payments of the Final Grant will be limited to the amount required to actually overcome the barriers to more sustainable commercial financing of the EC sector and energy efficiency investments, as borne out during actual market conditions and project implementation. All other funds will be returned or redeployed to meet other incremental cost payments.

**Incremental Costs**

Implementation of the barrier removal strategy noted previously would require funding of incremental costs, which would be the difference between the cost of implementing the baseline scenario versus that of the GEF Project alternative. GEF funds are sought to support part of this incremental cost. Descriptions and explanations for the baseline scenario, GEF Project alternative and incremental costs are further elaborated below.
**Baseline Scenario**

Historically, all ECs were managed centrally by NEA, but over time more and more financial and management responsibility was placed in the hands of the individual ECs. Ongoing sector restructuring and the accumulation of bad debt have necessitated NEA to privatize many EC requiring financial self-sufficiency. At the same time, NEA filed for bankruptcy protection due to the accumulation of this bad debt forcing ECs to shift away from public borrowing and now pursue private investment and commercial lending. Thus reliance on NEA for management and financial support will not be an option in the future.

It is assumed that most, if not all, Type B and C ECs will be unable to attract outside financing for system efficiency improvements without some form of risk-sharing agreement (such as a commercial loan guarantee mechanism). A mechanism of this nature does not currently exist in the Philippines. Thus, the implication of this baseline scenario is that there will be continued under-investment in commercially-oriented efficiency improvements without some form of intervention by the GEF.

Under the baseline scenario, the ability of ECs to work with commercial financing and utilize cost effective energy efficiency technology is constrained by multiple barriers, but perhaps most significant: (i) lack of investment grade ECs, and (ii) inadequate financing mechanisms for private sector debt or equity investors. In addition the baseline is characterized as:

- EC cash flow deficits and financial distress (or significant tariff increases), with little or no funds for investment or debt service;
- Status quo EC creditworthiness and private sector investment (limited penetration of long-term contracts);
- Continued deterioration in the physical infrastructure, with increased outages, wastage, and high economic costs;
- Status quo EC management and performance, leading to limited technical improvement (system improvements, maintenance, modernization, etc.) and implementation of energy efficiency projects; and
- NEA obliged to provide management support and funds to sustain service to consumers (in an environment of diminishing financial resources).

Further, ECs are expected to continue the electrification process during this time while not providing additional resources for improvements and/or major repairs to generation, transmission, and distribution systems. Thus, system losses are expected to increase in the coming years and the baseline may actually erode over time, increasing emissions of GHGs. NEA has signaled that in the future they will no longer be in the position to provide debt to ECs, and REFC has stated that they will only be interested in lending to creditworthy, financially self-sufficient (Type A) ECs.

Under these circumstances, ECs will not be able to invest in critical system upgrades and loss reduction measures (or attract outside capital for this purpose) which would otherwise lead to significant energy efficiency gains. Limited financing and internally generated cash will likely be used towards critical repairs and extended coverage to additional households, rather than to support of existing networks. Type B and C ECs will continue to rely on public sector funding in order to conduct minor repairs and improvements, which will become less and less available over time. Thus, total estimated cost for implementation of the baseline scenario is US$0. Under this scenario, no investments are expected to be directed to system efficiency improvements, and it can be expected that system efficiencies will actually continue to erode over time. (The baseline for this activity is derived from a market penetration and business plan model for ECs without the ability to access IMC’s or other financial vehicles for system improvements without the utilization of the partial credit guarantee.)
GEF Project Alternative

The GEF project alternative is derived from a market penetration and business plan model for IMCs consists of two components: (a) establishment of a GEF partial loan guarantee facility and reserve account for i) pilot IMC contracts (for selected Type B ECs), and ii) qualifying Type C ECs; and (b) a TA component. The implication of this GEF Project Alternative is that the private sector will be able to actively participate in commercially-oriented development among qualifying ECs.

EC Loan Guarantee Facility. The partial credit guarantee facility ($10.0 million) would provide risk mitigation to lenders and investors in support of the energy efficiency investments and IMC contracts, thus minimizing the risks that are beyond the control of the investor. Under this facility, two windows would be developed: one for IMC investors and one for Type C ECs. The objective would be to facilitate commercial lending for EC system upgrades by easing access to affordable term financing by local banks. Thus incremental risks for financiers associated with the baseline will be addressed. Money-losing ECs would be potentially turned around resulting in significant improvements in system efficiency levels. Many of the planned projects financed by new investment will directly result in system loss reductions. Improved efficiencies and freed-up cash flow would allow for (i) ECs to service current debt and repay arrears, and (ii) extension of service, where viable. If successful, these mechanisms can be replicated in other Type B and Type C ECs, having demonstrated the usefulness of loan guarantees and commercial lending for system efficiency improvements that lead to energy savings.

Technical Assistance Component. The TA component ($2.0 million) will support administration of the guarantee program, buy-down of initially high transaction costs to guarantor, monitoring and evaluation, dissemination of demonstration results, refinements in tested mechanisms, and training to ensure energy efficiency gains during the project period are sustained. Activities under this component, which will be refined by Project Appraisal, will include: (i) administration of the guarantee facility by the selected Guarantor; (ii) workshops and information dissemination for interested ECs/investors on the IMC mechanism, EC improvement program and guarantee facility; (iii) periodic reporting and monitoring of IMC investor performance and protocol to determine actual energy efficiency gains; (iv) evaluation of pilot IMC contracts and dissemination of results to all interested ECs, potential investors and relevant government agencies; (v) development of refined bidding documents for expanded IMC program in future phases; (vi) assessment of efficiency gains for Type C ECs from improved access to commercial lending and sustainability of these improvements; and (vii) additional training and technical assistance to NEA, EC Boards and other key stakeholders for general project support.

The total estimated cost for implementation of the GEF Project Alternative is $12 million.

Total Incremental Costs

The total GEF Project costs are estimated at $62.5 million, which include the GEF grant, counterpart funding and leveraged commercial financing. However, the cost to achieve this project alternative would only represent the GEF share of this, or $12.5 million, since the other project costs represent leveraged financing from the GEF intervention. Thus, since the baseline costs are assumed to be $0, the full incremental cost would be $12.5 million. (See Table A2-1 for a full incremental cost matrix.)

Under the framework of the contingent financing modality and concept of gross and net grants, the net grant would be the portion of the GEF grant that is no longer available at the close of the project. The base case scenario of the business plan conservatively estimates that about 10 percent of the total guarantee liabilities assumed by the Guarantor may result in a default, triggering payments from the GEF guarantee reserve fund. This represents total losses of $3.0 million in the guarantee reserve funds. (Although it should be noted, reserve losses and thus the actual net grant for the guarantee facility will not be known until project closure.) In addition, $2.5 million would be disbursed as a non-contingent grant
for TA activities. Thus, the expected net or final grant would only be $5.5 million and, thus, the estimated incremental cost would be about $5.5 million (of which GEF would contribute $5 million and NEA $0.5 million).

The net or final grant calculation is based on the assumption that the balance of funds at the project closure will be partially or fully returned to the initial beneficiary (Government of Philippines) or the GEF, or otherwise redeployed. While several options for the exit strategy for GEF funds are still being discussed, it is assumed that funds will either continue in this guarantee program beyond the project period (perhaps until the funds are exhausted) or returned to GOP for use in another GHG project acceptable to the GEF and Bank. Either option would result in additional global environmental benefits which have not been estimated in this analysis.

Table A2-1. Incremental Cost Matrix

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>GEF Alternative</th>
<th>Increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Benefits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Continued poor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>financial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>performance of ECs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sustained and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>increasing EC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>system losses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No investments in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>improvements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Environmental</td>
<td>No efficiency</td>
<td>Reductions in GHG</td>
<td>0.8 million tons</td>
</tr>
<tr>
<td>Benefits</td>
<td>improvements/ GHG</td>
<td>based on facilitating system efficiency improvements in</td>
<td>of carbon reduced.</td>
</tr>
<tr>
<td></td>
<td>reductions from ECs.</td>
<td>EC networks.</td>
<td></td>
</tr>
<tr>
<td>Costs by Component (USSM)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarantee Program</td>
<td>0.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Capital Reserve</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Debt/Equity</td>
<td>0.0</td>
<td>50.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>0.0</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Total Costs</td>
<td>0.0</td>
<td>62.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Total GEF Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarantee Program</td>
<td></td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td></td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>GEF Incremental Costs</td>
<td></td>
<td></td>
<td>5.50</td>
</tr>
</tbody>
</table>

Note: All figures will be subject to confirmation at Project Appraisal.

Project Benefits: Energy Savings & Carbon Dioxide Emission Abatement

Project Benefits. Benefits of the proposed GEF Project Alternative include the energy savings associated with the investments supported as well as the GHG emissions reductions. In addition, money losing ECs could be potentially turned around and significant improvements in system efficiency levels, management and operations achieved. Service in remote areas could be improved, tariffs reduced and system extension could be made in viable areas, providing a significant catalyst for further economic development in these communities. Improved power quality and reliability would also improve prospects for future end-use energy efficiency programs, since high-efficiency equipment often requires high quality and reliable power to function optimally. And, the rehabilitation of ECs would pave the way for more commercial and competitive services in rural areas throughout the country.

The GEF Project alternative case, is derived from increased investment based on the business plan for the IMC model and the planned efficiency improvements. Based on a GEF Grant of $12 million ($10 million for guarantee reserves and $2.0 million for TA), the guarantee facility is expected to support $30 million
in guarantee liabilities, assuming a guarantee liability to reserve ratio of 3:1 (to be confirmed at Appraisal) and a conservative default rate of 10 percent. Assuming a guarantee percentage of 80 and 75 percent maximum debt financing, the total possible capital for investment will be about $50 million for EC system improvements. Overall, this guarantee facility will result in substantial energy savings over time. Efficiency investments made during the 7-year project period are estimated to save more than 1,737 GWh over a 15-year period. Preliminary calculations indicate that the energy savings benefits alone could result in direct financial benefits of about $65-80 million over the 7-year project period, based on an average retail tariff of 4 pesos/kWh. If other non-energy savings benefits are included, such as reduced labor costs, increased revenues and collections, etc. the financial benefits to the ECs will be substantially higher.

**Emissions Reductions.** Calculation of the associated reductions in carbon emissions is based on the projected energy savings associated with the investments made under the project. Based on a representative sample of EC technical assessments, it is assumed that the energy intensities of each EC could be reduced by an average of 25 percent (within the project period) after the investments have been made, which would lead to a corresponding reduction in carbon emissions. (These calculations do not include potential reductions in energy consumption if improved billing collections are achieved.) With average energy savings of 116 GWh per EC (over 15 years), about 52,000 tons of CO$_2$e could be saved annually, leading to over 778,000 tons of CO$_2$e over a 15 year period. (The carbon intensity for these investments would be reduced over time from 0.569 kg of CO$_2$e/kWh in the first year to 0.406 kg of CO$_2$e/kWh by year 7.)

**Leveraging of GEF Funds.** Through the development of the proposed guarantee program, GEF funds could be used to support more than US$50 million in EC investments representing a ratio of 10:1 (expected investments to net grant) over the 7-year project period. However, given that a second generation of investments is likely to be made from improved financial earnings of the ECs after these investments, along with increased commercial lending without requiring the guarantee facility, total leverage of GEF funds could be significantly higher.

It should be noted that these leverage ratio estimates are lower than for other GEF projects. Reasons for this include: (i) the EC sub-sector is clearly higher risk than other projects, which target a broader, industrial, commercial or public sectors; (ii) the total number of subprojects to be supported is low, around 15, which does not allow the guarantee program to achieve the broad portfolio risk management opportunities that other GEF projects can achieve; (iii) EC investments are expected to be larger in size with longer loan terms than typical ESCO projects, thus the GEF funds will not be able to be recycled as many times within the project period; and (iv) these leverage ratios are conservative and will likely be increased at Project Appraisal and may be increased further during project implementation.

**Grant Cost Effectiveness.** The net cost of carbon abatement for the project is a direct result of the leverage provided by the GEF grant. For investments made within the 7-year project period, the gross cost of carbon abatement over 15 years would be about $15.43/ton of CO$_2$e. The net cost of carbon abatement for the same period is projected to be US$6.43 per ton of CO$_2$e.

---

5 Energy savings were calculated by examining a set of ECs and their sub-projects to quantify an average cost of saving one kWh ($0.029/kWh based on 15-years of savings). This number was then multiplied by the total amount of investment made possible by the GEF project ($50.0 million).
Annex 3: Description of the Project

Introduction

Rural electricity distribution in the Philippines is largely provided by the 119 rural ECs, which have had a history of weak operational performance, high system losses and marginal financial sustainability. While there is a great diversity of performance, much more needs to be done, both in terms of efficiency improvements in existing operations and widening access to power supply services in a sustainable manner. About 25 percent of the ECs are financially self-sufficient; the remainder incur high levels of distribution system losses, which translate into higher tariffs, and a constrained ability to expand their distribution network. A history of under investment in needed upgrades, severe capital constraints, poor management, political interference in EC operations, and other key issues have affected their collective ability to fulfill their mandate of providing affordable, reliable and extended services. As ongoing sector reforms progress, the Government is seeking to reduce public sector financing and management of these ECs and encourage increased private sector participation and commercial investment.

The Project’s main objective is to achieve significant and sustained energy efficiency improvements in rural ECs in order to provide current and prospective viable EC customers with reliable and least-cost power supply over the long term. In this regard, the project would develop and test financial and contractual mechanisms to support a blend of private sector investment, financing, management and operation, and risk sharing to support system loss reduction measures in selected ECs. The project would pilot the use of IMCs to attract private investors to manage and operate selected ECs under long-term, performance-based contracts, and to mobilize private finance without recourse to the government. For those ECs that are yet unable to attract private investors, access to affordable term loans would be facilitated through partial loan guarantees. Eligible subprojects will be selected based on their ability to generate positive financial returns to the ECs, reduce power purchases from energy savings, lower maintenance costs and increase revenues.

The Project is being developed and will be implemented in the context of the Philippines power sector restructuring. ECs have a substantial backlog of investment need in power distribution system upgrades and lack access to debt financing for a host of structural and historic reasons including limited EC equity, breakeven approach to financial management, political interference in EC planning and operations including imposition of loss-making grid extension and missionary electrification projects, weak management systems and technical capacities, and limited public sector financing coupled with an effective NEA monopoly on lending and lack of experience of other lenders in this sector. The primary and, in most cases, sole lender to ECs has been NEA. As part of the power sector restructuring underway in the Philippines, as defined in the EPIRA and further supported by the World Bank, NEA will no longer be lending to ECs; its primary mandate now is to assist the ECs in their restructuring, management improvement and reinvestment programs. Existing NEA loans to ECs are scheduled to be condoned by a recently created GOP corporation, the PSALM which, amongst other responsibilities, will assume the outstanding loan obligations of all ECs to NEA. PSALM loan assumption for specific ECs is conditioned on ECs meeting a set of guidelines and criteria relating to management and financial performance improvements which NEA will help the ECs fulfill.

PSALM’s assumption of NEA’s EC loans is intended to aid the process of power sector restructuring and open the way for mobilizing private sector financing for ECs. The guarantee program will support this objective - mobilizing new financing for ECs - and is premised on the concept that there is a gap between perceived risks lending to ECs for system loss reduction - under current banking practices and given lack of experience in EC term lending, crowded out by NEA - and real risks of EC loss reduction lending, especially when good project preparation and management are properly applied. The current state of EC affairs is, in general, a vicious cycle of poor EC financial performance due in large part to inefficient
distribution systems mirrored and driven in part by the inability of EC’s to access financing to upgrade their systems because of poor financial performance. The Project will mobilize new financing to start meeting, for select ECs, the tremendous backlog of investment need for EC distribution system upgrades and thereby contribute to a new virtuous cycle of improving EC financial performance. The Project, in conjunction with its NEA, lender, guarantor and contractor counterparts, will bring to bear improved management for the ECs - at both corporate and project levels - and can thereby can reduce EC financial performance risks.

The Project will establish a loan guarantee program to support financing of economic power distribution system upgrade projects for rural ECs, which would achieve substantial reductions in power losses, improve distribution system efficiency and hence reduce GHG emissions. The guarantee program will be managed by a local financial institution which will serve as Guarantor. GEF funds would be placed in distinct guarantee fund account which the local Guarantor would use to cover its guarantee liabilities and draw on to pay guarantee loss claims. By Project Appraisal, a suitable qualified local Guarantor will be selected by NEA. The guarantee will be provided to local Philippines commercial and development banks to share in the credit risks they take when providing loan financing for EC projects. The partner banks will fund the loans using their own resources. Borrowers will be either the ECs directly or private sector contractors who have undertaken long-term management contracts with the ECs. Thus, the guarantee program will be managed as one program with two guarantee products. Combining GEF resources for both types of ECs project debt guarantees allows a larger guarantee reserve to be created and offers greater possibilities for financial structuring and risk diversification within the guarantee program. The EC market segmentation, including discussion of criteria for selecting eligible ECs, and financial structuring at the individual EC investment project level is discussed below.

The guarantee program will be available to support loans both from commercial and development bank lenders. Some EC lending, mostly to Type A ECs, would be provided by DBP under the Bank’s Rural Power APL. The DBP has some experience lending to ECs, mostly for short-term working capital needs but also for some term debt for plant and equipment. Local commercial banks will also be assessed for their interests and capacities to lend to ECs. A main goal of the program is to recruit other commercial lenders to the EC market and demonstrate the viability of EC project finance. By providing a credit risk management tool, the guarantee will assist commercial and development banks to enter this market and to provide financing with extended loan maturities and reduced collateral requirements.

Criteria for Eligible Borrowers

Type B ECs & IMCs. An initial pilot program would be developed for about five Type B ECs to test the IMC concept and, if successful, replicate it with other ECs. Selection of eligible Type B ECs has already been completed; the process of assessing these ECs and preparing technical feasibility studies for investment programs is well underway; preparation of request for proposal documents to solicit IMC contractors and form IMC contracts will begin shortly under the GEF PDF B grant. In some cases, two or three contiguous Type B ECs may be consolidated under a single IMC solicitation. Under these contracts, the investor will assume full management and profit and loss responsibility for EC operations, accountable to the EC Board, for the contract term, expected to be 10-15 years. The investor will be responsible for mobilizing financing for capital investment from its own equity, from debt with the contractor as borrower, and from internally generated EC revenues.

Type C ECs. For the Type C ECs, financing from development and commercial banks, supported by the guarantee, is the proposed primary financing option for capital investment, along with internally generated funds. NEA is now assessing about 10 Type C ECs; this work includes detailed credit analysis, financial projections, management assessments and improvement plans, performance evaluation benchmarking and technical feasibility studies to define the optimum and priority EC investment sub-projects and program. Three consulting teams - on finance, technical and management/ institutional - are
employed on these tasks. The results of these activities will generate the first pipeline of Type C ECs for potential financing supported by this guarantee program. NEA will continue to provide TA to other Type C ECs and this activity is expected to continue to generate qualified, well-prepared and management-ready Type C projects for financing. NEA, further, as part of the EPIRA and other executive orders associated with restructuring of electric cooperatives, has a program underway for all ECs to measure and oversee their performance and define Performance Improvement Programs (PIPs) and Rehabilitation and Efficiency Plans (REPs), as applicable. The results of these activities are also designed to strengthen management capacities and develop investment programs. Overtime, the program goal is for Type C ECs to be converted to Type B and, eventually, Type A ECs.

Eligible Borrowers & Underwriting Criteria. Eligible borrowers for the guarantee program will be (i) private IMC investors, and (ii) ECs directly. In practice, ECs will be assessed case-by-case for their credit worthiness and management capacities. Lending decisions, both by the lender and by the Guarantor sharing risk with the lender, will be made using a set of underwriting and credit analysis criteria to be developed. Typical general criteria are expected to include:

- current on outstanding debts;
- completion of requirements for loan condonation by PSALM;
- satisfactory standing with NEA concerning its PIP and REP, as applicable;
- current on payments to power suppliers;
- acceptable technical and economic feasibility study for proposed distribution system upgrade investment program;
- EC financial projections for the term of the proposed debt indicating, with the project, debt service coverage ratio of a minimum 1.2;
- ratio of total debt (post-condonation and with new project debt) to total appraised assets of no greater than 50 percent (NEA requirement for collateral sharing); and
- own funds (or Contractor equity) of 10-30 percent, with exact requirement to be determined by due diligence and other factors.

Additional and more detailed financial ratios (e.g., on leverage, liquidity) and management performance measures (e.g., on collections efficiency and employee to sales ratios), are imbedded in the above and/or will be further developed by Project Appraisal, through further work with lenders, the selected Guarantor, financial consultants and NEA and on the basis of the EC assessment being conducted at this time.

Characteristics of Typical Projects, Eligible Projects and Estimated Loan Demand

Characteristics of Typical Projects. EC investment programs are being developed to achieve multiple objectives. Reducing systems losses is a primary objective and contributes to improved EC financial performance by reducing power purchases for a given level of delivered energy. Each EC investment program will consist of a set of subprojects. Subprojects which reduce system losses will also address other EC objectives, including improved system reliability, power quality and safety, and expanded distribution capacity which allows for new customer hook-ups and capacity to increase sales to existing customers, resulting in increased revenues. Additional objectives of the EC investment programs include reduction of non-technical losses through improved metering and collections systems which also increases revenues, and improved management efficiency which will reduce costs.

Specific types of investments being planned that reduce system losses include the following:

- construction of new 3-phase power lines, which relieve distribution bottlenecks and shift distribution loads from existing inefficient and overworked lines,
- upgrading tie-lines from single phase to 3-phase,
- installation and upgrade of 5 and 10 MVA substations,
• reconductoring LV distribution lines and replacement, capacity increase and installation of new distribution transformers, and
• upgrading transfer capacity plus reinforcement of 13.2 kV lines.

Other components of the planned EC distribution system upgrades include non-efficiency sub-projects such as replacement of power line poles, new revenue meters, and operating tools and equipment, motor vehicles, and computer hardware/software required for distribution system operations. It should be noted that measures which are designed to reduce non-technical losses, though programs to improve collections and reduced theft, have been shown to contribute to energy use reductions and, ultimately, GHG reductions, since they help rationalize energy usage.

**Eligible Projects.** As a commercial proposition, the guarantee product will be most useful and attractive if it can be applied to the EC investment programs as a whole and integrated with developing EC commercial practices. A Bank/GOP objective of this program is to support commercialization of EC project finance and achieve, indirectly, further energy savings from EC projects implemented on a market basis without direct program support. However, reflecting the fact that (a) the GEF seeks to achieve reductions in GHG emissions through energy efficiency improvements, while (b) the ECs, and their technical consultants and IMC contractors, as applicable, are developing and seek to implement their investment programs as a package to meet their multiple investment, financial and management objectives, the Project will seek to apply criteria for eligible projects that balance the GEF objective of achieved energy and emissions savings with the EC’s commercial requirements. The following criteria are proposed to determine eligible EC projects that can be supported by the guarantee program.

A. Eligible EC subprojects must be for power system distribution upgrades. Subprojects which do not directly, or are not necessary to, the upgrade of the distribution system will not be eligible.

B. At least 50 percent of the investment amount must be for subprojects which result in direct and measurable energy (kWh) savings.

These criteria must be further detailed by Project Appraisal and will be reflected in the Project’s Operational Manual, GEF Grant Agreement and the guarantee agreements themselves. Annex 2 includes cost calculations of the GEF program for achieved GHG emissions reductions based on assessment of a representative set of EC projects under preparation and estimate that the net GEF project cost per ton of carbon emissions reduced is $6.43/ton of CO\(_2\)e, a reasonable value for justifying GEF support.

It is important to note also that the guarantee itself is partial and that loans supported by the guarantee will represent one of multiple sources of funds for the EC investment programs. Assuming even the maximum guarantee percentage of 80 percent, and a typical ratio of debt financing to total sources of funds of 75 percent, the guarantee program exposure would represent only 60 percent of total investment program costs; this value would be lower with lower guarantee percentages.

**Loan Sizes and Demand.** For Type B ECs, the average investment size per EC is estimated to be about US$4.0 million. The Bank and NEA have agreed on an initial target of five pilot IMC projects/transactions, for a total investment of about $20 million. Assuming an 80/20 debt/equity ratio, about $16 million in project debt financing would be required. If the first pilots are successful, development of additional IMC transactions could be undertaken under the project or in parallel, without further GEF support.

For Type C ECs, the average investment size per EC is estimated to be smaller, at approximately $2.0 million. There are an estimated 44 Type C ECs. The guarantee program will have a target to support 10-20 Type C EC projects, with 10 as the base case target or about $20 million in total investment. Again, assuming a ratio of 80 percent debt and 20 percent internal funds in the project financing, a base case
target for Type C project debt financing to be supported by the guarantee program is $16 million. (See Table A3-1.)

<table>
<thead>
<tr>
<th>Table A3-1. Estimated Project Size &amp; Debt Financing Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average investment for each EC</td>
</tr>
<tr>
<td>Est. number of projects to be supported</td>
</tr>
<tr>
<td>Total value of projects supported</td>
</tr>
<tr>
<td>Debt percentage in sources of funds</td>
</tr>
<tr>
<td>Total amount of debt</td>
</tr>
</tbody>
</table>

Debt Structuring at the Individual EC Project Level

Debt structuring at the individual EC project level, and hence successful origination of risk sharing guarantees, requires must address a host of key issues affecting: (i) the credit assessment and financial analysis of ECs (e.g., wholesale and retail tariff setting and regulation, reappraisal of EC assets, balance sheet treatment of condoned NEA loans); (ii) structuring of Type B/IMC contracts projects, IMC investor (e.g., compensation formula, EC revenue allocation, extent of debt recourse to the investor parent company), and (iii) collateral sharing with NEA.

Because of its importance, item (iii) deserves special discussion. NEA has outstanding loans with most all ECs and, as security for these loans, holds a blanket mortgage on all EC power distribution system assets. Even after PSALM loan assumption for individual ECs, NEA still intends to maintain these mortgages until the loan obligations are fully retired. To mobilize new financing for the ECs, its is absolutely essential that NEA enter into a collateral sharing agreement with the new lenders, and, by extension, the Guarantor, proportional to their respective interests. NEA has adopted a clear policy (in August 2002) supporting collateral sharing to achieve this objective of mobilizing new financing. Draft guidelines have been prepared pursuant to this policy and the Bank, and other stakeholders including the REFC and PSALM, are engaged in consultation to refine these guidelines and assure that they can meet lender requirements.

Guarantee Program Structure

Structure of Guarantee Claims Payments Method. In developing a guarantee structure appropriate for the EC market, it is first important to observe that the EC is a public utility, providing an essential service, delivery of electric power. If an EC experiences financial difficulties that result in debt service delays or default, the EC’s power system will continue to operate in some form; the EC will not go out of business entirely or liquidated, as would be the case for other industries and classes of borrowers; bankruptcy for the EC would be an extreme option and may not be socially viable. To reflect these inherent features of the EC credit, that ECs provide an essential service, the following features of the guarantee are proposed:

a) Guarantee claims payments will be used to keep the defaulted loan current; the lender and Guarantor will not accelerate payment of the entire outstanding loan obligation in default events.

b) The Guarantor will take a pro-active role, in coordination with the lender, to monitor borrower finances and loan performance, and to institute work out proceedings to correct default situations.

c) The loan structures will include debt service reserve funds (provided by the project borrower) to provide a cushion, from EC and IMC project own revenues, equal to 3-6 months debt service; this is typical project finance practice and is applicable in the case of EC and EC/IMC project lending.

Other Key Guarantee Terms. Loan Guarantee Agreements (LGAs) will be entered into between the Guarantor and the lending bank. Development of an LGA specific to this program will be completed by Project Appraisal in conjunction with the selected Guarantor, and will build on the existing
documentation and experience of the Guarantor, adapted to this EC sector. A brief discussion of expected key guarantee terms, to be defined in the LGA, is provided below based on pre-appraisal research to date, including discussion with prospective guarantor and lenders and assessment of EC project finance needs and credit characteristics.

a) **Guarantee percentage.** The guarantee will be partial. The appropriate guarantee percentage, given the focus of this program on a specific sector, ECs, the lack of lending experience and perceived credit risks in this sector, is judged to be up to 80 percent of loan principal and interest. The guarantee would be *pari passu*, meaning that losses would be shared between Guarantor and lender in the agreed proportions to avoid moral hazard.

b) **Guarantee liability basis and guarantee claims payment method.** The guarantee liability basis is expected to be the guarantee percentage multiplied by outstanding loan principal plus accrued interest. Interest is included in the guarantee liability basis due to the structure of the guarantee claims payment method, whereby the Guarantor shall make guarantee claims payments to keep the loan current, as opposed to accelerating the defaulting loan and retiring the outstanding loan principal.

c) **Definitions of event of loss, loan monitoring, and administration of loans in default,** are all anticipated to use the terms and procedures established by the selected Guarantor and participating lenders in their normal practices. Guarantee claims payments would begin 30 days after a default event has been declared. Given the structure of the guarantee, the Guarantor would take an active role in loan monitoring, work out and remedies in default events.

d) **Maximum guarantee term in years,** may be as high as 15 years, in line with the terms on the Bank’s Rural Power Project loan facility with DBP; however, the estimated tenor of most EC loans is estimated at five to seven years, with one year grace period, plus or minus, to fit within the lenders’ and Guarantors’ estimated debt term appetite and risk horizon.

e) **Guarantee pricing.** Guarantee pricing will require further work to determine during appraisal and through negotiations with the selected Guarantor. Pricing for this program is expected to be higher, reflecting risk associated with EC lending, and must also be calculating in the context of financial projections for program operations, to be developed by Project Appraisal.

f) **Maximum single transaction/borrower guarantee liability limit:** $2.5-3.0 million, in principal, representing 25-30 percent of the estimated program GEF guarantee reserves; this value must be set to meet the needs of the market and will be determined by Project Appraisal and through further negotiations with the selected Guarantor. Maximum exposure limits may also be raised for IMC Contractors which may have loans for more than one EC/IMC project.

g) **Guarantee approval procedures,** will be developed by Project Appraisal and detailed in the Operational Manual. They will reflect the procedures established by the selected Guarantor and then adapted to the underwriting and credit appraisal criteria developed specifically for the EC market, including IMC project finance.

h) **Information and reporting requirements** for qualifying and monitoring energy and emissions savings of EC projects, will be developed by Project Appraisal, detailed in the Operational Manual and will be consistent with Bank/GEF requirements.

**Institutional Arrangements**

**Selection of Local Guarantor.** The Project will require a local financial institution to serve as the guarantor. Selection of the local Guarantor will be made by NEA under the supervision of the Bank. Due to the limited experience in the Philippines lending to ECs and the limited number of active guarantee organizations, a pre-qualified short list will be developed and issued for competitive bidding. It has been confirmed that suitable and qualified local candidates do exist.
Selection of the local Guarantor will be based on due diligence to be performed during Project Appraisal. Selection criteria include: financial stability, management capacity, guarantee experience, appetite and capacity to undertake guarantees in the EC sector, guarantee origination capacities and skills, commercial sustainability potential, ability to recruit new lenders, and ability to assume program guarantee liabilities as a multiple of GEF reserves. This due diligence will be performed during Project Appraisal by the NEA Transactions Advisor.

**Ratio of Maximum Guarantee Liabilities to GEF Guarantee Reserves.** A key component of the guarantee program design and local Guarantor counterpart funding concerns the ratio of (i) total guarantee liabilities the Guarantor could undertake, to (i) GEF funds held as guarantee reserves. Based on research to date, a ratio of 3 or 4:1 appears reasonable and conservative to start. GEF funds would be held in a separate reserve fund and would be drawn on first by the Guarantor to pay guarantee loss claims. (One local candidate for the Guarantor, for example, allows a ratio of maximum guarantee liabilities to equity of 10:1.) A ratio of 3:1 is used in the base case estimates below of guarantee program capacity and deal volume. With $10 million in guarantee reserves, the program could support at least $30 million in guarantee liabilities. Overtime, it is expected that this ratio can be increased substantially; this increase represents one pathway to sustainability and replication of greater EC lending supported by the program. The decision on increasing the liabilities-to-reserves ratio could be made after the program has established an operating history, with a loan payment performance guarantee claims record that can be evaluated. The increase in the liabilities-to-reserves ratio can also be made incrementally, again, depending on operating experience and demand.

**Leverage of GEF Funds.** The leverage calculations for the guarantee program have several key variables, including (i) the estimated guarantee percentage (the portion of the loans guaranteed), (ii) the total guarantee liabilities the local Guarantor is willing to undertake in ratio to the guarantee reserves provided by GEF; and (iii) ratio of debt to equity in the EC projects’ sources of funds. Based on research to date, Table A3-2 includes estimates for program leverage, total investment supported and net grant costs.

**Table A3-2. Guarantee Program Investment, Leverage, & Default (Base Case Scenario)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total GEF grant</td>
<td>$12,000,000</td>
</tr>
<tr>
<td>GEF grant for TA activities</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Total GEF guarantee reserves</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Local guarantor leverage ratio</td>
<td>3</td>
</tr>
<tr>
<td>Total guarantee liability capacity</td>
<td>$30,000,000</td>
</tr>
<tr>
<td>Guarantee percentage, average</td>
<td>80%</td>
</tr>
<tr>
<td>Total Debt that can be supported</td>
<td>$37,500,000</td>
</tr>
<tr>
<td>Debt percentage in sources of funds</td>
<td>75%</td>
</tr>
<tr>
<td>Total Project Investment</td>
<td>$50,000,000</td>
</tr>
<tr>
<td>Ratio, GEF reserves: Total Investment</td>
<td>20%</td>
</tr>
<tr>
<td>Total Investment to GEF Reserves</td>
<td>5.0</td>
</tr>
<tr>
<td>Assumed Guarantee losses</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Losses as % total guarantee liabilities</td>
<td>10%</td>
</tr>
<tr>
<td>Net or Final GEF Grant</td>
<td>$5,000,000</td>
</tr>
</tbody>
</table>

The guarantee percentage of 80 percent is the maximum proposed, so it is conservative to assume that this highest level is the average actually used. Debt as a percentage of total sources of funds is estimated to range from 60 to perhaps as high as 90 percent; current DBP underwriting criteria for medium term (up to five year) loans to ECs requires a minimum 10 percent own funds. Because of the lack of experience in
this sector, higher ratios of equity and own funds are anticipated. Further, because the construction periods for EC investment programs will span many months, perhaps 24 months or more, greater reliance on internally generated EC funds is possible. Hence, the 75/25 debt/equity ratio is anticipated. Based on these values, a total of $50 million in EC project investment can be supported, with $30 million in principal amount of guarantee liabilities. Assuming a 10 percent loss rate, this translates to losses of $3 million, and a “net grant” of $5 million. The 10 percent loss rate is deemed a reasonable initial estimate of actual guarantee claims and will be further assessed during Project Appraisal.

Disbursement of GEF Funds for Guarantee Reserves. Disbursement of GEF funds for guarantee reserves will be discussed with the selected Guarantor and agreed during Project Appraisal. Current thinking would propose disbursement of the full reserve in two equal tranches of $5 million each. The first tranche would be disbursed at Project Effectiveness. Funds would be placed in a segregated account and be held subject to an escrow agreement between a selected financial institution as fiduciary, the Guarantor and the appropriate GOP agencies. Guarantee reserve funds would be available to be drawn on to pay guarantee claims on all duly executed guarantees undertaken by the Guarantor. Disbursement of the second tranche would be made subject to achievement of a target level of booked guarantees, e.g., $10 million in total original principal guarantee liabilities, and subject further to evaluation of Guarantor management performance and EC loan payment performance and continued demand for the EC loan guarantee product satisfactory to NEA and the Bank. The Mid-Term Review would be scheduled to support the decision regarding disbursement of the second tranche of guarantee reserve funds. Once disbursed and deposited in the designated account, GEF reserves would be converted to pesos, as reinvestment yields on peso denominated securities are significantly higher than in dollars, the Guarantor will assume liabilities in pesos, and program expenses will be incurred in pesos.

Use of Interest Earnings on GEF Guarantee and Program Budgets. A budget and set of financial projections for guarantee program operations remains to be developed and will be finalized by Project Appraisal. A “ballpark” estimate for program operations costs is in the range of $200,000+ per annum. If the disbursement plan above is agreed, interest earnings on the GEF reserves could be applied to program purposes. Reinvestment interest rates in pesos are currently in the range of 6.5 percent (approximate yield of GOP three month treasury notes), so, full reinvestment of a $5 million GEF reserve would generate annual income of approximately 16 million pesos or over $300,000 which amount should be sufficient to cover program operations. Other sources of program income, such as guarantee fees and origination fees, would also be applied to program operating costs. Taken together, interest earnings on guarantee reserves and guarantee fees are expected to be sufficient to pay for program operating costs. Performance incentives in the Guarantor compensation arrangements will be assessed during Appraisal. Transaction origination and investment preparation costs are estimated to be high and start-up costs, to assemble the knowledge base and lender relationships and perform EC due diligence needed for effective guarantee and origination operations, significant. High-level financial professionals will be needed for the senior staff of program operations. In terms of making these funds available to the Guarantor, several options are under consideration, including: (i) agreed declining annual budgets to support initially higher operating and transaction costs; (ii) agreed overall budget for incremental operating costs (as was used for the GEF China Second Energy Conservation Project); or (iii) agreed declining guarantee fee premium to off-set early start-up costs. These options will be discussed with NEA and the selected Guarantor and agreed during Project Appraisal. The Project would also include a budget for TA to support preparation of projects, transaction structuring, and training and capacity building for key parties.

Guarantee Program Management. The local Guarantor will have primary responsibility for managing the guarantee program and NEA will have primary responsibility for managing the supporting TA activities. Guarantee program management functions include:

- development of EC projects and loans for financing, including program marketing to IMC contractors and ECs as primary project sponsors;
• recruitment of new lenders to the EC lending market;
• approving banks for participation and managing relations with participating banks;
• origination of guarantee transactions including development and application of credit analysis underwriting guidelines;
• monitoring guaranteed loans and borrowers and financial administration of guarantees;
• monitoring energy and emissions savings of projects supported with the guarantee; and
• reporting to Bank/GEF and appropriate GOP agencies and management of program evaluation process and liaison with other Project stakeholders.

Program Term and “Exit Strategy” for GEF Funds. The Project operations period is scheduled for seven years to allow sufficient time to originate transactions. TA efforts will be front-end loaded during this period to generate project deal flow. The operations period is the “Availability Period” during which new guarantees will be originated under the guarantee program and the period of TA activities. After new guarantees cease to be issued, the guarantee program must continue to operate until all guarantee liabilities and underlying loans have matured. The program will be designed self-sustaining from program income from interest earnings and guarantee fees in the latter years.

GEF “exit strategy”, meaning a plan for final disposition of remaining GEF funds, will be developed and agreed during Project Appraisal. The first best case strategy in guarantee programs such as these has been for the GEF monies to be permanently granted to the local Guarantor for continuation of the program; this decision would be made after appropriate evaluation and subject to good performance by the local guarantor and continued demand for the EC loan guarantee product. Other options, such as return of funds to the GEF or GOP for use in another GHG project, would be further developed and considered.

Guarantee Program Sustainability and Replication. Future potential program sustainability and replication can be facilitated from the following options which will be discussed and incorporated into the program design, as appropriate:

- Performance of guaranteed loans is satisfactory and the Guarantor expands their EC lending guarantee program with other funds, and/or increases their leverage ratio (maximum guarantee liabilities to GEF guarantee reserve funds).
- Lenders come to understand and accept EC credit risks and lend without guarantees; the program will seek to recruit and engage new commercial lenders in the EC term loan market.
- The EC reform program succeeds and the pathway to EC sustainability is demonstrated.
- The IMC model works, and more commercial investors are mobilized, more ECs take this path, and IMC investors fund their investments without any guarantees on their debt.

Monitoring & Evaluation. Monitoring and evaluation of program results will occur on several levels. Monitoring of loan and guarantee performance will be conducted by the Guarantor in conjunction with participating lenders. Data on loan performance will be required to be reported as part of the implementing agreements with Guarantor and between Guarantor and lenders and in the loan agreements themselves. These data will be collected as a matter of commercial practice. It is anticipated that the Guarantor will established a Project Monitoring Board to oversee loan performance, borrower financial performance and compliance with loan and guarantee agreements.

Monitoring of the EC projects, IMC performance, EC service levels and the actual energy and carbon emissions savings achieved will be conducted by engineers retained as part of the TA efforts; this activity will be managed by NEA. Information requirements for monitoring the EC projects and their energy and emissions savings will be established during guarantee origination and project participants will be required to provide access to necessary information post-implementation.

Quantitative performance indicators would likely include:
• Number of projects financed under the program, both for Type B/IMC and Type C projects;
• Total value of EC investments and loans supported;
• Number of banks participating;
• Total value of loans provided by banks without enhancement;
• Total value of EE investments supported;
• Performance of IMC investor (service levels, tariffs, customer satisfaction);
• Energy saved in projects guaranteed;
• GHG emissions avoided due to projects guaranteed under the facility;
• Payment performance of guaranteed loans; and
• Actual losses incurred and guarantee claims payments made.

Mid-term Review of the guarantee program operations itself will be commissioned by NEA and an independent evaluator hired for this purpose. This evaluation is scheduled for approximately late in the third year of operations and will review the entire Project, both guarantee and technical assistance programs. The evaluation contractor will be hired during the first year of program operations in order to further establish the monitoring and evaluation plans, confirm baseline conditions, and assure that necessary information for conducting the evaluation will be collected during the course of program operations. Mid-term evaluation results will be used to make improvements in program operations and, if the timing can be made to coincide properly, can inform the decision about disbursement of the second tranche of guarantee reserve funds.

Technical Assistance Program

The Project will include a TA program that will support: (i) technical preparation and financial structuring of EC investment projects; (ii) training and capacity building with participating banks, the Guarantor, NEA and other parties; (iii) workshops and information dissemination for the EC finance and IMC programs, working in conjunction with ECs, private sector contractors, counterpart agencies such as NEA and DOE; (iv) program and project-level monitoring and evaluation; and (v) if necessary, administration of the guarantee program by the selected Guarantor. The primary purposes of the TA program is to prepare projects for investment and replicate results in other ECs. Transaction costs are anticipated to be high, to enter and pioneer this new market. Detailed budget for TA activities will be finalized by Project Appraisal; an indicative budget breakdown is included in Table A3-3, below.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment preparation, engineering</td>
<td>400,000</td>
</tr>
<tr>
<td>Investment preparation, finance structuring &amp; legal</td>
<td>500,000</td>
</tr>
<tr>
<td>Investment preparation, management</td>
<td>250,000</td>
</tr>
<tr>
<td>Training &amp; capacity building</td>
<td>300,000</td>
</tr>
<tr>
<td>Marketing &amp; other</td>
<td>200,000</td>
</tr>
<tr>
<td>Project and Program monitoring &amp; evaluation</td>
<td>350,000</td>
</tr>
<tr>
<td>NEA counterpart funds</td>
<td>500,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,500,000</strong></td>
</tr>
</tbody>
</table>

NEA will have overall responsibility for managing the TA program including assistance to Type C ECs to prepare projects, preparation of bidding documents of the IMC pilots, development of legal agreements with the selected Guarantor to administer the GEF guarantee facility, and selection/supervision of the Guarantor. NEA counterpart funds will support internal costs associated with NEA administration of the Project and counterpart budgets for consulting services, as required by the Bank’s Standard Disbursement Percentage requirements.
Next Steps in Project Development. Next steps to develop the guarantee program will be undertaken by the Bank in conjunction with its Philippines counterparts and supported by a Transaction Advisor (under the Rural Power APL). These include:

a) Performance of due diligence on the local Guarantor candidate(s) and selection of the Guarantor;
b) Development of guarantee structure, terms and conditions and completion of the detailed guarantee program design, in the form of a business plan and Operational Manual for the guarantee program, assuring that the guarantee is designed to meet the needs of local banks, the Guarantor and the EC and IMC project finance structures;
c) Preparation of program financial projections including operating and TA program budgets;
d) Initial activities to recruit additional commercial lenders and structuring of debt facilities in conjunction with the guarantee;
e) Further design of the complementary TA program, focused on investment preparation;
f) Selection and structuring of key terms of the agreements between the Bank, NEA and local Guarantor;
g) Integration and addition of debt facility and guarantee program structure and terms into the IMC procurement and contracting process;
h) Further screening, development and finance structuring for the initial set of ECs and projects; and
i) Development of principal agreements needed for program operations including the Program Administration Agreement with the local Guarantor, and Loan Guarantee Agreement between Local Guarantor and participating bank lenders.
Summary:

The goal of this project is twofold: (1) to increase the efficiency of the many rural electricity cooperatives (ECs) that are limited in their ability to provide services, and (2) to experiment with innovative financial mechanisms, notably investment management contracts to reduce operational costs and to attract new competitors into the market.

The ICA for this project is particularly difficult due to the intended transition of so many ECs between the D to A stages, with very uncertain individual efficiency gains, as well as only roughly forecast changes in market share in each case. The final carbon cost effectiveness numbers appear at first pass somewhat high (~$15.43/ton of CO₂e, versus costs of often under $4/ton of CO₂e for many traditional energy efficiency projects), yet this is really not the case when the degree of institutional change is considered. In light of the uncertainties, the ICA and estimated costs are reasonable.

The project is recommended for approval.

Major Comments:

Page 5, and Annex I:

The key indicators are divided, logically, into traditional and greenhouse-related items. A novel performance indicator, however, that is not listed, but which seems imperative in light of the project structure, is one that assesses increased or decreased social equity of energy access in the ECs. There are a number of ways to do this, although each does require some degree of record-keeping. One method is to simply track the rough income levels, or occupations, of newly served families in each (or a sample) EC, and compare that to the initially served population.

Page 8ff:

As the project unfolds, the financial situation of the ECs will evolve significantly, in several markets making them far more attractive investments, as is the plan. As this takes place, what are the measures that will be taken to prevent the Type B and Type C ECs in particular from largely becoming captured by a small set of credit-worthy institutions? This could result in a different, but similarly difficult to manage regional monopoly or a set of monopolies, defeating some of the motivation to work with the ECs. In perhaps the worst case the changed EC market may become attractive to outside investors who are financially advantaged by lack the commitment to local energy provision. What measures exist to prevent this scenario from unfolding? Most of the analysis in the PCD (e.g. the Barriers to Commercial Investments, page 10ff argue for the reverse), that the problem is convincing outside investors to take an interest in the marginal ECs. My experience, however, is that the sort of guarantees that the GEF loan provides often make the once undesirable investments very attractive to organizations savvy to World Bank operations, often at the expense of local groups.

Certainly a partial response is that the IMC pilot program is an attractive means to introduce the IMC concept to the extant EC units, thus strengthening their position relative to any new entrants, but more is likely needed to complete this analysis.
Page 9: As Type C EC are envisioned to be able to develop business plans that demonstrate the potential for profitability, where will they receive the training for this sort of analysis? A number of improved efficiency measures that could alter these ECs to profitability may be foreign to the current managers at these ECs.

Page 11: The partial credit guarantee facility makes a good deal of sense. Would the GEF team then also play a continuing role of investment analysis, or would this all fall to the NEA? It seems a fine step, but logistically impossible. As the set of guarantee options are not yet finalized (page 12), will the review process change once/if the project is approved if new mechanisms are proposed for inclusion?

Page 13: What are the best/worst case scenarios for this project should the Rural Power APL work out as hoped, or should it not achieve the desired results? How independently can this project operate? [This is not directly covered in the risk assessment table on page 18/19].

Page 17: An added component of participatory project planning and evaluation could be achieved by facilitating meetings between a sample of end-users, EC managers, and the NEA team, particularly in those locations selected for IMC pilot projects.

The ICA for this project is particularly difficult due to the intended transition of so many ECs between the D to A stages, with very uncertain individual efficiency gains, as well as only roughly forecast changes in market share in each case. The final carbon cost effectiveness numbers appear at first pass somewhat high (~$15.43/ton of C02e, versus costs of often under $4/ton of C02e for many traditional energy efficiency projects), yet this is really not the case when the degree of institutional change is considered. In light of the uncertainties, the ICA and estimated costs are reasonable.

Page 33: While not technically an efficiency upgrade, the installation of micro-hydro units in the service zones of some of the ECs would make a great deal of sense to bolster supply, take advantage of local geography (much of the Philippines is ideal for micro-hydro), and provide a very low-cost form of backup power and simply added capacity.

Page 34: The average investment size of $4 million appears reasonable. What about small loans? In many cases relatively modest amounts of funding, even tens of thousands of dollars (for example to hire an individual to facilitate revenue collection) may have a dramatic impact on an EC. In the past these small loans have often been the hardest to get released due to the bias against managing overly small blocks of support. How can this be avoided in this project?

Page 40.
The Technical Assistance budget, Table A3-4, appears barely sufficient. With six identified sectors, only $2 million to spend over four years, that permits, on average, annual budgets of only $83,000/task.
Annex 4B: World Bank Team Response to STAP Reviewer Comments

Comment: A novel performance indicator, however, that is not listed, but which seems imperative in light of the project structure, is one that assesses increased or decreases social equity of energy access in the ECs... One method is to simply track the rough income levels, or occupations, of newly served families in each (or a sample) EC, and compare that to the initially served population.

Response: It is important to note that this project was developed to be fully complementary to the proposed Rural Power Project, which is multi-phase adaptable program loan (APL). As such, this APL will seek to meet many of the sectoral socio-economic objectives related to improved access to modern energy services and poverty reduction and include such indicators as number of new connections, villages served, average household income levels and energy expenditures. This Project, which would focus on improving existing service, would seek to improve service levels and directly lead to EC operational cost reductions and, thus, lower supply costs for rural consumers. In this regard, the Project will seek to monitor overall EC service levels, efficiency gains and operating cost reductions, leading to reductions in tariffs and GHG reductions, all of which will be monitored under this operation.

Comment: What are the measures that will be taken to prevent the Type B and Type C ECs in particular from largely becoming captured by a small set of creditworthy institutions? This could result in a different, but similarly difficult to manage regional monopoly or a set of monopolies, defeating some of the motivation to work with the ECs... What measures exist to prevent this scenario from unfolding?

Response: Consolidation of EC ownership and control, and managing the EC operations, are subjects of regulation by the ERC and other relevant local laws. While we would agree that more competition is better, the priority of the GOP and Bank is to seek to address serious current operational, management and financing deficiencies among the ECs. In some cases, it would appear that some EC consolidation may be warranted to achieve operating economies. In other cases, we must appreciate the difficulties with turning around these operations and would, thus, welcome all interested and qualified investors. It should also be noted that this is only a pilot effort seeking to test and demonstrate alternative financing and contractual mechanisms for improving EC operations. Further expansion plans would be considered based on the Project’s results, ongoing sectoral reforms and regulation considerations.

Comment: As Type C EC are envisioned to be able to develop business plans that demonstrate the potential for profitability, where will they receive the training for this sort of analysis? A number of improved efficiency measures that could alter these ECs to profitability may be foreign to the current managers at these ECs.

Response: As noted in the Brief, the Type C ECs will be carefully screened to ensure that eligible ones do have sufficient management and technical skills to be capable of accessing financing using the loan guarantee facility. Much of the technical assistance efforts will also focus on Type C ECs to prepare projects, addressing technical, financial and management issues. NEA also has programs underway (PIPs, REPs) to work with all ECs on upgrading management and meeting stipulated performance objectives.

Comment: Would the GEF team then also play a continuing role of investment analysis, or would this all fall to the NEA? It seems a fine step, but logistically impossible. As the set of guarantee options are not yet finalized (page 12), will the review process change once/if the project is approved if new mechanisms are proposed for inclusion?

Response: By Project Appraisal, the details of the guarantee program will be finalized and detailed implementation arrangements agreed. It is expected that the Guarantor will take a more pro-active role in facilitating project proposals and negotiations with prospective lenders and ECs to close deals. As such, they will focus on the most advanced proposals and be transaction-oriented. NEA, on the other hand, will focus more on more generic capability enhancements designed to equip EC managers and staff with the
basic skills to initiate consultations with potential lenders. Other technical assistance work will seek to address support to potential lenders, the Guarantor, etc. on identified needs to ensure a successful project outcome.

Comment: What are the best/worst case scenarios for this project should the Rural Power APL work out as hoped, or should it not achieve the desired results? How independently can this project operate?
Response: The Bank has already appraised the Rural Power APL. In any event, the DBP credit line for ECs under the APL will focus on those better performing ECs where no further credit or management enhancements are needed. This Project will thus focus on the next tier of ECs that would otherwise be unable to access the credit facility. It is our view that this Project will not require the APL to be implemented in order to achieve its development objectives.

Comment: An added component of participatory project planning and evaluation could be achieved by facilitating meetings between a sample of end-users, EC managers, and the NEA team, particularly in those locations selected for IMC pilot projects.
Response: We agree. The monitoring and evaluation program will develop a comprehensive set of indicators to adequately monitor EC operations. It is expected that sources of data will include the Guarantor, local lenders, IMC investors, EC Boards, EC staff, NEA and community representatives.

Comment: The final carbon cost effectiveness numbers appear at first pass somewhat high (~$15.43/ton of CO$_2$e, versus costs of often under $4/ton of CO$_2$e for many traditional energy efficiency projects), yet this is really not the case when the degree of institutional change is considered.
Response: We would clarify that the net cost of carbon abatement over a 15-year period is estimated to be only US$6.43 per ton of CO$_2$e.

Comment: While not technically an efficiency upgrade, the installation of micro-hydro units in the service zones of some of the ECs would make a great deal of sense to bolster supply, take advantage of local geography (much of the Philippines is ideal for micro-hydro), and provide a very low-cost form of backup power and simply added capacity.
Response: Under the Rural Power APL, options for additional supply in rural areas based on least-cost planning, including renewables and other technologies, is being conducted. However, many of the ECs that this project will focus on suffer more from distribution constraints than generation shortages.

Comment: The average investment size of $4 million appears reasonable. What about small loans? In many cases relatively modest amounts of funding, even tens of thousands of dollars (for example to hire an individual to facilitate revenue collection) may have a dramatic impact on an EC. In the past these small loans have often been the hardest to get released due to the bias against managing overly small blocks of support. How can this be avoided in this project?
Response: The guarantee program is expected to be driven by EC needs and will be sufficiently flexible to deal with a variety of loan amounts. While our preliminary calculations indicate that average investments of $4 million for Type B and $2 million for Type C ECs are reasonable estimates, this does not suggest that these would be financed in single, lump-sum amounts. We would expect that most EC investment programs would be implemented in phases with sub-projects likely to be as small as 5 million pesos (USDS100,000) and prioritized for implementation based on economic and operating priorities. We anticipate that loans will be structured to accommodate small disbursements to match the needs of small projects. Based on our research to date, the absolute minimum loan size remains to be determined but is expected to be at least as low as 5 million pesos.

Comment: The Technical Assistance budget, Table A3-4 [now Table A3-3], appears barely sufficient. With six identified sectors, only $2 million to spend over four years, that permits, on average, annual budgets of only $83,000/task.
Response: Given the nature of the IMC mechanism, there is only a small provision for technical assistance for these transactions, since qualified investors must have demonstrated a strong ability to manage utility operations and prepare suitable financing proposals. Therefore, much of the budget estimates for technical assistance would actually be for the Type C EC transactions. In addition, we expect much of the technical assistance work to be front-loaded, thus technical support budgets are substantially higher in the early years (and support for dissemination of results higher in the latter years). The Bank also plans to actively coordinate efforts with other donors currently involved in providing technical assistance in these areas.